Olia Lialina

TURING COMPLETE USER

RESISTING ALIENATION IN HUMAN COMPUTER INTERACTION

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The chapter markers in this book are based on Olia Lialina's and Dragan Espenschied's "Midnight" (2006), http://art.teleportacia.org/exhibition/midnight/
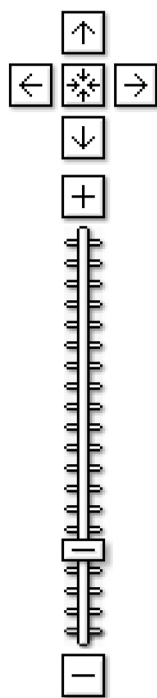
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Preface

The following essays were written between 2012 and 2020, a time that will hardly be remembered for any groundbreaking hardware or software inventions. The iPhone, the Tesla Roadster, Web 2.0, even the Infinite Scroll plug-in for WordPress – all belong to the glorious first decade of the new millennium.

The second decade was different, it was about talking, loud and clear.

"iPad keyboards provide a great typing experience" (Apple 2020); "We achieved quantum supremacy" (Google 2019); "I've built a simple AI" (Zuckerberg 2016); "Model S is a sophisticated computer on wheels" (Musk 2015); "If I ever say the word 'user' again, immediately charge me $140" (Dorsey 2012).

The field of human–computer Interaction (HCI) and the IT industry at large invested in reforming their terminology: banning some words and reversing the meanings of others to camouflage the widening gap between users and developers, to smooth the transition from personal computers to "dumb terminals", from servers to "buckets", from double-clicking to saying "OK, Google".

Computer users also learnt to talk, loud and clear, to be understood by Siri, Alexa, Google Glass, HoloLens, and other products that perform both listening and answering. Maybe it is exactly this amalgamation of input and output into a "conversation" that defines the past decade, and it will be the core of HCI research in the years to come.

Who is scripting the conversations with these invisible ears and mouths? How can users control their lines?

I hope this book will make computer users as well as designers aware of their roles, and their language. When hardware and software dissolve into anthropomorphic forms and formless "experiences", words stop being mere names and metaphors. They do not only appeal to the imagination and give shape to invisible products. Words themselves become interfaces, and every change in vocabulary matters.

I'd like to thank Interface Critique for making my publication possible, and foremost for being a platform for this important discourse.

Olia Lialina
February 2021
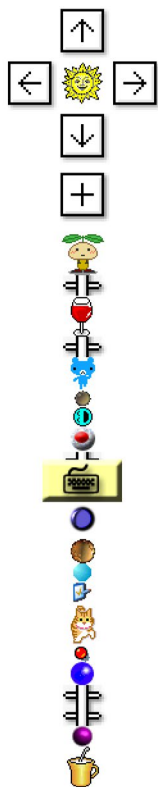
Turing Complete User (2012)

"Any error may vitiate the entire output of the device.
For the recognition and correction of such malfunctions
intelligent human intervention will in general be necessary."

John von Neumann, 1945[1]

"If you can't blog, tweet! If you can't tweet, like!"

Kim Dotcom, 2012[2]

1   John von Neumann, First draft of a Report on the EDVAC. Moore School of Engineering, University of Pennsylvania (1945).
2   Kim Dotcom, "Mr President" (2012); https://www.youtube.com/watch?v=MokNvbiRqCM&t=218s, access: January 20, 2021.

Invisible and Very Busy

Computers are becoming invisible. They shrink and hide. They lurk under the skin and dissolve in the 'cloud'. We observe the process like an eclipse of the sun, partly scared, partly overwhelmed. We divide into camps and fight about the advantages and dangers of the Ubiquitous. But whatever side we take – we do acknowledge the significance of the moment.

With the disappearance of the computer, something else is silently becoming invisible as well — the User. Users are disappearing as both a phenomenon and a term, and this development is either unnoticed or accepted as progress – an evolutionary step.

The notion of the Invisible User is pushed by influential user interface designers, specifically by Don Norman, a guru of user-friendly design and long-time advocate of invisible computing. He can actually be called the father of 'invisible computing'. Those who study interaction design read his "Why interfaces don't work", published in 1990, in which he asked and answered his own question: "The real problem with the interface is that it is an interface". What's to be done? "We need to aid the task, not the inter face to the task. The computer of the future should be invisible!"[3]

It took almost two decades, but the future arrived around five years ago, when clicking mouse buttons ceased to be our main input method and touch and multi-touch technologies hinted at our new emancipation from hardware. The cosiness of iProducts, as well as breakthroughs in augmented reality (it got mobile), the rise of wearables, the maturing of all sorts of tracking (motion, face) and the advancement of projection technologies erased the visible border between input and output devices. These developments began to turn our interactions with computers into pre-computer actions or, as interface designers prefer to say, "natural" gestures and movements.

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3   Don Norman, Why interfaces don't work, in: *The Art of Human–Computer Interface Design*, ed. Brenda Laurel (Reading, MA et al. 1990), p. 218.

Of course, computers are still distinguishable and locatable, but they are no longer something you sit in front of. The forecasts for invisibility are so optimistic that in 2012 Apple allowed themselves to rephrase Norman's predictive statement by putting it in the present tense and binding it to a particular piece of consumer electronics:

> *We believe that technology is at its very best when it is invisible, when you are conscious only of what you are doing, not the device you are doing it with […] iPad is the perfect expression of that idea, it's just this magical pane of glass that can become anything you want it to be. It's a more personal experience with technology than people have ever had.*[4]

In this last sentence, the word "experience" is not an accident, neither is the word "people".

Invisible computers, or more accurately the illusion of the computerless, is destroyed if we continue to talk about "user interfaces". This is why interface design started to rename itself "experience design", whose primary goal is to make users forget that computers and interfaces exist.

With experience design there is only you and your emotions to feel, goals to achieve, tasks to complete.

The field is abbreviated as UXD, where X is for eXperience and U is still for the Users. Wikipedia says Don Norman coined the term UX in 1995. However, in 2012 UX designers avoided using the "U" word in papers and conference announcements, in order not to remind themselves about all those clumsy buttons and input devices of the past. Users were for the interfaces. Experiences, they are for the PEOPLE![5]

In 2008 Don Norman simply ceased to address users as users. At an event sponsored by Adaptive Path, a user interface design company, Nor-

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4   Apple Inc, Official Apple (New) iPad trailer (2012), http://www.youtube.com/watch?v=RQieoqCLWDo, access: January 20, 2021.

5   Another strong force behind ignoring the term "user" comes from adepts at gamification. They prefer to address users as gamers. But that's another topic.

man stated, "One of the horrible words we use is 'users'. I am on a crusade to get rid of the word 'users'. I would prefer to call them 'people'."[6]

After enjoying the effect of his words on the audience, he added with a charming smile, "We design for people, we don't design for users."

A noble goal, indeed, but only when perceived in the narrow context of interface design. Here, the use of the term "people" emphasises the need to follow the user-centred as opposed to an implementation-centred paradigm. The use of "people" in this context is a good way to remind software developers that the user is a human being and needs to be taken into account in design and validation processes.

But when you read it in a broader context, the denial of the word "user" in favour of "people" becomes dangerous. Being a user is the last reminder that there is, whether visible or not, a computer, a programmed system you use.

In 2011, new media theoretician Lev Manovich also became unhappy with the word "user". He writes on his blog "For example, how [sic] do we call a person who is interacting with digital media? User? No good."[7]

Well, I can agree that with all the great things we can do with new media – the various modes of initiation and participation, the multiple roles we can fill – it is a pity to narrow it down to "users", but this is what it is. Bloggers, artists, podcasters and even trolls are still users of systems they didn't program. So they – we – are all the users.

We need to take care of this word because addressing people and not users hides the existence of two classes of people – developers and users. And if we lose this distinction, users may lose their rights and the

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6   For the video documentation of the talk see https://www.youtube.com/watch?v=WgJcUHC3qJ8, access: January 20, 2021. See also Norman's 2006 essay "Words matter" (2018): "Psychologists depersonalize the people they study by calling them 'subjects.' We depersonalize the people we study by calling them 'users.' Both terms are derogatory. They take us away from our primary mission: to help people. Power to the people, I say, to repurpose an old phrase. People. Human Beings. That's what our discipline is really about." https://jnd.org/words_matter_talk_about_people_not_customers_not_consumers_not_users/, access: January 20, 2021.

7   Lev Manovich, How do you call a person who is interacting with digital media? (2011); http://lab.softwarestudies.com/2011/07/how-do-you-call-person-who-is.html, access: January 20, 2021.

opportunity to protect them. These rights are to demand better software, the ability "to choose none of the above",[8] to delete your files, to get your files back, to fail epically and, back to the fundamental one, to see the computer.

In other words: the Invisible User is more of an issue than an Invisible Computer.

What can be done to protect the term, the notion and the existence of users? What counter-arguments can I find to stop Norman's crusade and dispel Manovich's scepticism? What do we know about a user, apart from the opinion that it is "no good" to be one?

We know that it was not always like this. Before Real Users (those who pay money to use the system) became "users", programmers and hackers proudly used this word to describe themselves. In their view, the user was the best role one could take in relation to their computer.[9]

Furthermore, it is wrong to think that first there were computers and developers and only later users entered the scene. In fact, it was the opposite. At the dawn of the personal computer the user was the centre of attention. The user did not develop in parallel with the computer, but prior to it. Think about Vannevar Bush's "As we may think" (1945), one of the most influential texts in computer culture. Bush spends more words describing the person who would use the Memex than the Memex itself. He described a scientist of the future, a superman. He, the user of the Memex – not the Memex itself – was heading the article.[10]

Twenty years later, Douglas Engelbart, inventor of the pioneering personal computer system NLS, as well as hypertext and the mouse, talked about

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8   Borrowed from the subtitle "You may always choose none of the above" of the chapter Choice, in: Douglas Rushkoff, *Program or Be Programmed. Ten Commands for a Digital Age* (New York 2010), p. 46.

9   "The movie Tron (1982) marks the highest appreciation and most glorious definition of this term. […] The relationship of users and programs is depicted as a very close and personal one, almost religious in nature, with a caring and respecting creator and a responsible and dedicated progeny." Olia Lialina and Dragan Espenschied, Do you believe in users?, in: *Digital Folklore* (Stuttgart 2009).

10 Vannevar Bush, As we may think. A top U.S. scientist forsees a possible future world in which manmade machines will start to think. *Life Magazine* (September 19, 1945), pp. 112–124.

his research on the augmentation of human intellect as "bootstrapping" – meaning that human beings, and their brains and bodies, will evolve along with new technology. This is how French sociologist Thierry Bardini describes this approach in his book about Douglas Engelbart: "Engelbart wasn't interested in just building the personal computer. He was interested in building the person who could use the computer to manage increasing complexity efficiently."[11]

And let's not forget the title of J.C.R. Licklider's famous text, the one that outlined the principles for ARPA's command and control research on the real-time system, from which the interactive/personal computer developed – "Man–computer symbiosis" (1960).[12]

When the personal computer was getting ready to enter the market 15 years later, developers thought about who would be model users. At Xerox PARC, Alan Kay and Adele Goldberg introduced the idea of kids, artists, musicians and others as potential users for the new technology. Their paper "Personal dynamic media" from 1977[13] describes important hardware and software principles for the personal computer. But we read this text as revolutionary because it clearly establishes possible users, distinct from system developers, as essential to these dynamic technologies. Another Xerox employee, Tim Mott (aka "the father of user-centred design") brought in the idea of a secretary into the imagination of his colleagues. This image of the "lady with the Royal typewriter"[14] predetermined the designs of Xerox Star, Apple Lisa and further electronic offices.

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11 Thierry Bardini, *Bootstrapping: Douglas Engelbart, Coevolution, and the Origins of Personal Computing* (Stanford 2000).

12 J.C.R. Licklider, Joseph Carl Robnett, Man–computer symbiosis. *IRE Transactions on Human Factors in Electronics* (1960) pp. 4–11; http://groups.csail.mit.edu/medg/people/psz/Licklider.html, access: January 20, 2021.

13 Alan Kay, Personal dynamic media, [1977], in: *The New Media Reader*, ed. Noah Wardrip-Fruin and Nick Montfort (Cambridge, MA 2003); http://www.newmediareader.com/book_samples/nmr-26-kay.pdf, access: January 20, 2021.

14 See Douglas K. Smith and Robert C. Alexander, *Fumbling the Future: How Xerox Invented, then Ignored, the First Personal Computer* (New York 1999), p. 110.

So, it is important to acknowledge that users existed prior to computers, that they were imagined and invented – users are a figment of the imagination. As a result of their fictive construction, they continued to be reimagined and reinvented through the 70s, 80s, 90s, and the new millennium. But however reasonable, or brave, or futuristic, or primitive these models of users were, there is a constant.

Let me refer to another guru of user-centred design, Alan Cooper. In 2007, when the "U" word was still allowed in interaction design circles, he and his colleagues shared their secret in About Face: The Essentials of Interaction Design:

> As an interaction designer, it's best to imagine that users – especially beginners – are simultaneously very intelligent and very busy.[15]

This is very kind advice (and one of the most reasonable books on interface design, btw) and can be translated roughly as "hey, front-end developers, don't assume that your users are more stupid than you, they are just busy". But it is more than this. What the second part of this quote gets to so importantly is that users are people who are very busy with something else.

Alan Cooper is not the one who invented this paradigm, nor was it even Don Norman with his concentration on the task rather than the tool. It originated in the 1970s. Listing the most important computer terms of that time, Ted Nelson mentions so-called "user-level systems" and states that these "User-level systems, [are] systems set up for people who are not thinking about computers but about the subject or activity the computer is supposed to help them with".[16] Some pages before he claims:[17]

15 Alan Cooper, Robert Reimann, David Cronin, *About Face 3: The Essentials of Interaction Design* (Indianapolis 2007), p. 45.

16 Ted Nelson, *Computer Lib/Dream Machines* (author's edition, 1987), p. 9.

17 Ibid., p. 3.

COMPUTING HAS ALWAYS BEEN PERSONAL

By this I mean that if you weren't intensely involved in it, sometimes with every fiber in your mind atwitch, you weren't doing computers, you were just a user.

Fig. 1: Ted Nelson, Computer Lib/Dream Machines (author's edition, 1987), p. 3.

One should remember that Ted Nelson was always on the side of users and even "naive users", so his bitter "just a user" means a lot.

The alienation of users from their computers started in Xerox PARC with secretaries, as well as artists and musicians. And it never stopped. Users were seen and marketed as people whose real jobs, feelings, thoughts, interests, talents – everything that matters – lie outside of their interaction with personal computers.

For instance, in 2007, when Adobe, the software company whose products are dominating the so-called "creative industries", introduced version 3 of Creative Suite, they filmed graphic artists, video makers and others talking about the advantages of this new software package. Of particular interest was one video of a web designer (or an actress in the role of a web designer): she enthusiastically demonstrated what her new Dream Weaver could do, claiming that, in the end, "I have more time to do what I like most – being creative". The message from Adobe is clear. The less you think about source codes, scripts, links and the Web itself, the more creative you are as a web designer. What a lie. I liked to show this to fresh design students as an example of misunderstanding the core of the profession.

This video is not online anymore, but actual ads for Creative Suite 6 are not much different – they feature designers and design evangelists talking about unleashing, increasing and enriching creativity as a direct result

of fewer clicks to achieve this or that effect.[18] In the book *Program or Be Programmed*, Douglas Rushkoff describes similar phenomena:

> *[…] We see actual coding as some boring chore, a working-class skill like brick-laying, which may as well be outsourced to some poor nation while our kids play and even design video games. We look at developing the plots and characters for a game as the interesting part, and the programming as the rote task better offloaded to people somewhere else.[19]*

Rushkoff states that code writing is not seen as a creative activity, but the same applies to engagement with the computer in general. It is not seen as a creative task or as "mature thought".
In "As we may think", while describing an ideal instrument that would augment the scientist of the future, Vannevar Bush observes:

> *For mature thought there is no mechanical substitute. But creative thought and essentially repetitive thought are very different things. For the latter there are, and may be, powerful mechanical aids[20]*

In contrast to this, users, as imagined by computer scientists, software developers and usability experts are the ones whose task is to spend as little time as possible with the computer, without wasting a single thought on it. They require a specialised, isolated app for every "repetitive thought", and, most importantly, delegate drawing the border between creative and repetitive, mature and primitive, real and virtual, to app designers.
There are periods in history, moments in life (and many hours a day!) where this approach makes sense, when delegation and automation are

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18   See for example the trailers for Adobe Creative Suite 6 (2012); https://www.adobe.com/creativecloud.html, access: March 10, 2021.

19   Rushkoff, *Program or Be Programmed*, p. 131.

20   Vannevar Bush, As we may think. *The Atlantic Monthly* 176 (1945), pp. 101–108; HTML version: https://www.theatlantic.com/magazine/archive/1945/07/as-we-may-think/303881/?single_page=true, access: March 10, 2021.
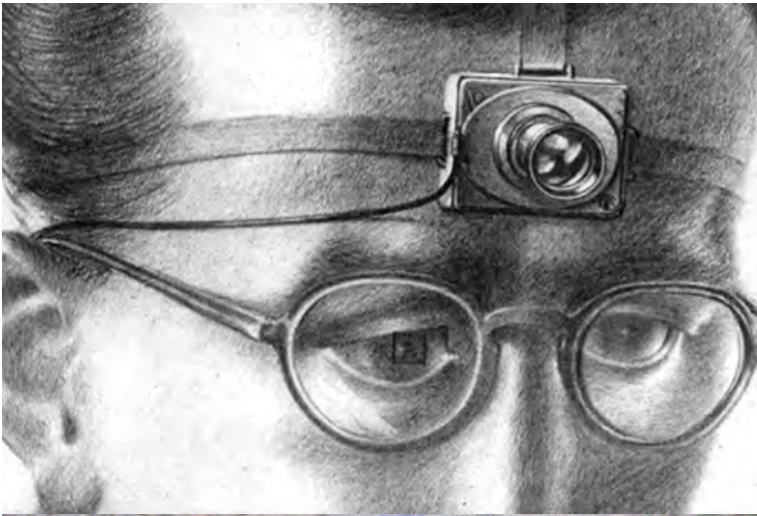
Fig. 2: "A Scientist of the Future" – title picture of Vannevar Bush's "As we make think" published in the September 10, 1945 issue of *Life Magazine*, and Russian travel blogger Sergey Dolya (photo by Mik Sazonov, 2012; https://sergeydolya.livejournal.com/510565.html , access: March 10, 2021). Collage by Olia Lialina.

required and enjoyed. But in times when every aspect of life is computerized, it is not possible to accept "busy with something else" as a norm. So let's look at another model of users that evolved outside and despite usability experts' imagination.

General Purpose, "Stupid" and Universal

In "Why interfaces don't work" Don Norman heavily criticises the world of visible computers, visible interfaces and users busy with all this. Near the end of the text, he suggests the source of the problem:

> We are here in part, because this is probably the best we can do with today's technology and, in part, because of historical accident.
> The accident is that we have adapted a general-purpose technology to very specialized tasks while still using general tools.[21]

In December 2011, science fiction writer and journalist Cory Doctorow gave a marvellous talk at the 28th Chaos Communication Congress in Berlin titled "The coming war on general computation".[22] He claimed that there is only one possibility for computers to truly become appliances, the tiny, invisible, comfortable one-purpose things Don Norman was preaching about: and that is to be loaded with spyware. He explains:

> So today we have marketing departments who say things like "[…] Make me a computer that doesn't run every program, just a program that does this specialized task, like streaming audio, or routing packets, or playing Xbox games" […] But that's not what we do when we turn a computer into an appliance. We're not making a computer that runs only the "appliance" app; we're making a computer that can run every program, but which uses some combination of

21   Norman, Why interfaces don't work, p. 218.
22   Transcript: https://joshuawise.com/28c3-transcript#the_coming_war_on_general_computation; video: https://www.youtube.com/watch?v=HUEvRyemKSg, access: March 21, 2021.

rootkits, spyware, and code-signing to prevent the user from knowing which processes are running, from installing her own software, and from terminating processes that she doesn't want. In other words, an appliance is not a stripped-down computer – it is a fully functional computer with spyware on it out of the box.

By "fully functional computer", Doctorow means the general-purpose computer, or as US mathematician John von Neumann referred to it in his 1945 "First draft of a report on the EDVAC", the "all-purpose automatic digital computing system".[23] In this paper he outlined the principles of digital computer architecture (von Neumann Architecture), where hardware was separated from the software, and from this the so-called "stored program" concept was born. In the mid 40s, the revolutionary impact of it was that "by storing the instructions electronically, you could change the function of the computer without having to change the wiring."[24]

Today the rewiring aspect does not have to be emphasised, but the idea itself that a single computer can do everything is essential, and that it is the same general-purpose computer behind "everything" – from dumb terminals to super computers.

Doctorow's talk is a perfect entry point to get oneself acquainted with the subject. To go into the history of the war on general computation in more depth, you may consider reading Ted Nelson. He was the first to attract attention to the significance of the personal computer's all-purpose nature. In 1974, in his glorious fanzine *Computer Lib*, which aimed to explain computers to everybody, he writes in caps lock:

COMPUTERS HAVE NO NATURE AND NO CHARACTER
Computers are, unlike any other piece of equipment, perfectly BLANK. And that is how we have projected on it so many different faces.[25]

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23 John von Neumann, Introduction to The first draft report on the EDVAC", 1945; http://web.mit.edu/STS.035/www/PDFs/edvac.pdf , access: March 10, 2021.

24 M. Mitchell Waldrop, *The Dream Machine* (San Francisco 2001), p. 62.

25 Nelson, *Computer Lib*, p. 37.

Some great texts written this century are *The Future of the Internet and How to Stop It* (New Haven and London 2008), by Jonathan Zittrain, and of course *The Future of Ideas* (New York 2001), by Lawrence Lessig. Both authors are more concerned with the architecture of the Internet than the computer itself, but both write about the end-to-end principle that lies at the Internet's core – meaning that there is no intelligence (control) built into the network. The network stays neutral or "stupid", simply delivering packets without asking what's inside. It is the same with the von Neumann computer – it just runs programs.

The works of Lessig, Zittrain and Doctorow do a great job of explaining why both computer and network architectures are neither historic accidents nor "what technology wants".[26] The stupid network and the general-purpose computer were conscious design decisions.

For Norman, further generations of hardware and software designers and their invisible users dealing with general-purpose technology are both accident and obstacle. For the rest of us, the rise and use of General-Purpose Technology is the core of New Media, Digital Culture and Information Society (if you believe that something like this exists). General-purpose computers and stupid networks are the core values of our computer-based time and the driving force behind all the wonderful and terrible things that happen to people who work and live with connected computers. These prescient design decisions have to be protected today, because technically it would be no big deal to make networks and computers "smart", i.e. controlled.

What does all this have to do with "users" versus "people", apart from the self-evident fact that only the users who are busy with computers at least a little bit – to the extent of watching Doctorow's video to the end – will fight for these values?

I would like to apply the concept of General-Purpose Technology to users by flipping the discourse around and redirecting attention from technol-

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26 See Kevin Kelly, *What Technology Wants* (London 2010).

ogy to the user who was formed over three decades of adjusting general-purpose technology to their needs: *The General-Purpose User.*

General-Purpose Users can write an article in their email client, lay out their business card in Excel and shave in front of a web cam. They can also find a way to publish photos online without Flickr, tweet without Twitter, like without Facebook, make a black frame around pictures without Instagram, remove a black frame from an Instagram picture and even wake up at 7:00 without a "wake up at 7:00" app.

Maybe these users could more accurately be called "Universal Users" or "Turing Complete Users", as a reference to the Universal Machine, also known as the Universal Turing Machine – Alan Turing's conception of a computer that can solve any logical task, given enough time and memory. Turing's 1936 vision and design predated and most likely influenced von Neumann's "First draft" and all-purpose machine.[27]

But whatever name I choose, what I mean are users who have the ability to achieve their goals regardless of the primary purpose of an application or device. Such users will find a way to their aspiration without an app or utility programmed specifically for it. The universal user is not a super-user, not half a hacker. A universal user is not an exotic type of user.

There can be different examples and levels of autonomy that users can imagine for themselves, but the capacity to be universal is still in all of us. Sometimes it is a conscious choice not to delegate particular jobs to the computer, and sometimes it is just a habit. Most often it is no more than a click or two that uncovers your general-purpose architecture.

For instance, you can decide not to use Twitter at all and instead inform the world about your breakfast through your own website. You can use LiveJournal as if it is Twitter, you can use Twitter as Twitter, but instead of following people, visit their profiles as you would visit a home page.

You can have two Twitter accounts and log in to one in Firefox, and the other in Chrome. This is how I do it and it doesn't matter why I prefer to

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27   Alan Turing, On Computable Numbers, with an Application to the Entscheidungsproblem. *Proceedings of the London Mathematical Society* 2, 42 (1), pp. 230–265; received May 28, 1936.

manage it this way. Maybe I don't know that an app for managing multiple accounts exists, maybe I knew but didn't like it, or maybe I'm too lazy to install it. Whatever, I found a way. And you will do as well.

A universal user's mindset (it is a mindset, not a set of rules, not a vow) means to liaise with hardware and software. Behaviour that is antipodal to the "very busy" user. This kind of interaction makes the user visible, most importantly to themselves. And, if you wish to think about it in terms of interface design and UX, it is the ultimate experience.

Does this mean that to deliver this kind of user experience the software industry needs to produce imperfect software or hold itself back from improving existing tools? Of course not! Tools can be perfect.

Though the idea of perfect software could be revised, taking into account that it is used by the general-purpose user, valuing ambiguity and users' involvement.

And thankfully ambiguity is not that rare. There are online services where users are left alone to use or ignore features. For example, the developers of Twitter didn't take measures that prevent me from surfing from profile to profile of people I don't follow. The Dutch social network Hyves allows their users to mess around with background images so that they don't need any photo albums or instagrams to be happy. Blingee.com, whose primary goal is to let users add glitter to their photos, allows them to upload whatever stamps they want – not glittery, not even animated. It accepts everything and just delivers merged layers to the users.

I can also mention here an extreme example of a service that nourishes the user's universality – myknet.org – an Aboriginal social network in Canada. It is so "stupid" that users can repurpose their profiles every time they update them. Today it functions as a Twitter feed, yesterday it was a YouTube channel, and tomorrow it might be an online shop. Never mind that it looks very low-tech and like it was made 17 years ago, it works! In general, the WWW, outside of Facebook, is an environment open for interpretation.

Still, I have difficulties finding a site or an app that actually addresses the users and sees their presence as a part of the workflow. This maybe

sounds strange, because all Web 2.0 is about pushing people to contribute, and "emotional design" is supposed to be about establishing personal connections between people who made the app and people who bought it, but I mean something different. I mean a situation when the workflow of an application has gaps that can be filled by users, where smoothness and seamlessness are broken and some of the final links in the chain are left for the users to complete.

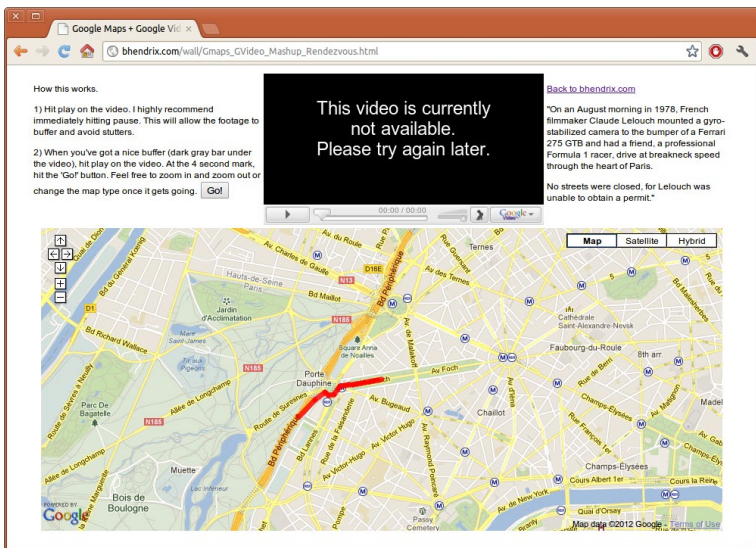I'll leave you with an extreme example, an anonymous (probably student) project:

Fig. 3: "Google Maps + Google Video + Mashup – Claude Lelouch's Rendezvous"

It was made in 2006, at the very rise of Web 2.0[28], when the mash-up was a very popular cultural, mainstream artistic form. Artists were celebrating new convergences and a blurring of the borders between different pieces of software. Lelouch's Rendezvous is a mash-up that puts on the same

28 Web 2.0 was supposed to be a complete merging of people and technology but was again progressing alienation and keeping users and developers apart. People were driven from self-made home pages to social networks.

page the famous racing film of the same name and a map of Paris, so that you can follow the car in the film and see its position on the Google map at the same time. But the author failed (or perhaps didn't intend) to synchronise the video and the car's movement on the map.

As a result, the user is left with the instruction: "Hit play on the video. […] At the 4 second mark, hit the 'Go!' button."

The user is asked not only to press one but two buttons! It suggests that we can take care of it ourselves, that we can complete a task at the right moment. The author obviously counted on users' intelligence and had never heard that they were "very busy".

The fact that the original video file that was used in the mash-up was removed makes this project even more interesting. To enjoy it, you'll have to go to YouTube and look for another version of the film. I found one, which means you'll succeed as well.

There is nothing one user can do that another can't, given enough time and respect. Computer users are Turing Complete.

* * *

When Sherry Turkle, Douglas Rushkoff and other great minds state that we need to learn programming and understand our computers in order to not be programmed and that we should "demand transparency of other systems"[29], I couldn't agree more. If the approach to computer education in schools was to switch from managing particular apps to writing apps it would be wonderful. But apart from the fact that it is not realistic, I would say it is also not enough. I would argue it is wrong to say either you understand computers or you are the user.[30]

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29 "Politics is a system, complex to be sure, all the same. If people understand something as complicated as a computer, they will demand greater understanding of other things." Respondent's statement, discussed in Sherry Turkle, *The Second Self: Computers and the Human Spirit* (Cambridge, MA 2004), p. 163.

30 "Instead of teaching programming, most schools with computer literacy curriculums teach programs […] The bigger problem is that their entire orientation to computing will be from [the] perspective of users" Rushkoff, *Program or Be Programmed*, p. 130.

An effort must be made to educate the users about themselves. There should be understanding of what it means to be a user of an 'all-purpose automatic digital computing system'.

General-purpose users are not a historic accident or a temporary anomaly. We are the product of the "worse is better" philosophy of UNIX, the end-to-end principle of the Internet, the "under construction" and later "beta" spirit of the Web. All these designs that demand attention, and ask for forgiveness and engagement, formed us as users, and we are always adjusting, improvising and at the same time taking control. We are the children of the misleading and clumsy desktop metaphor, we know how to open doors "with no knob".[31]

We general purpose users – not hackers and not people – who are challenging, consciously or subconsciously, what we can do and what computers can do, are the ultimate participants of the man–computer symbiosis. Not exactly the kind of symbiosis Licklider envisioned, but a true one.

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31 "Direct-manipulation systems, like the Macintosh desktop, attempt to bridge the interface gulf by representing the world of the computer as a collection of objects that are directly analogous to objects in the real world. But the complex and abundant functionality of today's new applications – which parallels people's rising expectations about what they might accomplish with computers – threatens to push us over the edge of the metaphorical desktop. The power of the computer is locked behind a door with no knob." Brenda Laurel, *Computers as Theatre* (Amsterdam 1993), p. xviii.

Appendix A: Subjects of Human–Computer Interaction (updated May 2021)

	UX	Web 2.0	Cloud Computing	Gamification	IoT	AI	NFT	HRI
computer	technology	social network	The Cloud	epic win	warehouse	voice	miners	humanoid
user interface	experience	submit button	upload button	epic win	milk	conversation	coins	empathy
users	people	you	download button	gamer	fridge	voice	minter	human

Appendix B: Users Imagined

year	source	imagined user	statement
1945	Vannevar Bush, As we may think http://www.theatlantic.com/magazine/archive/1945/07/as-we-may-think/303881, access April 10, 2021.	Scientist	"One can now picture a future investigator in his laboratory. His hands are free, and he is not anchored. As he moves about and observes, he photographs and comments."
1962	Douglas Engelbart, Augmenting human intellect http://www.dougengelbart.org/pubs/augment-3906.html, access April 10, 2021.	Knowledge Worker Intellectual Worker Programmer	"Consider the intellectual domain of a creative problem solver [...]. These [...] could very possibly contribute specialized processes and techniques to a general worker in the intellectual domain: formal logic—mathematics of many varieties, including statistics—decision theory—game theory—time and motion analysis—operations research—classification theory—documentation theory—cost accounting, for time, energy, or money—dynamic programming—computer programming."
"1970s"	J.C.R. Licklider, Some reflections on early history, in: A History of Personal Workstations, ed. Adele Goldberg (New York, NY: Association for Computing Machinery, 1988), p. 119.	Real Users	"People who are buying computers, especially personal computers, just aren't going to take a long time to learn something. They are going to insist on using it awfully quick."

Year	Reference	Label	Quote
1974	Ted Nelson, *Computer Lib/Dream Machines* (Tempus Books/Micro-soft Press; revised edition, 1987), p. 9.	Naive User	"Person who doesn't know about computers but is going to use the system. Naive user systems are those set up to make things easy and clear for such people. We are all naive users at some time or other; it's nothing to be ashamed of. Though some computer people seem to think it is."
1975	Tim Mott, as quoted in: Douglas K. Smith, *Fumbling the Future – How Xerox Invented, then Ignored, the First Personal Computer* (Indiana: Iuniverse, 1999), p. 110.	Lady with the Royal Typewriter	"My model for this was a lady in her late fifties who had been publishing all her life and still used a Royal typewriter."
1977	Alan Kay, Personal Dynamic Media http://www.newmediareader.com/book_samples/nmr-26-kay.pdf, access April 10, 2021.	Children Artists Musicians	"Another interesting nugget was that children really needed as much or more computing power than adults were willing to settle for when using a timesharing system. [...] The kids [...] are used to finger-paints, water colors, color television, real musical instruments, and records."
1982	Steven Lisberger, TRON	Deity	– "You believe in the users?" – "Yes, sure. If I don't have a user, then who wrote me?"
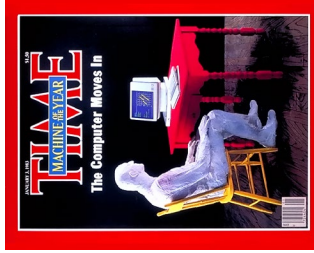
| 1983 | TIME Magazine | | The "person of the year" is a machine: "Machine of the year: The computer moves in" |
| 1993 | Eric S. Raymond, September that never ended http://www.catb.org/~esr/jargon/html/S/September-that-never-ended.html, access April 10, 2021. | Clueless Newbies | "September that never ended: All time since September 1993. One of the seasonal rhythms of the Usenet used to be the annual September influx of clueless newbies who, lacking any sense of netiquette, made a general nuisance of themselves. This coincided with people starting college, getting their first internet accounts, and plunging in without bothering to learn what was acceptable." |

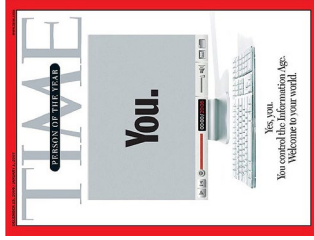|			
1996	Eric S. Raymond, *The New Hacker's Dictionary* (Cambridge, MA: MIT Press, 1996).	hackers = Implementors lamers = Users	"hacker n. [...] 1. A person who enjoys exploring the details of programmable systems and how to stretch their capabilities, as opposed to most users, who prefer to learn only the minimum necessary." p. 233 "lamer n. [...] Synonym for luser, not used much by hackers but common among warez d00dz, crackers and phreakers. Oppose elite. Has the same connotations of self-conscious elitism that use of luser does among hackers." p. 275
2006	TIME Magazine	YOU	

| Year	Reference	Term	Quote
2008	Don Norman, Talk at UX Week 2008 https://www.youtube.com/watch?v=WgJcUHC3qJ8	People	"I'd prefer to call them people."
2009	Sir Tim Berners-Lee, The next Web TED Talk https://www.ted.com/talks/tim_berners_lee_the_next_web, access April 10, 2021.	Them	"20 years ago [...] I invented the World Wide Web."
2012	Jack Dorsey, executive chairman of Twitter: Let's reconsider our "users" https://jacks.tumblr.com/post/33785796042/lets-reconsider-our-users, access April 10, 2021.	Customer	"If I ever say the word 'user' again, immediately charge me $140."
2012	Janet Murray, interaction designer, educator, author of *Hamlet on the Holodeck*, in introduction to *Inventing the Medium. Principles of Interaction Design as a Cultural Practice* (Cambridge, MA: MIT Press, 2011).	Interactor	"[User] is another convenient and somewhat outdated term, like "interface" [...] A user may be seeking to complete an immediate task; an interactor is engaged in a prolonged give and take with the machine." p.11

| | Buyer | Naive user | Expert user |

Apple

UX Community

Where we all belong

2013   Buyer
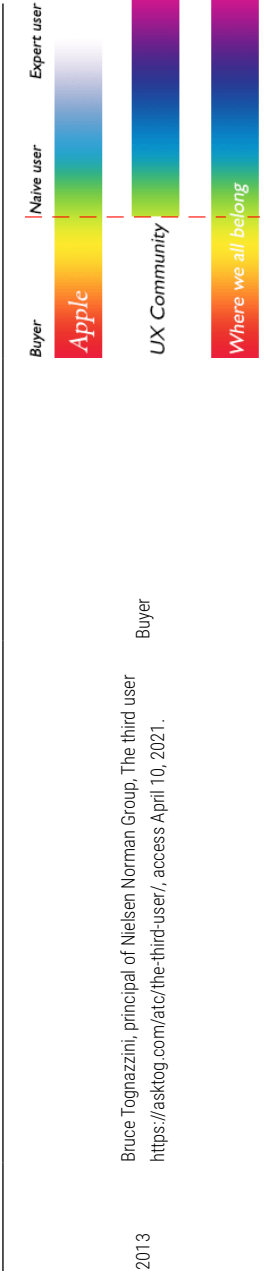
Bruce Tognazzini, principal of Nielsen Norman Group, The third user
https://asktog.com/atc/the-third-user/, access April 10, 2021.

People (public relations)

2011   Facebook

"All of our dashboards, instead of saying
'daily average users,' say 'daily average people'."
– Robinson Meyer, Facebook no longer likes the
word "Users". *The Atlantic*, December 11, 2014

| 2014 (New) | Facebook | Target (internally) | The privacy activist group Europe vs Facebook analysed a data set disclosed by Facebook in 2012, finding out that "target" is the name of the item containing a user's ID number and the date of its generation.

http://europe-v-facebook.org/, access April 10, 2021. |
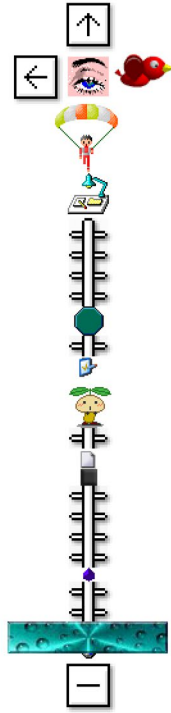
Rich User Experience, UX and Desktopization of War (2014)

"If we only look through the interface we cannot appreciate the ways in which it shapes our experience."

Jay David Bolter and Diane Gromala[1]

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1   Jay David Bolter and Diane Gromala, *Windows and Mirrors* (Cambridge, MA 2003).

Fig. 1: Olia Lialina & Dragan Espenschied: "Rich user experience" from the series With Elements of Web 2.0, 2006.

Thank you for hosting me.[2] Today I'm talking as the Geocities Institute's Head of Research, an advocate for computer users' rights, and as an interface design teacher.

Rich User Experience

I've been making web pages since 1995. Since 2000 I have been collecting old web pages, and in 2004 I started writing about native web culture (digital folklore) and the significance of personal home pages for the Web's growth, personal growth and the development of HCI.

So I remember very well the moment when Tim O'Reilly promoted the term "Web 2.0" and announced that the time of "rich user experi-

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2   This essay is based on a lecture delivered at the conference "Interface Critique", Berlin University of the Arts, November 7, 2014; the lecture was published in Florian Hadler and Joachim Haupt (eds.), *Interface Critique* (Berlin 2016), pp. 135–150.

ence" (RUE) had begun. This buzzword was based on "rich Internet applications", coined by Macromedia,[3] which literally meant their Flash product. O'Reilly's RUE philosophy was also rather technical: the richness of user experiences would arise from the use of asynchronous JavaScript and XML (AJAX). The Web was supposed to become more dynamic, fast and "awesome" because many processes that users would have had to consciously trigger before, started to run in the background. You didn't have to submit or click or even scroll anymore – new pages, search results and pictures would appear by themselves, fast and seamless. "Rich" meant "automagic" and … as if you would be using desktop software.

As Tim O'Reilly stated in September 2005 in the blog post "What is Web 2.0"[4]: "We are entering an unprecedented period of user interface innovation, as web developers are finally able to build web applications as rich as local PC-based applications."[5]

But Web 2.0 was not only about a new way of scripting interactions. It was an opportunity to also automagically become a part of the Internet. No need to learn HTML or register a domain or whatever, Web 2.0 provided premade channels for self-expression and communication, hosting and sharing. No need any more to be your own information architect or interface designer, looking for a way to deliver your message. In short: no need to make a web page.

3   Jeremy Allaire, "Macromedia Flash MX – A next-generation rich client", Macromedia White Paper (San Francisco 2002).

4   Tim O'Reilly, What is Web 2.0 (2005), http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html, p. 5; access: October 29, 2020.

5   A decade later, when "the cloud" has become the symbol of power and the desktop metaphor is becoming obsolete, this comparison looks almost funny. As this article seeks to demonstrate, the power of the desktop should not be underestimated.
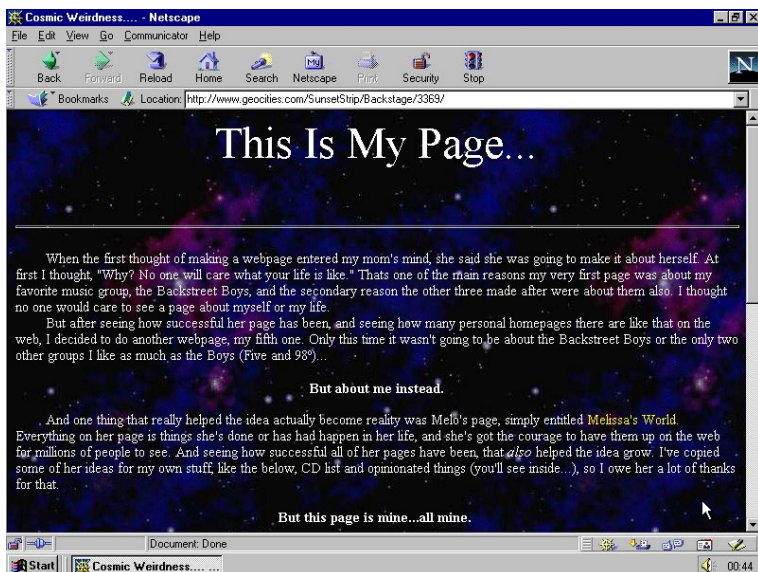
This Is My Page...

When the first thought of making a webpage entered my mom's mind, she said she was going to make it about herself. At first I thought, "Why? No one will care what your life is like." Thats one of the main reasons my very first page was about my favorite music group, the Backstreet Boys, and the secondary reason the other three made after were about them also. I thought no one would care to see a page about myself or my life.

But after seeing how successful her page has been, and seeing how many personal homepages there are like that on the web, I decided to do another webpage, my fifth one. Only this time it wasn't going to be about the Backstreet Boys or the only two other groups I like as much as the Boys (Five and 98°)...

But about me instead.

And one thing that really helped the idea actually become reality was Mel0's page, simply entitled Melissa's World. Everything on her page is things she's done or has had happen in her life, and she's got the courage to have them up on the web for millions of people to see. And seeing how successful all of her pages have been, that *also* helped the idea grow. I've copied some of her ideas for my own stuff, like the below, CD list and opinionated things (you'll see inside...), so I owe her a lot of thanks for that.

But this page is mine...all mine.

Fig. 2: Dragan Espenschied & Olia Lialina, Screenshot of restored GeoCities page from the One Terabyte of Kilobyte Age archive.

The paradox for me at that time was that "rich user experience" was the name for a reality where user experiences were getting poorer and poorer. You no longer had to think about web or web-specific activities.

Also, Web 2.0 was the culmination of approximately seven years of neglecting and denying the experience of web users – where experience was Erfahrung, rather than Erlebnis.[6] So layouts, graphics, scripts, tools and solutions made by naive users were neither seen as a heritage nor as valuable elements or structures for professional web productions.

That is why designers of today are certain that responsive design was invented in 2010, mixing up the idea with coining the term; though it was there from at least 1994.

And it also explains why the book Designing for Emotion,[7] from the very sympathetic series "A Book Apart", gives advice on how to build a project

6   Wiktionary explains the different possible meanings of "experience" in the English language.
7   Aarron Walter, *Designing for Emotion* (New York 2011).

"from human to human" without even mentioning that there is much experience of humans addressing humans on the Web that is decades old. "Guess what?! I got my own domain name!" announces the proud user who leaves Geocities for a better place. "So if you came here through a link, please let that person know they need to change their link!"

"If you take the time to sign my guestbook I will e-mail you in return," writes another user in an attempt to get feedback. Well, this one might be more of an example of early gamification than emotional design, but this direct human-to-human communication – something current designers have the greatest desire to create – is very strong.
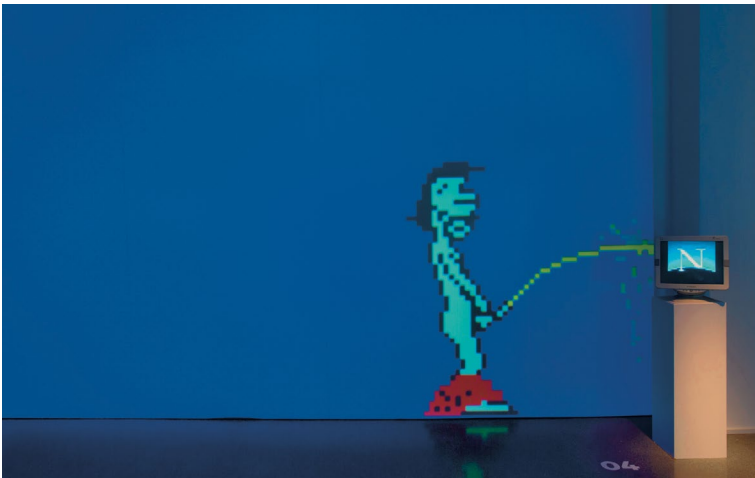
Fig. 3: "What did Peeman Pee On" installation at Digitale Folklore exhibition at HMKV Hartware Medien-KunstVerein, Dortmunder U, Dortmund, Germany. Photo: Yoko Dupuis.

A few days ago, my team at the Geocities Research Institute found 700 answers to the question "What did peeman pee on?" Peeman is an animated GIF created by an unknown author, widely used on "manly" neighbourhoods of Geocities to manifest disgust or disagreement with some topic or entity, like a sports team, a band, a political party, etc. – kind of a "dislike" button.
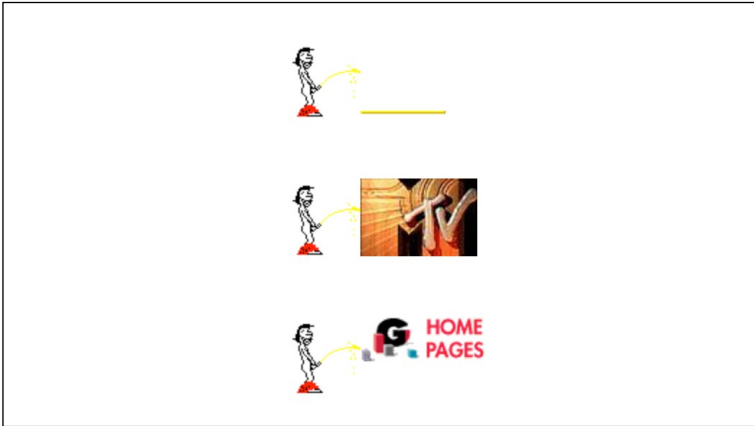
Fig. 4: Peeman.gif in combination with various icons.

It isn't a particularly sophisticated way to show emotions or manifest an attitude, but still so much more interesting and expressive than what is available now: first of all, because it is an expression of a dislike, when today there is only an opportunity to like; second, the statement lies outside of any scale or dualism: the dislike is not the opposite of a like; third, it is not a button or function, it works only in combination with another graphic or word. Such a graphic needed to be made or found and collected, then placed in the right context on the page – all done manually.

I am mainly interested in early web amateurs because I strongly believe that the Web in that state was the culmination of the Digital Revolution.[8] And I don't agree that the Web of the 1990s can just be considered as a short period before we got real tools, an exercise in self-publishing before real self-representation. I'd like to believe that 15 years of not making web pages will be classified as a short period in the history of the WWW. There are a few initiatives right now supporting my observation that home page culture is having a second comeback, this time on a structural rather than just a visual level.[9]

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8   As opposed to Chris Anderson and Michael Wolff's, The Web is dead. Long live the Internet. *Wired*, last modified August 17, 2010, https://www.wired.com/2010/08/ff-webrip/; access: October 29, 2020.

9   The first comeback was around five years ago when designers started to pay attention to elements of

- **neocities.org** – free HTML design without using templates.

- **tilde.club** – as the above, plus URLs as an expression of users belonging to a system; and web rings as an autonomy in hyperlinking.

- **superglue.it** – "Welcome to my home page" taken to the next level, by hosting your home page at your actual home.

<center>* * *</center>

I had the chance to talk at the launch of superglue.it at WORM in Rotterdam a month ago. Five minutes before the event, team members were thinking who should go onstage. The graphic designer was not sure whether she should present. "I've only made icons," she said. "Don't call them 'icons,'" the team leader encouraged her, "call them 'user experience'!" And his laughter rang loud with everybody else's.

Experience Design and User Illusion

We laughed because if you work in new media design today, you hear and read and pronounce this term every day. "Rich user experience" was maybe a term that kept its proponents and critics busy for some time, but it never made it into mainstream usage, it was always overshadowed by Web 2.0.
With user experience (UXD, UX, XD) it is totally different: The vocabulary of human–computer interaction (HCI) design, which only continued to grow from its inception, has now been shrinking for two years.

the early Web: animated GIFs, under construction signs. See Olia Lialina, Geocities as style and marketing gimmick @divshot, One Terabyte of Kilobyte Age, April 4, 2013, http://blog.geocities.institute/archives/3844; access: October 29, 2020.

Forget input and output, virtual and augmented, focus and context, front-end and back-end, forms, menus and icons. This is all experience now. Designers and companies who were offering Web/interface solutions a year ago are now committed to UX. Former university media design departments are becoming UX departments. The word "interface" is substituted by "experience" in journalistic texts and conference fliers. WYSIWYG becomes a "complete drag and drop experience", as a web publishing company just informed me in an email advertising their new product.[10]
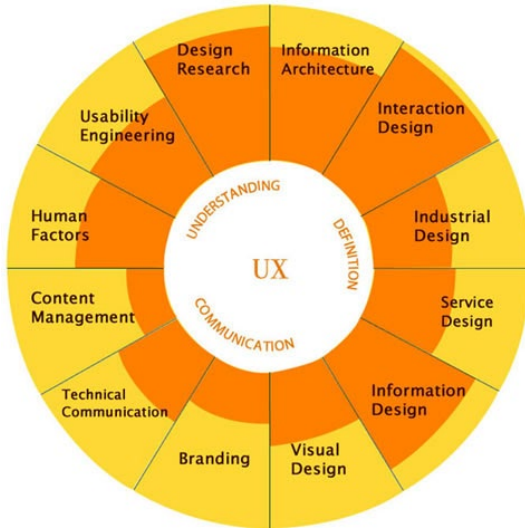
Fig. 5: "Fields of User Experience Design"; source: Elizabeth Bacon, Defining UX, Devise Consulting, January 28, 2014, https://deviseconsulting.com/2014/01/27/defining-ux/; access: October 29, 2020.

UX is not new, the term is fully fledged. It was coined by Don Norman in 1993 when he became head of Apple's research group: "I invented the term because I thought human interface and usability were too narrow. I wanted to cover all aspects of the person's experience with the system

10 Weebly, Inc., Introducing Weebly for iPad, *Weebly newsletter*, received by the author on November 16, 2014.

including industrial design graphics, the interface, the physical interaction and the manual."[11]

Recalling this in 2007, he added: "Since then the term has spread widely, so that it is starting to lose its meaning." Other prophets have been complaining for years already that not everybody who calls themselves "experience designer" actually practises it.

This is business as usual – terms appear, spread, transform, become idioms; the older generation is unhappy with the younger one, etc. I don't bring this up to distinguish "real" and "fake" UX designers.

I'm concerned about the design paradigm that bears this name at the moment, because it is too good at serving the ideology of Invisible Computing. As I argued in "Turing Complete User",[12] the word "experience" is one of three words used today referring to the main actors of HCI:

HCI	UX
Computer	Technology
Interface	Experience
Users	People

The role of "experience" is to hide the programmability or even customizability of the system, to minimize and channel users' interaction with the system. "User illusion" was a main principle of interface designers since Xerox PARC, since the first days of the profession. They were fully aware of creating illusions – of paper, of folders, of windows. UX creates an illusion of unmediated natural space.[13]

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11 Peter Merholz, Peter in conversation with Don Norman about UX & innovation, Adaptive Path, last modified December 13, 2007, http://adaptivepath.org/ideas/e000862/; access: October 29, 2020.

12 Olia Lialina, Turing complete user, October 2012, http://contemporary-home-computing.org/turing-complete-user/; published in this volume, pp. 12–37.

13 Alan Kay, User interface: A personal view, in: *The Art of Human–Computer Interface Design*, eds. Brenda Laurel and S. Joy Mountford (Reading, MA 1990), pp.191–207.

UX covers the holes in Moore's Law: when computers are still bigger than expected, it can help to shrink them in your head. UX fills awkward moments when AI fails. It brings "user illusion" to a level where users have to believe that there is no computer, no algorithms, no input. It is achieved by providing direct paths to anything a user might want to achieve, by scripting the user[14] and by making an effort on audiovisual and aesthetic levels to leave the computer behind.

The "Wake-up Light" by Philips is an iconic object that is often used as an example of what experience design is. It is neither about its look nor interaction, but about the effect it produces: a sunrise. The sunrise is a natural, glorious phenomenon, as opposed to artificial computer effects created from pixels, or, let's say, the famous rain of glowing symbols from *The Matrix*. Because an experience is only an experience when it is "natural". There is no spoon. There is no lamp.

Fig. 6: Philips' promotional image for Wake-up Light, 2010, lifted from Amazon.

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14 Janet Murray, *Hamlet on the Holodeck* (New York 1997). In later editions of the book and her recent writings she refers to this concept as "scripting the interactor".

When Don Norman himself describes the field, he keeps it diplomatic: "[W]e can design in the affordances of experiences, but in the end it is up to the people who use our products to have the experiences."[15] Of course, but affordances are there to align the users' behaviours with a direct path. So it is not really up to the "people", but more up to the designer.

One of the world's most convincing experience design proponents, Marc Hassenzahl, clearly states: "We will inevitably act through products, a story will be told, but the product itself creates and shapes it. The designer becomes an 'author' creating rather than representing experiences."[16]

That's very true. Experiences are shaped, created and staged. And it happens everywhere:

On Vine, when commenting on another user's video, you are not presented with an empty input form, but are overwriting the suggestion to "say something nice".
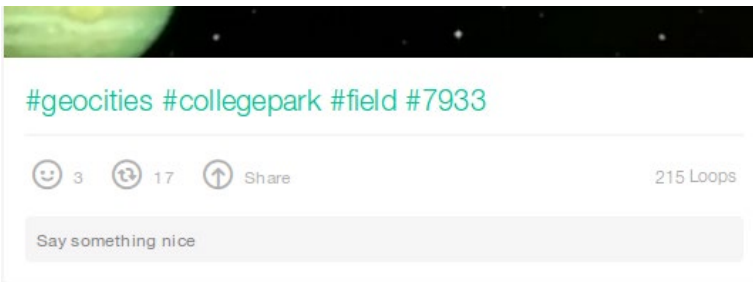
Fig. 7: Screenshot of vine.co, taken January 2, 2015.

On Tumblr, a "Close this window" button becomes "Oh, fine". I click it and hear the UX expert preaching: "Don't let them just close the window, there is no 'window', no 'cancel' and no 'OK'. People should greet the new feature, they should experience satisfaction with every update!"

15 Donald A. Norman, Commentary on Marc Hassenzahl, User experience and experience design, in: *The Encyclopedia of Human–Computer Interaction*, eds. Mads Soegaard and Rikke Friis Dam (Aarhus 2014), https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/user-experience-and-experience-design; access: October 29, 2020.
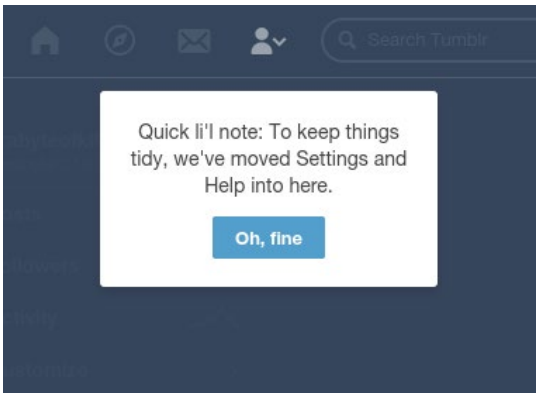
16 Ibid.

Fig. 8: Screenshot of tumblr.com, taken December 28, 2014.

As the Nielsen Norman Group puts it: "User experience design (UXD or UED) is the process of enhancing user satisfaction by improving the usability, ease of use, and pleasure provided in the interaction between the user and the product."[17]

Such an experience can be orchestrated on a visual level: in web design, video backgrounds are masterfully used today to make you feel the depth, the bandwidth, the power of a service like airbnb, to bring you there, to the real experience. On the structural level, a good example is how Facebook three years ago changed the About You tool for everyday communication into a tool to tell the story of your life with their "timeline".

You experience being heard now, as Siri has got a human voice, and an ultimate experience when this voice is calm, whatever happens. (The only thing that actually ever happens is Siri not understanding what you say, but she is calm!)

You experience being needed and loved when you hold PARO, the most sold lovable robot in the world, because it has big eyes that look into yours, and you can stroke its soft fur. But smart algorithms, lifelike appearance

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17 The Nielsen Norman Group's definition of user experience dates back to December 1998, http://web.archive.org/web/19981201051931/http://www.nngroup.com/about/userexperience.html; access: October 29, 2020.

and behaviour alone will not suffice to not make users feel like consumers of a manufactured programmable system.

Critics of AI like Sherry Turkle warn that we must see and accept machines' "ultimate indifference",[18] but today's experience designers know how to script the user to avoid any gaps in the experience. There is no way to escape this spectacle. When PARO runs out of battery, it needs to be charged via a baby's dummy plugged into its mouth. If you possess this precious creature, you experience its lifelines even when it is just a hairy sensors sandwich.

Fig. 9: "PARO Therapeutic Robot"; source: https://newjapans.com/2020/06/11/therapeutic-robots-paro/, access: October 29, 2020.

This approach leads to some great products on-screen and in real life (IRL), but alienates as well. Robotics doesn't give us a chance to fall in love with the computer if it is not anthropomorphic. Experience design prevents thinking and valuing computers as computers, and interfaces as interfaces. It makes us helpless. We lose an ability to narrate ourselves,

18 Sherry Turkle, *Alone Together. Why We Expect More from Technology and Less from Each Other* (New York 2011), p. 133.

and – on a more pragmatic level – we are not able to use personal computers anymore.

We hardly know how to save and have no idea how to delete. We can't UNDO!

* * *

UNDO was a gift from developers to users, a luxury a programmable system can provide. It became an everyday luxury with the first graphical user interface (GUI) developed at Xerox PARC[19] and turned into a standard for desktop operating systems to follow. Things changed only with the arrival of smartphones: neither Android nor Windows phones nor Blackberry provide a cross-application alternative to CTRL+Z. iPhones offer the embarrassing "shake to undo".

What is the reasoning of these devices' developers?

Not enough space on the nice touch surface for an undo button; the idea that users should follow some exact path along the app's logic, which would lead somewhere anyway; the promise that the experience is so smooth that you won't even need this function.

Should we believe them and give up? No!

There are at least three reasons why to care about UNDO:

1. UNDO is one of very few generic ("stupid") commands. It follows a convention without sticking its nose into the user's business.

2. UNDO has a historical importance. It marks the beginning of the period when computers started to be used by people who didn't program them, the arrival of the real user,[20] and the naive user. The function was first mentioned in the IBM research report Behavioral issues in the use

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19 Butler Lampson and Ed Taft, *Alto User's Handbook* (Palo Alto 1979), p. 36.

20 See Olia Lialina, Users imagined, appendix to: Turing complete user, October 2012, http://contemporary-home-computing.org/turing-complete-user/; published in this volume, pp. 30–37.

of interactive systems[21]: they outlined the necessity of providing future users with UNDO: "the benefit to the user in having—even knowing—of a capability to withdraw a command could be quite important (e.g., easing the acute distress often experienced by new users, who are worried about 'doing something wrong')."

3. UNDO is the borderline between the virtual and the real world everybody is keen to grasp. You can't undo IRL. If you can't undo it means you are IRL or on Android.

* * *

In August 2013, The Guardian received an order to destroy the computer on which Snowden's files were stored. In mass media we saw explicit pictures of damaged computer parts and images of journalists executing drives and chips, and heard The Guardian's editor-in-chief saying: "It's harder to smash up a computer than you think". And it is even harder to accept it as a reality.

For government agencies, the destruction of hardware is a routine procedure. From their perspective, the case of deletion is thoroughly dealt with when the medium holding the data is physically gone. They are smart enough to not trust the "empty trash" function. Of course, the destruction made no sense in this case, since copies of the files in question were located elsewhere, but it is a great symbol for what is left for users to do, what is the last power users have over their systems: they can only access them on the hardware level, destroy them. Since there is less and less certainty of what you are doing with your computer on the level of software, you'll tend to destroy your hard drive voluntarily every time you want to really delete something.

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21 Lance A. Miller and John C. Thomas Jr., Behavioral issues in the use of interactive systems, in: *Interactive Systems. IBM 1976. Lecture Notes in Computer Science*, vol. 49, eds. A. Blaser and C. Hackl (Berlin 1977), pp. 193–216.
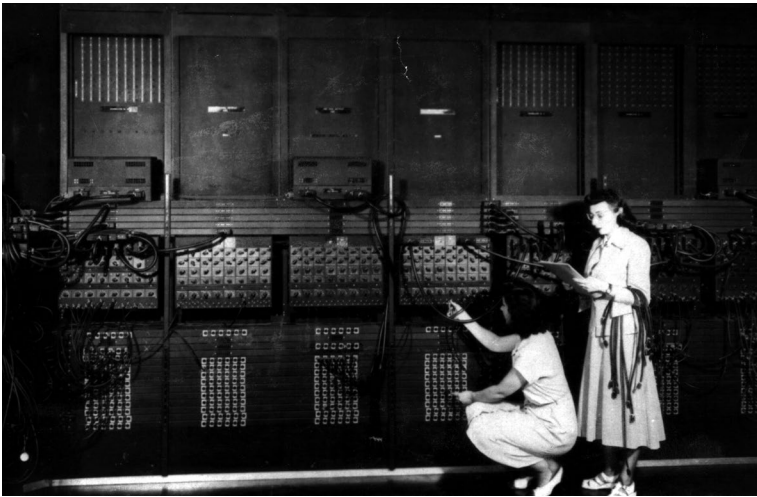
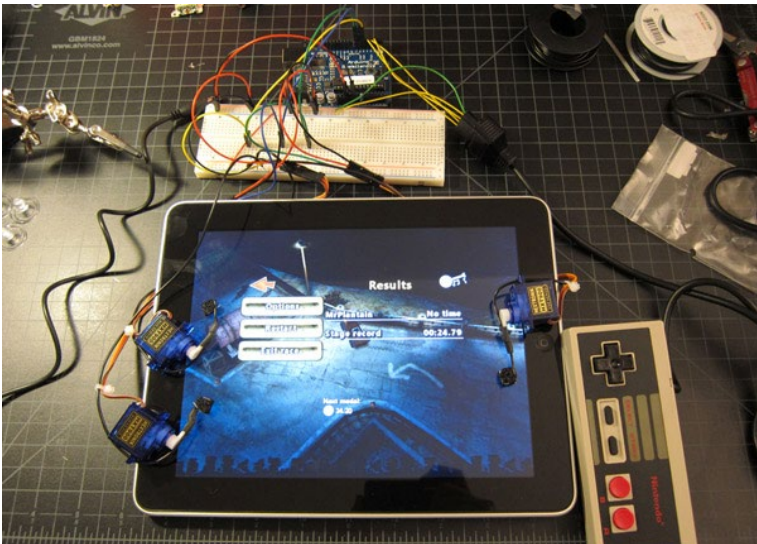Fig. 10: Source: Frank da Cruz: Programming the ENIAC, 2003; http://www.columbia.edu/cu/computing-history/eniac.html; access: October 29, 2020.

Fig. 11: Source: ProtoDojo: RoboTouch iPad Controller, 21 August, 2011; source: https://youtu.be/c9u87WPhVK8, access: January 21, 2021.

Classic images of first-ever computer ENIAC from 1945 show a system maintained by many people who rewire or rebuild it for every new task. ENIAC was operated on the level of hardware, because there was no software. Can it be that this is the future again?

In 2011, 66 years after ENIAC, ProtoDojo showcased[22] a widely celebrated "hack" to control an iPad with a vintage NES video game controller. The way to achieve this was to build artificial fingers, controlled by the NES joypad, to touch the iPad's surface, modifying the hardware from the outside, because everything else, especially the iPad's software, is totally inaccessible.

Every victory of experience design – a new product "telling the story", or an interface meeting the "exact needs of the customer, without fuss or bother" – widens the gap between a person and a personal computer.

The morning after "experience design" will look like this: interface-less, disposable hardware, personal hard disc shredders, primitive customization via mechanical means, rewiring, reassembling, making holes in hard disks, in order to delete, to logout, to "view offline".

* * *

Having said that, I'd like to add that HCI designers have huge power, yet often seem unaware of it. Many of those who design interfaces never studied interface design, many of those who did, didn't study its history, never read Alan Kay's words about creating the "user illusion",[23] didn't question this paradigm and didn't reflect on their own decisions in this context. And not only interface designers should be educated about their role, it should also be discussed and questioned which tasks can be delegated to them in general and where the boundaries of their responsibilities are.

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22 ProtoDojo: RoboTouch Controller Prototype, 2011, https://www.youtube.com/watch?v=c9u87WPh-VK8, access: October 29, 2020.

23 Kay, User interface: A personal view, p. 199.

Combat Stress and the Desktopization of War

In 2013, Dr Scott Fitzsimmons and MA graduate Karina Sangha published the paper "Killing in high definition". They raised the issue of combat stress among operators of armed drones (remote-piloted aircraft/RPA) and suggested ways to reduce it. One of them was to mask traumatic imagery.

To reduce RPA operators' exposure to the stress-inducing traumatic imagery associated with conducting airstrikes against human targets, the USAF should integrate graphical overlays into the visual sensor displays in the operators' virtual cockpits. These overlays would, in real-time, mask the on-screen human victims of RPA airstrikes from the operators who carry them out with sprites or other simple graphics designed to dehumanize the victims' appearance and, therefore, prevent the operators from seeing and developing haunting visual memories of the effects of their weapons.[24]

I had students of my interface design class read this paper. I asked them to imagine what this masking could be. After hesitation about even thinking in this direction, their first drafts alluded to the game Sims (Fig.12a,12b):

Of course, the authors of this paper are not ignorant or evil. In a paragraph below the quoted one they state that they are aware that their ideas could be read as advocacy for a "PlayStation mentality", and note that RPA operators do not need artificial motivation to kill, they know what they are doing. To sum up, there is no need for a gamification of war, it is not about killing more but about feeling fine after the job is done.

I think that this paper, its attitude, this call to solve an immense psychiatric task on the level of the interface, made me see HCI in a new light.

Since the advent of the Web, new media theoreticians have been excited about convergence: you have the same interface to shop, to chat, to watch a film – and to launch weapons … I could go on. It turned out not to be

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24 Scott Fitzsimmons and Karina Sangha, Killing in high definition. Paper Presented at the Canadian Political Science Association Conference, 2013, https://www.cpsa-acsp.ca/papers-2013/Fitzsimmons.pdf; access: October 29, 2020.

really true. Drone operators use other interfaces and specialized input devices. Still, as in figure 13, they are equipped with the same operating systems running on the same monitors that we use at home and at the office.

Fig. 12a

Fig. 12b

Fig. 13: Michael Shoemaker: MQ-9 Reaper training mission from a ground control station on Holloman Air Force Base, N.M., 2012.

But this is not the issue, the convergence we can find here is even more scary: the same interface to navigate, kill and to cure post-traumatic stress.

Remember Weizenbaum reacting furiously to Colby's plans to implement the Eliza chatbot in actual psychiatric treatments? He wrote:

What must a psychiatrist think he is doing while treating a patient that he can view the simplest mechanical parody of a single interviewing technique as having captured anything of the essence of a human encounter?[25]

Weizenbaum was not asking for better software to help cure patients, he was rejecting the core idea of using algorithms for this task. It is an ethical rather than a technical or design question, just like the masking of traumatic imagery is now.

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25 Josef Weizenbaum, From judgement to calculation [1976], in: *The New Media Reader*, eds. Noah Wardrip-Fruin and Nick Montfort (Cambridge, MA 2003), p. 370.

If we think about the current state of the art in related fields, we see on the technological level everything is already in place for the computer display to act as a gunsight and at the same time as a psychotherapist coach.

- There are tests to cure post-traumatic stress disorder (PTSD) in virtual reality, and studies that report on successes. So there is belief in VR's healing abilities.[26]

- There are a lot of examples around in gaming and mobile apps proving that the real world can be augmented with generated worlds in real time (Fig 14 a).

- Experience in the simplification of the real – or rather, too real – images already exist, as in the case of airport body scanners (Fig. 14 b).

- And last but not least there is a tradition of roughly seven years of masking objects, information and people on Google Maps: this raises the issue of the banalization of masking as a process. For example, to hide military bases, Google's designers use the "crystallization" filter, known and available to everyone, because it is a default filter in every image-processing software. So the act of masking doesn't appear as an act that could raise political and ethical questions, but as one click in Photoshop (Fig. 14 d).

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26 The Public Broadcasting Service (PBS) Frontline series covered a few projects: Interview with Albert Rizzo, leader of Virtual Reality Exposure Therapy at the USC Institute for Creative Technologies since 2005, Frontline, last modified February 2, 2010, http://www.pbs.org/wgbh/pages/frontline/digitalnation/waging-war/immersion-training/stress-inoculation.html?play; Interview with P.W. Singer, Frontline, last modified February 2, 2010, http://www.pbs.org/wgbh/pages/frontline/digitalnation/waging-war/immersion-training/virtual-training.html?play; Report on a Sergeant going through VR-assisted PTSD therapy, Frontline, last modified February 2, 2010, http://www.pbs.org/wgbh/pages/frontline/digitalnation/virtual-worlds/health-healing/a-soldiers-therapy-session.html?play;   access: October 29, 2020.
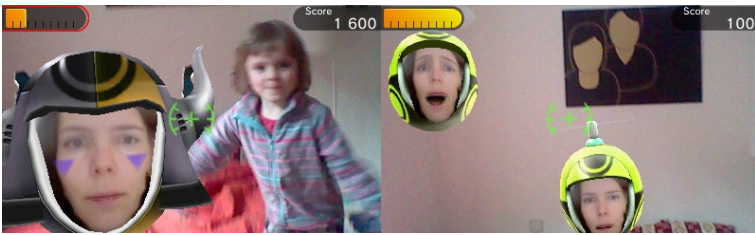
Fig. 14a: Since 2011, Nintendo's handheld video game systems series 3DS features a built-in game called "Face Raiders" that mixes live camera, user photos and 3D graphics.
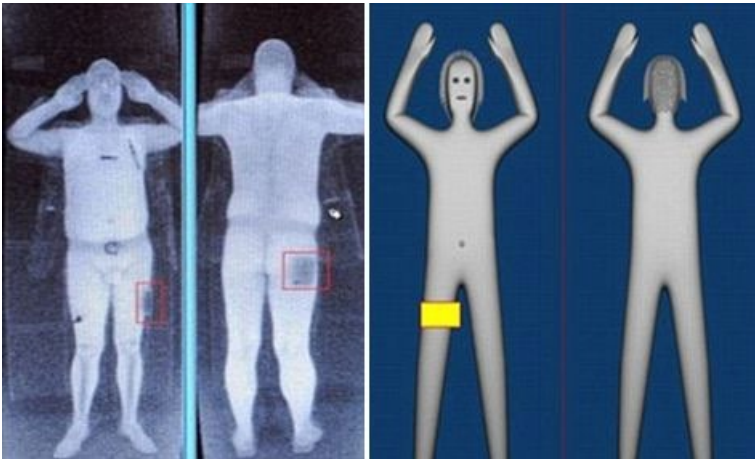

Fig. 14b, c: Tom McGhie, Boffins design "modest" naked airport scan. *This is Money*, last modified November 21, 2010, http://www.thisismoney.co.uk/money/news/article-1708293/Boffins-design-modest-naked-airport-scan.html; Manchester Airport press release on body scanners, n.d., https://www.manchesterairport.co.uk/help/passenger-guides/security/; access: October 29, 2020.

Fig. 14d: Crystallized NATO Airbase Geilenkirchen on Google Maps, https://www.google.com/maps/ @50.9600013,6.028254,1213m/data=!3m1!1e3.

These preconditions, especially the last one, made me think that something more dangerous than the gamification of war could happen, namely the desktopization of war. (It has already arrived on the level of commodity computing hardware and familiar consumer operating systems.) This could happen when experience designers deliver interfaces to pilots that can complete the narrative of getting things done on your personal computer; to deliver the feeling that they are users of a personal computer and not soldiers, by merging classics of direct manipulation with real-time traumatic imagery, by substituting the gunsight with a marquee selection tool, by "erasing" and "scrolling" people, by "crystallizing" corpses or replacing them with "broken image" symbols, by turning on the screen saver when the mission is complete.

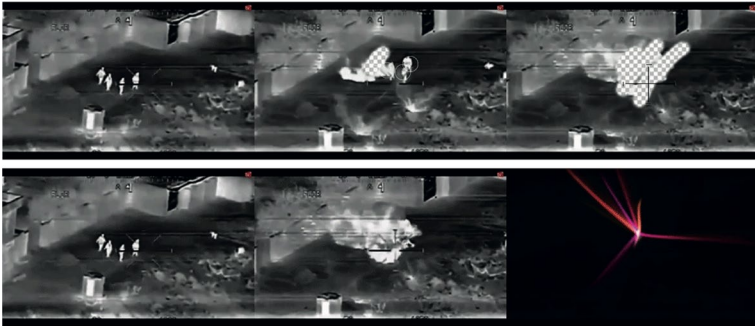We created these drafts in the hope of preventing others from going down this path.

Fig. 15: Eraser Tool by Madeleine Sterr (source: https://fckyeahnetart.tumblr.com/post/107250218006/eraser-tool-by-madeleine-sterr-we-created-these/amp, access: January 21, 2021) and Screen Saver by Monique Baier (source: http://casting-screens.hfbk.net/_dev/13/contributions/monique-baier/ruins-restored-siliconvalleyway3613, access: January 21, 2021).

Augmented reality (AR) should not become virtual reality (VR). On a technical and conceptual level, interaction designers usually follow this rule, but when it comes to gunsights it must become an ethical issue instead. Experience designers should not provide experiences for gunsights. There should be no user illusion and no illusion of being a user created for military operations. The desktopization of war should not happen. Let us use clear words to describe the roles we take and the systems we bring to action:

War	UX	HCI
Gun	Technology	Computer
Gunsight	Experience	Interface
Soldiers	People	Users

I look through a lot of old (pre-RUE) home pages every day, and see quite a number that are created to release stress, to share with cyberspace what the authors cannot share with anybody else; sometimes it is noted that they were conceived after the direct advice from a psychotherapist. Pages made by people with all kinds of different backgrounds, veterans among them. I don't have any statistics about whether making a home page ever helped anybody to get rid of combat stress, but I can't stop thinking of drone operators coming back home in the evening, looking for the peeman.gif in collections of free graphics, and making a home page.

They of course should find more actual icons to pee on. And by any means tell their story, share their experiences and link to pages of other soldiers.
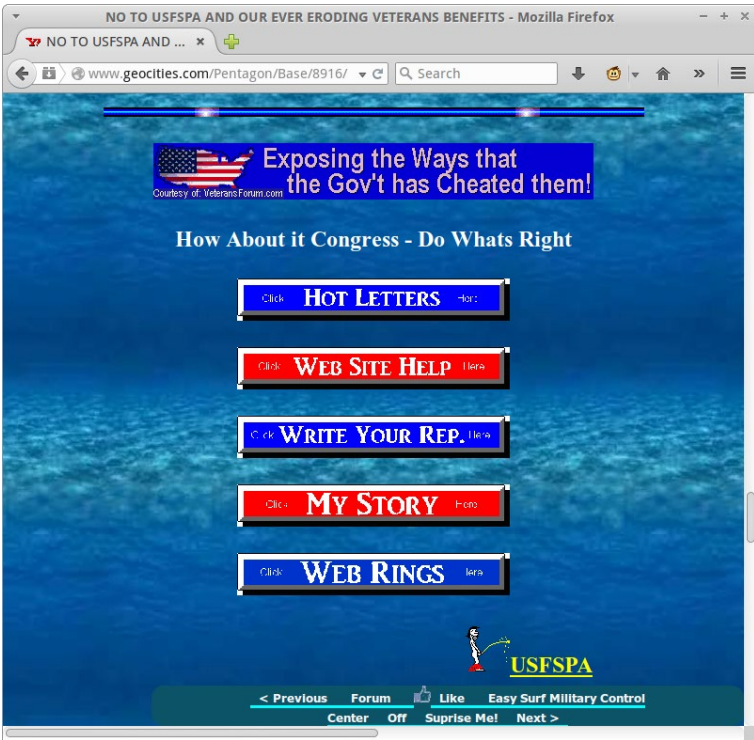
Fig. 16: Dragan Espenschied & Olia Lialina, Screenshot of restored GeoCities page from the One Terabyte of Kilobyte Age archive.

Not Art
Not Tech
(2015)

On the Role of Media Theory at Universities of Applied Art, Technology and Art and Technology

Thank you for the chance to introduce my ideas. I'm a net artist, active in the field for 20 years, 16 of which I have spent teaching new media designers at Merz Akademie. I am also a co-author of the book *Digital Folklore*.[1] Since the beginning of the century I have collected, preserved and monumentalised the Web culture of the 90s. "What Does It Mean to Make a Web Page?" is the doctoral thesis I am currently working on.

As an artist, researcher and teacher I value user culture and medium specificity in both design and research, and as an everyday routine. I see my work as contributing to critical digital culture, media literacy and the development of languages and dialects of New Media.

But there have been many obstacles along the way. Three years ago, I grasped these and boiled them down to three: technology, experience and people. Or rather "technology", "experience" and "people" – I have nothing against any of these concepts unless they are used by hardware and software companies as substitutes for "computer", "interface" and "users".

$$\begin{aligned}
\textbf{Computer} &\rightarrow \textbf{Technology} \\
\textbf{Interface} &\rightarrow \textbf{Experience} \\
\textbf{Users} &\rightarrow \textbf{People}
\end{aligned}$$

These substitutions are taking place on an epidemic scale and the situation is serious. In my essays "Turing complete user" and "Rich user experience (RUE)",[2] I trace the metamorphoses that happened to the terms "users" and "interfaces". Today, talking about the role of media theory at the University of Applied Arts, I would like to start to elaborate on "technology" and why "Art and Technology" should be resisted.

I should note that by defending the words in the left-hand column above, I always find myself in an unfortunate situation. First of all, because in our field you should always go for the new, the next term if you are unsatisfied with the current one – not backwards, at least not to the nearest past.

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1   Olia Lialina and Dragan Espenschied, *Digital Folklore. To Computer Users, with Love and Respect* (Stuttgart 2009).

2   Both republished in this volume (pp. 12–37 and pp. 40–64).

Fig. 1 a, b: Merchandise of the Rhizome event 2014 in New York.

Nobody wants to be called "user". The effort to deface this word has been both enormous and successful. Even when you understand that "people" coming from the tech industry's mouth is pure hypocrisy, you would still prefer to fight for your user rights by calling yourself a "digital citizen", not a "user" … although there is no digital city, state or constitution.

And I also find myself in awkward situations – take now as a case in point – because I know that there is an Art and Technology department at your university; and because in a moment I am going to use as an example an institution with which I have very close relations, and which is probably the only one in the world that supports my work, because it is devoted to net art and keeping an archive of it: namely, Rhizome at the New Museum in New York.

A year ago, during their community campaign, Rhizome, whose priority is to push critical digital culture, released nicely designed bags. If it had been another organisation, or if it had been a bag of a size that didn't suggest that its purpose is to carry your personal computer around, I would have passed it by, but this was not the case, so I vandalised the bag.

"Don't fall for the word 'technology'," Ted Nelson concludes in the last paragraph of *Geeks Bearing Gifts*.[3] "It sounds determinate. It hides the fights and the alternatives. And mostly it is intended to make you submissive." He appeals to us not to accept computer technology as WYSIWHAM – his own acronym for what you see is wonderfully, happily, absolutely mandatory – but to see the tensions, the history and the alternatives.[4] It is an important call, but only one-third of the argument I have against the term "technology". Submission is one issue, but sedation is even more important. "Technology" as a replacement for digital technology or computer technology, which in turn are already substitutes "for programmed systems", is a figure of speech known as a synecdoche: in this particular case when the whole is referring to a part.

It is a rhetorical trope that makes the computer dissolve in all other technologies, becoming an invisible part, just one of many technologies. This is in the interest of the industry, because it makes users unaware of the computer as a system that is programmed, that can be reprogrammed at any moment, and that could potentially be programmed or reprogrammed by its users.

There are (re)programmable technologies and many that are not programmable. But constant repetition of the word "technology" instead of computers, sedates and makes you forget that the system you hold in your hands is a programmable one.

It appears that another good reason to say "technology" instead of "computer" is that – so they say – computers are inside almost every piece of

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3   Ted Nelson, *Geeks Bearing Gifts* (Sausalito, CA 2009), p. 196.
4   Ibid., p. 192.

technology anyway, or as Kevin Kelly writes in his book, *What Technology Wants* – not recommended reading, but I can't avoid mentioning it here – "these days all technology follows computer technology".[5]

At the end of the day, "technology" is explicitly used as a new word for "computer", not any other technologies, including digital ones, but explicitly only digital ones. So the purpose is to avoid saying "computer". Indeed, "technology" is not a synecdoche but a euphemism.

"It's time to give up this talk of technology with big T and instead figure out how different technologies can boost and compromise the human condition." Evgeny Morozov makes a rare constructive suggestion in his sour *To Save Everything Click Here*.[6]

It is tempting to agree, but I would argue again that both "Technology" with capital T as well as "technologies" with a small t should be replaced by "computer" with whatever size c. I know computer is an abstraction as well, but it still connotes algorithmic powers, programmability. It describes what happens with society, with culture, with arts.

Rhizome's most successful event is Seven on Seven. The promotional text says: "Seven on Seven pairs seven leading artists with seven visionary technologists, and challenges them to make something new — an artwork, a prototype, whatever they imagine." [7]

Technologists are people of different backgrounds, including art or at least artistic ambitions, with something in common: they can program or – which is more often the case lately – they represent the software industry. Art and Technology as of today, or even "Art&Tech" – a term I learnt about in early 2014 while reading articles reporting on both Seven on Seven and the monumental exhibition Digital Revolution at Barbican, London, July 3 –September 14, 2014 – is not a revolutionary art form or an artistic movement. Art&Tech is, like "technology", a figure of speech.

5   Kevin Kelly, *What Technology Wants* (New York 2010), p. 159.

6   Evgeny Morozov, *To Save Everything, Click Here. The Folly of Technological Solutionism* (New York 2014), p. 323.

7   https://sevenonseven.art, access: November 2, 2020.

It swiftly replaces Computer Art, Digital Art, Media Art. Art&Tech alludes to the almost 50 years old Experiments with Art and Technology (E.A.T.) programme of the Los Angeles County Museum of Art.

In 1967, E.A.T. was promoted as artists bridging the world of techno-phobes and technophiles, art entering the world of engineers, "working with materials that only industry can provide".[8] Contemporary art insti-tutions love Art and Technology as a brand because it offers a strong connection to E.A.T., which is both history and establishment, and a cele-brated example of artists collaborating with West Coast industries.

In 2016 I will take part in an epochal 70-artist group exhibition, which will be held in Whitechapel, London. The title is "Electronic Superhighway", a term coined by Nam June Paik in 1974, but the show is, in my honest opinion, artificially extended back to 1966, to be less media/computer/internet, to include artefacts of E.A.T., and be more "tech". "Technology" sedates. "Art&Tech" beams loyalty.

* * *

Siegfried Zielinski writes:

> *Terms are the frameworks of abstraction, which we need for thinking and ac-ting in ways that are interventions. The definitions that we make should satisfy two important criteria. They should be of a provisional character and should be open enough to allow further operations.[9]*

"Technology", though sounding open enough, is today a term that turns scaffolding into a fence, Gerüste into Rüstung, it disarms those who would want to approach the field critically.

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8   Maurice Tuchman, *A Report on the Art and Technology Program of the Los Angeles County, Museum of Art* (Los Angeles 1971), p. 11.

9   Siegfried Zielinski, *[… After the Media]. News from the Slow-Fading Twentieth Century* (Minneapolis 2013), pp. 13–14.

The spreading of the word "technology" reminds me (although is not exactly the same as) the shift that took place 15–20 years ago, when the digital computer or digital medium was substituted by "New Media". In 2000 Janet Murray optimistically interpreted this process in her introduction to *The New Media Reader* as "a sign of our current confusion about where these efforts are leading and our breathlessness at the pace of change, particularly in the last two decades of the 20th century".[10]

The breathlessness is gone, together with the century: New Media evangelists became angry men, new media optimists turned into sceptics. Sherry Turkle, who in 1984 believed or transmitted the belief of one of her respondents in *The Second Self* – "If people understand something as complicated as computer, they will demand greater understanding of other things"[11] – 30 years later ends her *Alone Together* with the words: "We deserve better. When we remind ourselves that it is we who decide how to keep technology [sic!] busy, we shall have better."[12]

As Zielinski points out in the introduction to *[… After the Media]*, "An update of the promise that the media could create a different, even a better world seems laughable from the perspective of our experience with the technology-based democracies of markets."[13]

Along with "the better world", turning into "making the world a better place" (every second start-up's objective); along with computers turning into invisible computers, media arts into Art&Tech; and the rise of technology as the invisible computer, research in media, new media and media theory itself was going through difficult times.

"Through the monumental exertions of the twentieth century, they have also become time-worn,"[14] Zielinski concludes. After the Media belongs to a growing number of texts that elaborate on the situation where media

10 Janet Murray, Inventing the medium, in: *The New Media Reader*, eds. Noah Wardrip-Fruin and Nick Montfort (Cambridge, MA 2003), p. 3.

11 Sherry Turkle, *The Second Self. Computers and the Human Spirit* (Cambridge, MA 2004 [1984]), p. 164f.

12 Sherry Turkle, *Alone Together. Why We Expect More from Technology and Less from Each Other* (New York 2011), p. 296.

13   Zielinski, *[… After the Media]*, p. 18.

14 Ibid

theory finds itself in the position of "after", "post", "no" and general past tense. *[… After the Media]* (Zielinski), *Media After Kittler* (Ikoniadou and Wilson),[15] "Media after media" (Siegert),[16] *Anti-Media* (Florian Cramer).[17] Post-digital, post-#occupy and post-prism. "What Were Media?" ("Was waren Medien?") was an important event and publication organised by Claus Pias at the University of Vienna in 2006/07[18] – almost a decade ago – as was the 2007 transmediale conference with the panel Media Art Undone: here even past perfect tense is used. The latter was also the moment for me personally to give up and claim that I would never talk about the difference between media art and net art publicly.[19] I didn't know that, some years later, as a net artist I would be confronted with "Post-Internet".

Words are important. There is a huge gap (or at least the potential for it) between "after" and "post". "Post" is loaded with crisis, rejection, the urge for action. "After" is fatigue, exodus, but not only that: it is also a change of the perspective to a bird's eye view, a chance to grasp from the outside what is happening around you or was even built by you before.

Jussi Parikka writes in his postscript to *Media After Kittler*: "Just when we were supposed to reach the peak excitement about media technological in-novation – the biggest innovation revealed to be about its disappearance."[20] Well, it was neither a conspiracy nor a sudden turn or force majeure.

* * *

On the one hand, media theory situated in applied arts can be seen in a meaningful and pleasant neighbourhood. Who, if not media designers,

15   Eleni Ikoniadou and Scott Wilson (eds.), *Media After Kittler* (London 2015).

16   Bernhard Siegert, Media after media, in: *Media After Kittler*, eds. Ikoniadou and Wilson.

17   Florian Cramer, *Anti-media. Ephemera on Speculative Arts* (Rotterdam 2013).

18   Cf. the proceedings: Claus Pias (ed.), *Was waren Medien?* (Zurich 2011).

19   Olia Lialina, Flat against the wall. For Media Art Undone panel at Transmediale.07 (2007), http://art.teleportacia.org/observation/flat_against_the_wall/, access: November 2, 2020.

20   Jussi Parikka, Postscript: Of disappearances and the ontology of media (studies), in: *Media After Kittler*, eds. Ikoniadou and Wilson, p. 178.

media and transmedia artists, should be interested or be made interested in the ways media becomes the message and defines the situation? Who, if not them, are to be nurtured with media theory's ideas, and in return give back in the form of artworks, artistic research and designs?

Fig. 2: Video montage by Olia Lialina, "Marshall McLuhan, Full lecture: The medium is the message, 1977 / Official Apple (New) iPad Trailer, 2012" (2015).

At the same time it is not a peaceful situation – on the contrary, maybe it is the most challenging circumstance for media theory, because (if the curriculum is balanced and up to date) the students have to learn the origins of digital culture, computer science, read Vannevar Bush, J.C.R. Licklider, Alan Kay, Alan Turing, Joseph Weizenbaum, Don Norman, those who conceptualised and theorised digital media. New Media Art departments – for media studies – are not just places where theory meets praxis, where media theory meets media praxis (and art meets tech), but where two theories meet each other, two traditions, two schools of thought: one is all about revealing, the other about hiding. McLuhan's interview is from 1977 and Apple's ad from 2012. You can read my collage (Fig. 2) as it is now and was then, theory and practice, but keep in mind that while McLuhan was writing, Alan Kay was writing and Adele Goldberg was writing, they were not proto-typing, they conceptualised a meta-medium. Don Norman, a doctor of philosophy and a cognitive scientist, who is today known as the father of user-centred design, was – while McLuhan was talking – criticising the philosophy of Unix and was himself already

working on a paradigm that would result in computers becoming invisible technology.

So, what to do with this clash of theories, concepts and intentions, apart from using students' heads as magic pots, where both would melt into a brilliant project or writing?

If you ask me what the big deal is today, and the task for media theory, it would be to go into confrontation. Not to analyse the media of today, but question the assumptions on which they were built and take care of the generation who could rebuild them.

Media theory, with its half-a-century experience in and toolbox for revealing things, could play a leading role in educating people who can change the paradigm of media. What I argue for is turning around the "practical turn", to examine the concepts and theories underlying the practice. For example: to question Licklider's postulates on what computers can do best and suggest models that are different from the man–computer symbiosis; to argue for ambiguity in software architecture, to question "variability" as a principle of new media as well as "automation"; to establish another, counter-paradigm: "The computer of the future should be visible". This is the main topic on my agenda for media theory.

* * *

Now to the more obvious matter: theory and practice.

Media theory and media artists are the closest colleagues. We appear in the same exhibitions and publications, we share panel sofas.

What would post-digital as a philosophy do without post-internet as a phenomenon? What would net criticism do without net artists? These were the artists who conceptualised the field and are still busy reconceptualising it.
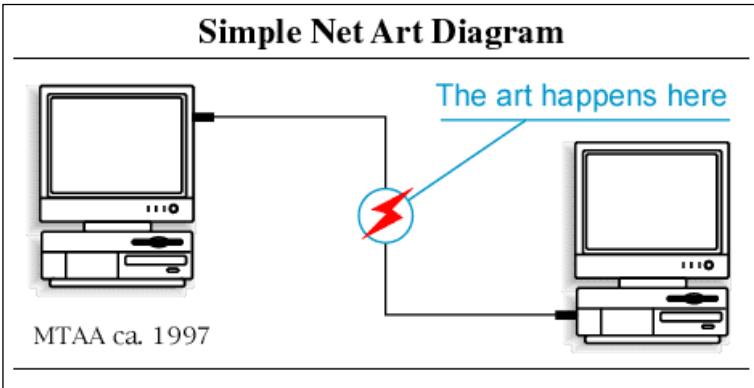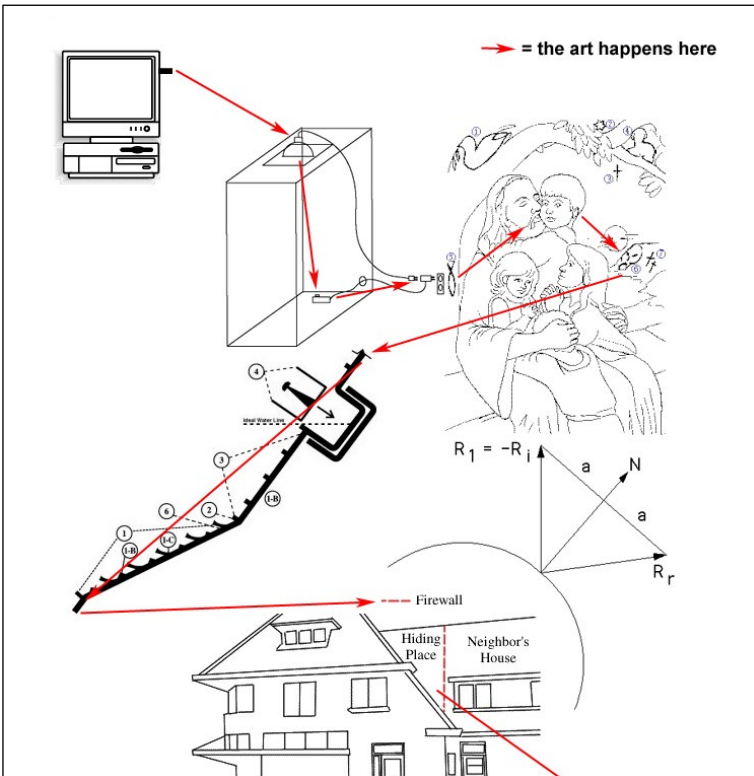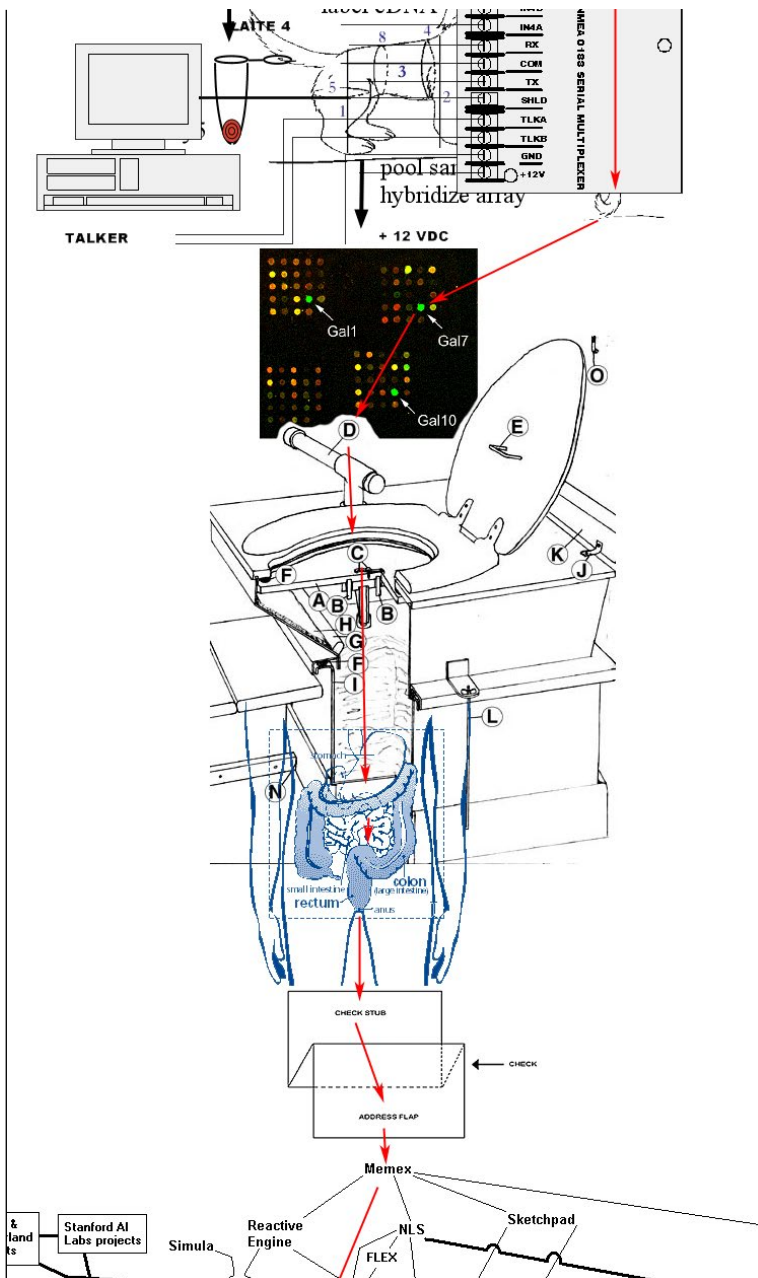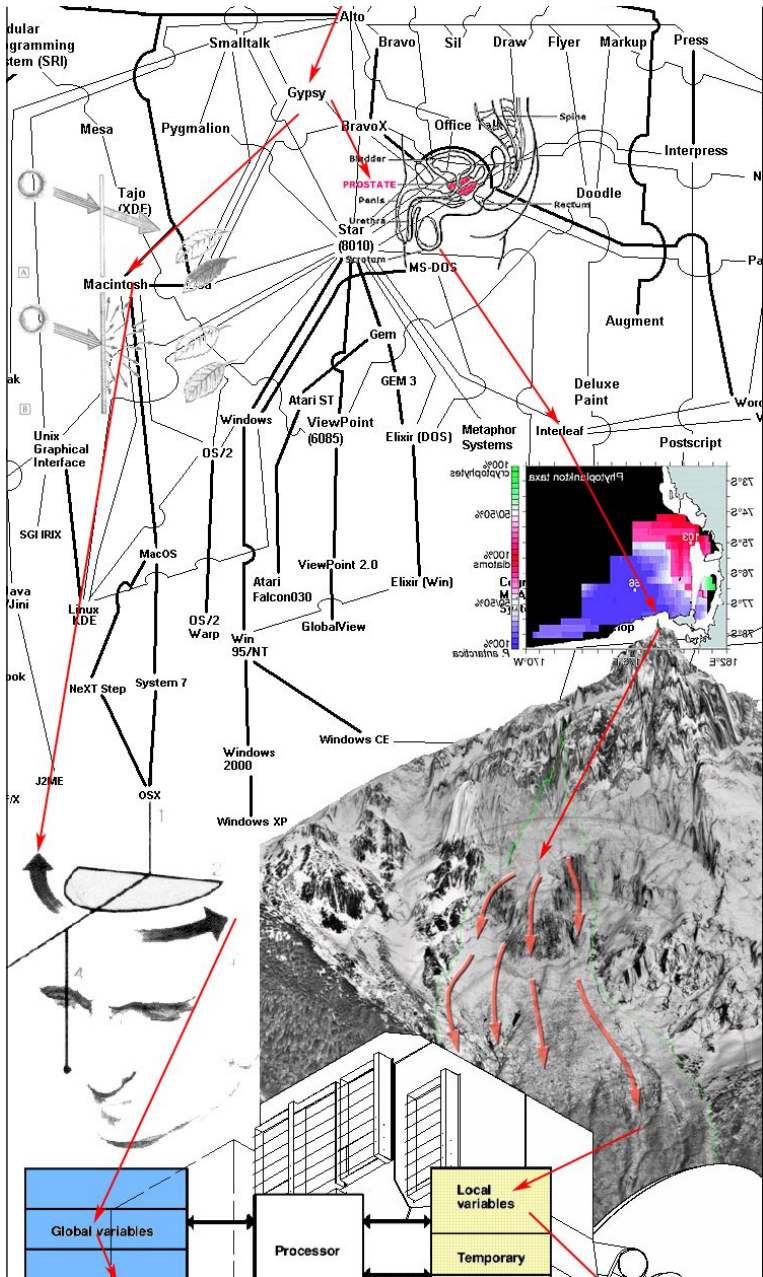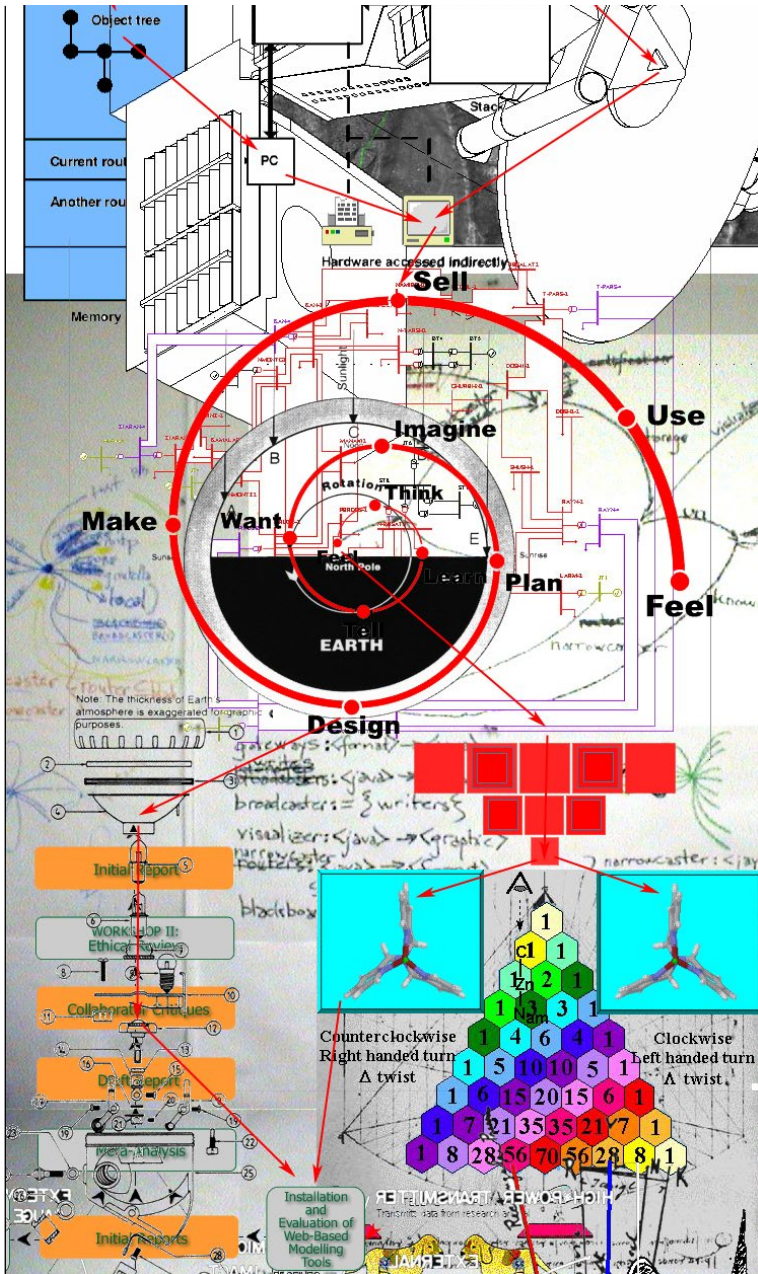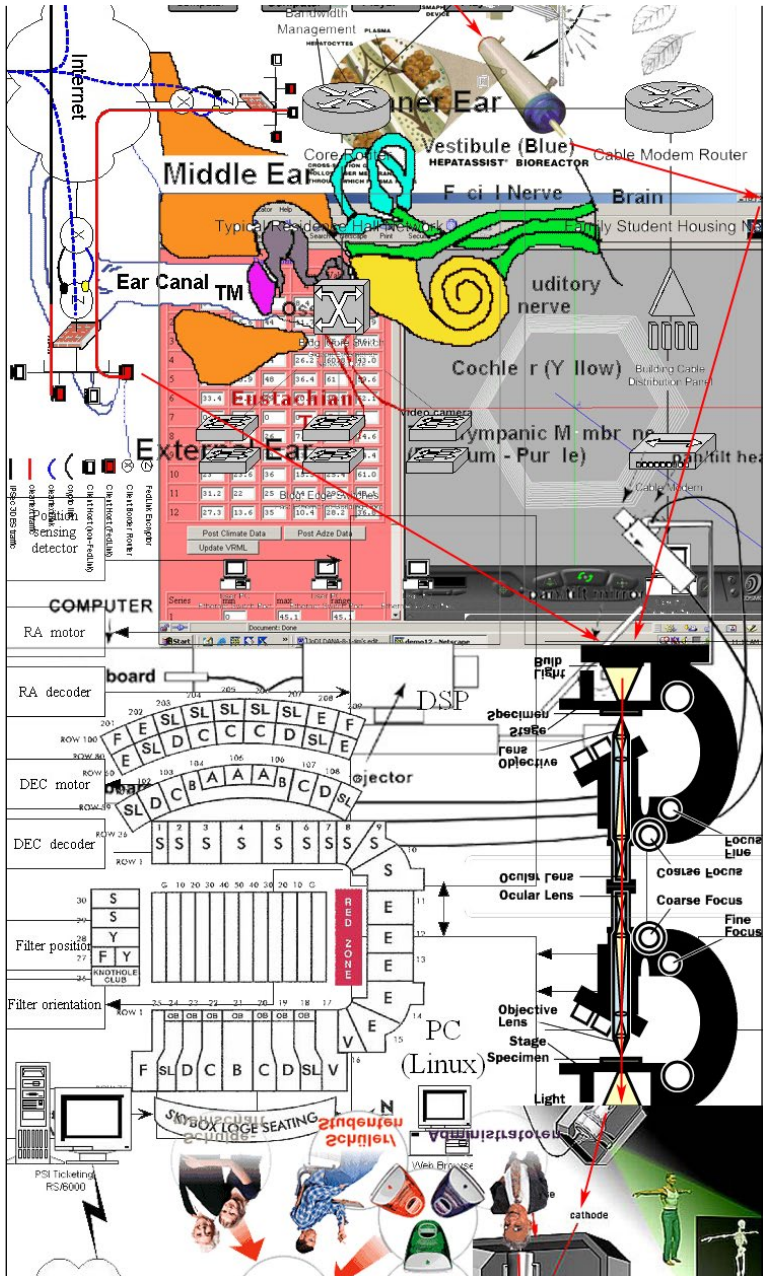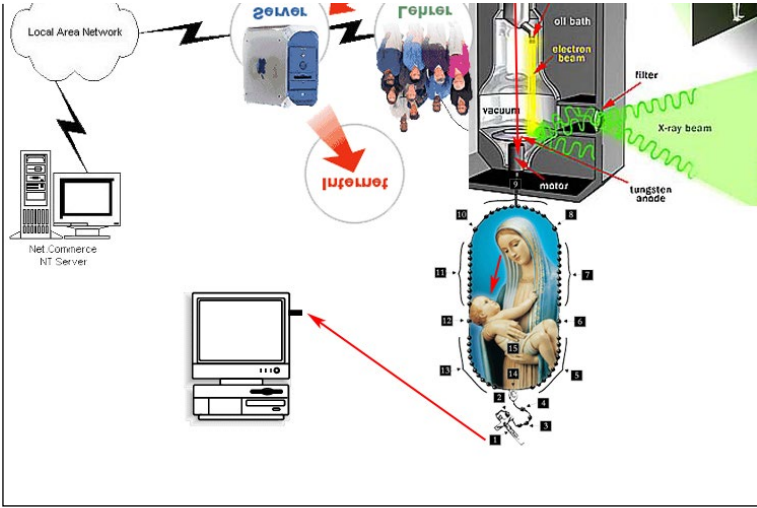
Fig. 3: MTAA, Simple Net Art Diagram, 1997.

Floor

Viewing hole

CHIMNEY
ROCK
ROOM (C)

OREGON TRAIL
ROOM (D)

PIONEER
ROOM (F)

PONY
EXPRESS
ROOM (E)

PLATTE RIVER
ROOM (G)

POLYMERISED LINSEED OIL – swelling characteristics

A B C D E F G H I K L

RESTR

WOMEN

COAT ROOM

MEN

JMEN

ENTRY

Mn-Ni

XIV
XIII
XII
XI
X
IX
VIII
VII
VI
V
IV
III
II
I

Composition : **13.12**

Temperature : **237.33**

48.0 51.98 %
Mn₃Ni

Temperature (°C)

δ-Mn

1020
38

β-Mn

1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0

γ-Mn, Ni

η

η'
655

720

α-Mn

710
ζ

ε-Mn₂Ni

Mn   /afs   Atomic % Ni

0   10   20   30   40   50   60   70   80

⑥ ① ② ③ ④

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/andrew.
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PARASITE

EVENT FOR INVADED
AND INVOLUNTARY BODY

A continuous performance /
installation between 5.00-8.00pm

WOOD STREET GALLERIES
601 WOOD STREET, PITTSBURGH

SERIAL
PORT
BAY

/usr#
RECORDER

I-CUBE

DIGITAL
SYNTH

MAC
8500

STIM
BOX

/usr#

UNIX
LINUX
BOX

Ethernet output
from the router
plugs into a
NE2000(compat)
card on the PC

IMAGE OUT

ETHERNET (CGAX)

SOUND OUT

A/V
MAC

ROUTER

VIDEO
SWITCHER

VISION
MIXER

IMAGE
DIGITIZER

CAB. 1

AUDIO
SWITCHER

PLETH
BOX

SENSOR
INTERFACE
BOX

DIGITAL
DELAY

AUDIO
MIXER

AMP

SPK 1

SPK 2

ETHERNET (CGAX)

wild type yeast

rich glucose media   ric

LAITE 2

LAITE 3   prepare RNA
label cDNA

IN1B
IN1A
IN2B
IN2A
IN3B
IN3A

MODEL N183-41

78

Alto
Smalltalk
Bravo
Sil
Draw
Flyer
Markup
Press
Gypsy
Mesa
Pygmalion
BravoX
Office Talk
Spike
Interpress
PROSTATE
Tajo
(XDF)
Bladder
Penis
Doodle
Rectum
Macintosh
Lisa
Urethra
Star
(8010)
Scrotum
MS-DOS
N
Augment
Pa
Gem
Deluxe
Paint
Word
Unix
Graphical
Interface
Windows
Atari ST
GEM 3
Interleaf
Postscript
OS/2
ViewPoint
(6085)
Elixir (DOS)
Metaphor
Systems
SGI IRIX
MacOS
ViewPoint 2.0
Linux
KDE
Atari
Falcon030
Elixir (Win)
ava
Jini
OS/2
Warp
GlobalView
ok
NeXT Step
System 7
Win
95/NT
J2ME
OSX
Windows CE
Windows
2000
Windows XP

Local
variables

Global variables
Processor
Temporary

Fig. 4: Abe Linkoln, Complex Net Art Diagram, 2003.

Fig. 5: Evan Roth, Simple Net Art Diagram, 2015 (based on the map by TeleGeography).

These were the artists who conceptualised the field and are still busy reconceptualising it, from M.River & T.Whid Art Associates' (MTAA) 1997 Simple Net Art Diagram, which drew attention to the true spirit of net art, through to Rick Silva's (a.k.a. Abe Linkoln) response to it, to Evan Roth's map from 2015, which is showing a strong or even hypertrophied emphasis on the physical, material hardware in today's net art scene.

From its first days, media theory and cultural theory regarded artists fondly. Theorists count on artists as being the first to explore and make sense out of new media, or the most powerful to resist. They look at their work in search of arguments for their theories (which I think caused some misconceptions in New Media). Critical thinkers of all schools look with hope at creative minds.

On the last pages of his aforementioned book – which made fun of every corner of Silicon Valley and every previous attempt to criticise it – Evgeny Morozov makes an effort to be optimistic and turns his eyes toward artistic experiments with the "internet of things". Even the most disillusioned theorists are ready to fall for the charms of Art&Tech.
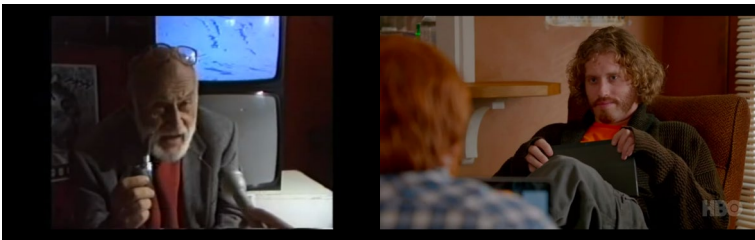
Fig. 6: Video montage by Olia Lialina, "Vilém Flusser, 'On writing, complexity and technical revolutions', 1988 / Silicon Valley Season 1: Episode 1, 2014" (2015).

"What are those who sit in front of their computers, pressing keys, making lines, surfaces and shapes, actually doing? They realize opportunities", writes Vilém Flusser in "Digitaler Schein".

The "Verwirklichen von Möglichkeiten" (the realisation of opportunities) that Flusser so generously assigned to programmers or users of com-

puter programs 25 years ago should be seen as an instruction.[21] It could become a core for any new media curriculum. What kind of opportunities students are realising is the question, though. How to resist both: the "bit soup" – perpetual flirting with The Digital – and the demand for "apps!" of the Art&Tech market?

At the very moment I was preparing for this talk, a message arrived in my inbox: a petition from a few young and a few established media artists and media literate art institutions:

"Dear Apple, Bring art to the world and the world to art!
Please add an 'Art' category to the App Store."

Fig. 7: Olia Lialina, The art happens here, 2015.

21 Vilém Flusser, Digitaler Schein, in: Vilém Flusser, *Medienkultur*, ed. Stefan Bollmann (Frankfurt/M. 1997), p. 213; translated from the German ("Was machen diejenigen eigentlich, die vor den Computern sitzen, auf Tasten drücken und Linien, Flächen und Körper erzeugen? […] Sie verwirklichen Möglichkeit-en.").

In my picture of the world, if media artists are to enter into interaction with Apple, the main if not the only thing they should demand is to close the App Store. So I made some sarcastic tweets and even drew a caricature. But it seems my irony was too covert and the picture too cryptic, so it was interpreted as support for the campaign.

While I was busy with my tweets and angry image manipulation, terrible things were happening in Paris. The next morning was all about accumulating news and tracking friends.

I asked my daughter, who was studying in Paris last year, whether she had heard anything from her friends. "Almost everyone has marked safe," she said. Facebook's new feature for regions hit by natural disaster, which automates checking whether your loved ones are OK, was turned on after a terrorist attack for the first time. This act brought Facebook many likes. But also criticism. Users from Lebanon wanted to know why the safety mark was not activated some days earlier, when attacks happened in Beirut? They asked for it to be turned on; and very quickly after, Zuckerberg apologised and had it enabled.

Fig. 8

In no way do I mean to compare Beirut's demand to turn on this feature with media artists' appeal to turn on an art category in the App Store. I also think it is different from the frustration Russian Facebook users express now in their micro blogs: why is the French tricolour available as an avatar decoration, but no Russian flag theme was there when the Russian plane exploded in mid-air over Egypt?

Nevertheless, formally these events are similar: people around the globe are appealing to Silicon Valley for features and justice.

In "Media after media", Bernhard Siegert notes that "the concept of media has become completely identical with interfaces and digital objects that can be manipulated on the screen".[22] This is a very astute observation and one can only add that those interfaces are provided by four, maybe five companies.

By researching or critically approaching media or "technology", we are in fact researching Apple, Google and Facebook, their algorithms, their interfaces, their pragmatical and aesthetic decisions.

* * *

Some weeks ago, the Algorithmic Regimes and Generative Strategies event took place at the Technical University of Vienna; I could only attend it online. Not to confront you solely with ideas of big dead men, at the end of my talk I chose some seconds of Olga Goriunova's lecture, in which she raises the question about the Digital Subject, Data Double, or one could say the Second Self of our times – identity as generated by algorithms.

I allowed myself to merge it with a video that makes use of Google's Deep Dream, the image-classifying algorithm that sees dogs everywhere. This past summer's visual mainstream looks like a dream by Timothy Leary and reads like Donna Haraway's scenario of chimeric machine–animal fusion implemented.

22 Siegert, Media after media, p. 85.

YouTube changes its interface every other day, Facebook rolls out global changes once in a while. Both routine and revolutionary changes provide food for thought, constantly. Not only among theoreticians, but everybody. Today everybody is a little McLuhan interpreting the messages of the media. What did Twitter mean when it changed stars to hearts? What does Google mean with dogs?

Google's algorithm sees dogs everywhere because it was trained to recognise dogs. Some questions have simple answers. It is practically impossible to find answers to serious questions like "what is the digital subject?"; even formulating those questions is a noble task, because rules, algorithms and terms change on the fly.

Fig. 9: Video montage by Olia Lialina, "Olga Goriunova on Digital Subject, 2015 / Deep Cheese Dreams by Neue Modern, 2015" (2015).

And when it comes to teaching media artists, media designers: how to formulate the questions? What should be used to excite and provoke students? To agendas I mentioned earlier – empowering students to change the invisible computing paradigm and refusing the "opportunity" of Art&Tech – let me add another one:

Take time to formulate questions that cannot be answered by monopolies or by observing those monopolies.
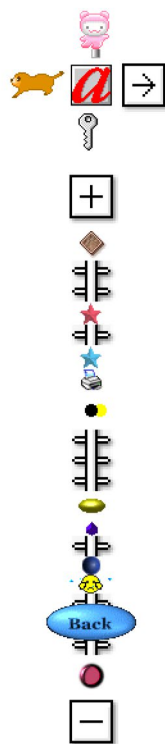
Once Again,
The Doorknob
(2018)

*On Affordance, Forgiveness and
Ambiguity in Human–Computer and
Human–Robot Interaction*

I think it is absolutely wonderful that there is an event about affordance and an idea that this concept could be rethought.[1] I guess you invited me to talk as an artist who critically reflects on the medium she is working with. Indeed, as a net artist I do my best to show the properties of the medium, and as a web archivist and 'digital folklore' researcher, I examine the way users deal with the world they're thrown into by developers. I will address these aspects later, because it is better to start in the more applied context of human–computer interaction (HCI) and interface design, since this is where the term lives now and where it is discussed and interpreted. These interpretations affect crucial matters.

The following might sound like an introduction or a lengthy side note, but in fact it is what I really want to tell you about here. Interface design is a very powerful profession and occupation, a field where a lot of decisions are made, gently and silently. Not always with bad intentions, very often without any intention at all. But decisions are made, metaphors chosen, idioms learnt, affordances introduced – and the fact that they were just somebody's impulsive picks doesn't make them less important.

To say that design of user interfaces influences our daily life is both a commonplace and an understatement. User interfaces influence people's understanding of processes, and enable them to form relations with the companies that provide services. Interfaces define roles computer users get to play in computer culture.

I teach students who, if they don't change their mind, will become interface designers (or 'front end developers', or 'user experience (UX) designers', – there are many different terms and each of them could be a subject of investigation). I strongly believe that interface designers should not start to study by trying to make their first prototype of something that looks the same or better or different from what already exists; they shouldn't learn functions and tricks in Sketch, mastering drop shadows and rounded corners. I know, that's easy to state, but what is the alterna-

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1   This paper was delivered at the symposium "Rethinking Affordance", Akademie Schloss Solitude, Stuttgart, Germany, June 8, 2018.

tive? It would be strange to expect or demand that they study philosophy, cybernetics, Marxism, dramaturgy and arts (though all these would be very desirable) and only afterwards make their first button or gesture.

The compromise I found is to introduce them to key texts that reveal what power designers of user interfaces have and that there is no objective reality or reasoning, no nature of things, no laws, no commandments; only decisions that were and will be made consciously or unconsciously.

> *It is important for designers and builders of computer applications to understand the history of transparency, so that they can understand that they have a choice.*[2]

This quote is from the very beginning of the 2003 book *Windows and Mirrors* by Jay Bolter and Diane Gromala. Unfortunately, the book – relatively well-known in new media theory since one of the authors coined the term "remediation"[3] – is largely ignored in interface design circles. 'Unfortunately' because it questions mainstream practices based on the postulate that the best interface is intuitive, transparent … or actually no interface.

The book very much corresponds to the conference call, because it was almost exclusively artists who choose reflectivity over transparency, and these are artists who are re-thinking, re-imagining, and sometimes manage to intervene and correct the course of events.

Ten years ago, I invited my former student and artist Johannes Osterhoff to teach the basics (in our common understanding of what basics are) of interface design. You may know his witty year-long performances "Google" (2001), "iPhone live" (2012), "Dear Jeff Bezos" (2013) and other works that reflect on algorithmic and interactive regimes. For his artistic practice, Johannes calls himself an "interface artist", a quite unique self-identification.

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2   Jay David Bolter and Diane Gromala, *Windows and Mirrors: Interaction Design, Digital Art, and the Myth of Transparency* (Cambridge, MA 2003), p. 35.

3   Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* (Cambridge, MA 2000).

He named his course after the book Windows and Mirrors and guided students to create projects that were all about looking at interfaces, reflecting upon metaphors, idioms and affordances.

Soon after, Johannes took the position of Senior UX Designer at SAP, one of the world's biggest enterprise software corporations (and this is also not a side note, I will come back to this fact later). So I took over the course from him a few years ago.

Where do I start with interface design in 2018?

I begin with an essay published in 1991 in Brenda Laurel's *The Art of Human-Computer Interface Design*,[4] a book that I rediscover and rediscover for myself year after year. It contains articles by practitioners who now, almost three decades later, have either turned into pop stars – heroes of the electronic age – people who were forgotten, or have been recently rediscovered. In 1990, five years after "the rest of us" had our first experience with graphical user interfaces, they convened to analyse what had gone wrong and what could be done about these mistakes.

The text I ask students to read is "Why interfaces don't work" by Don Norman. It contains statements already quoted and referenced by several generations of interface designers:

- *The problem with the interface is that there is an interface.[5]*
- *What are computers for? The user, that's what – making life easier for the user.[6]*
- *Make the task dominate, make the tools invisible.[7]*
- *The computer of the future should be invisible.[8]*

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4   Brenda Laurel (ed.), *The Art of Human–Computer Interface Design* (Boston 1990).
5   Donald Norman, Why interfaces don't work, in: *The Art of Human–Computer Interface Design*, ed. Brenda Laurel (Boston 1990), p. 210.
6   Ibid., p. 217.
7   Ibid.
8   Ibid., p. 218.

We need to aid the task, not the interface to the task. The computer of the future should be invisible. There will certainly not be separate applications and documents (programs and files). Why do we need programs and files anyway? These are artefacts of the requirements of hardware. Think about what you must do today to use computers for some task. How much is forced upon you by the technology?; how little is directly relevant to the task you are trying to accomplish?[9]

Curiously, these particular points were not typographically emphasised by the author himself but became a manifesto and mainstream paradigm for thinking about computers anyway.

In "Why interfaces don't work", sentence after sentence, metaphor after metaphor, Norman claims that users of computers are interested in whatever but not the computers themselves; they want to spend the least time possible with a computer. As a theoretician, and more importantly as a practitioner at Apple, Norman was indeed pushing the development of invisible or transparent interfaces. This is how the word "transparent" started to mean "invisible" or "simple" in interface design circles.

Sherry Turkle sums up this swift development in the 2004 introduction to her 1984 book, *The Second Self*:

> *In only a few years the "Macintosh meaning" of the word transparency had become a new lingua franca.*
> *By the mid-1990s, when people said that something was transparent, they meant that they could immediately make it work, not that they knew how it worked.[10]*

The idea that the users shouldn't even notice that there is an interface was widely and totally accepted and seen as a blessing. Jef Raskin, initiator of the Macintosh project and author of many thoughtful and oth-

9   Ibid.
10   Sherry Turkle, *The Second Self: Computers and the Human Spirit* (Cambridge, MA 2004), p. 7.

erwise highly recommended texts, writes in the very beginning of *The Humane Interface*: "Users do not care what is inside the box, as long as the box does what they need done. […] What users want is convenience and results."[11]

Period. No manuals or papers that would contradict. Though in practice we could see alternatives: works of media artists, discussed in the aforementioned Windows and Mirrors, and of course the Web of the 90s.

The best counterexample to users not wanting to think about interfaces is early web design, where people were constantly busy with envisioning and developing interfaces.
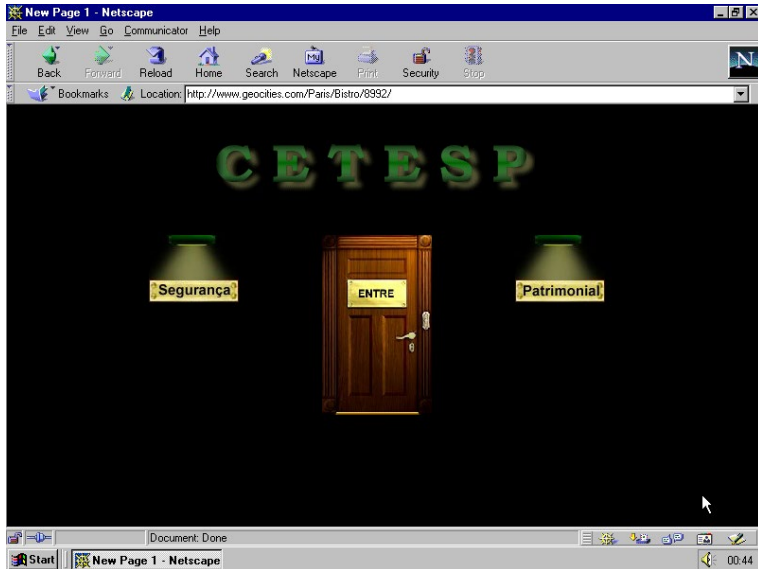
Fig. 1a (and b, c, d, e): Dragan Espenschied & Olia Lialina, Screenshot of restored GeoCities page from the One Terabyte of Kilobyte Age archive.

11 Jef Raskin, *The Humane Interface. New Directions for Designing Interactive Systems* (Reading, MA 2000), p. 8.
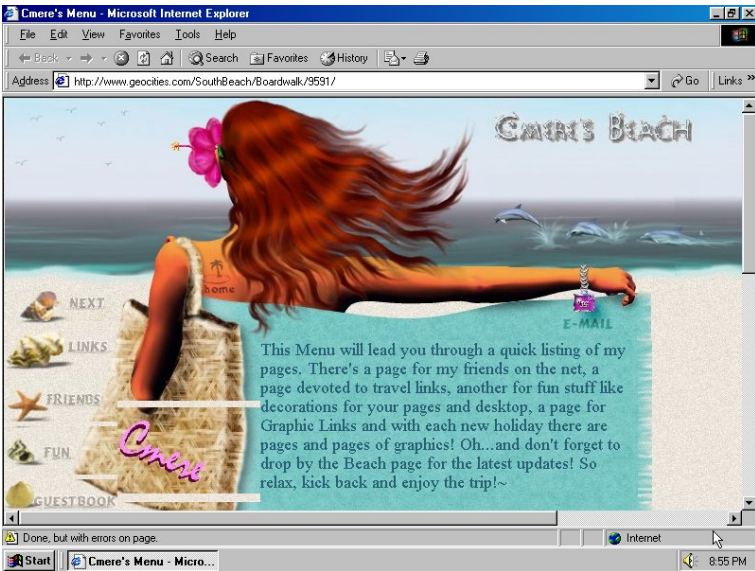
Fig. 1b
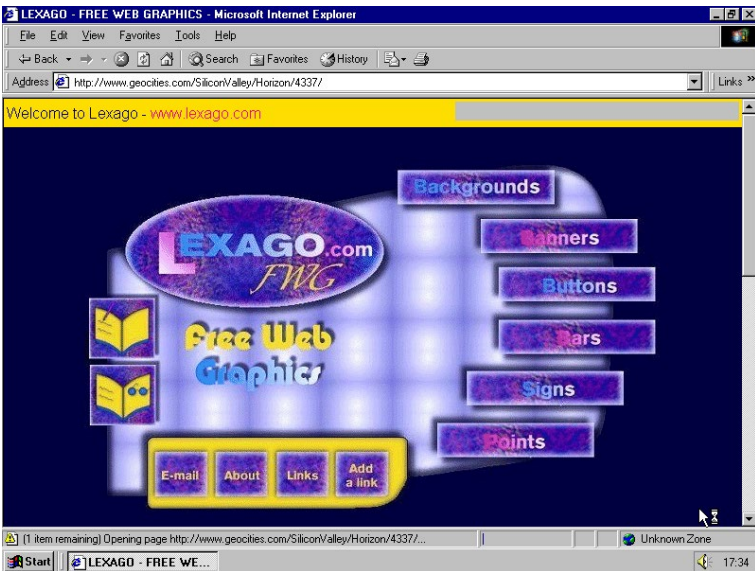
Fig. 1c
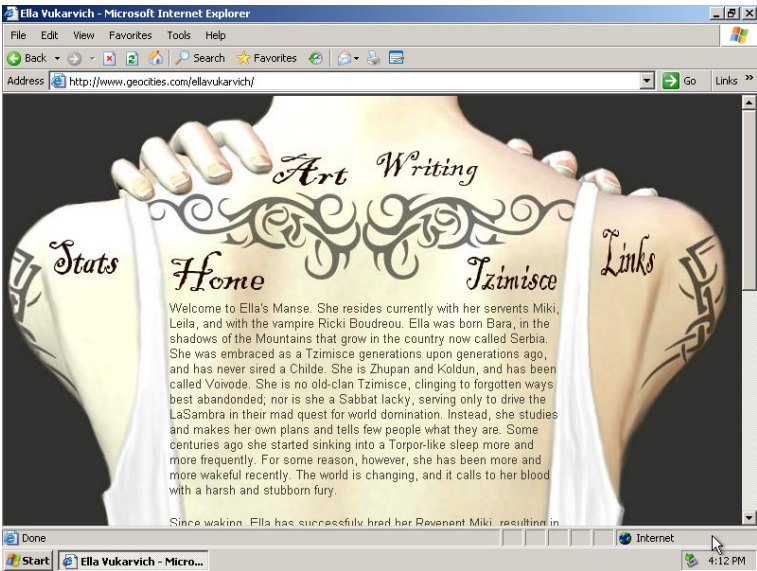
Fig. 1d
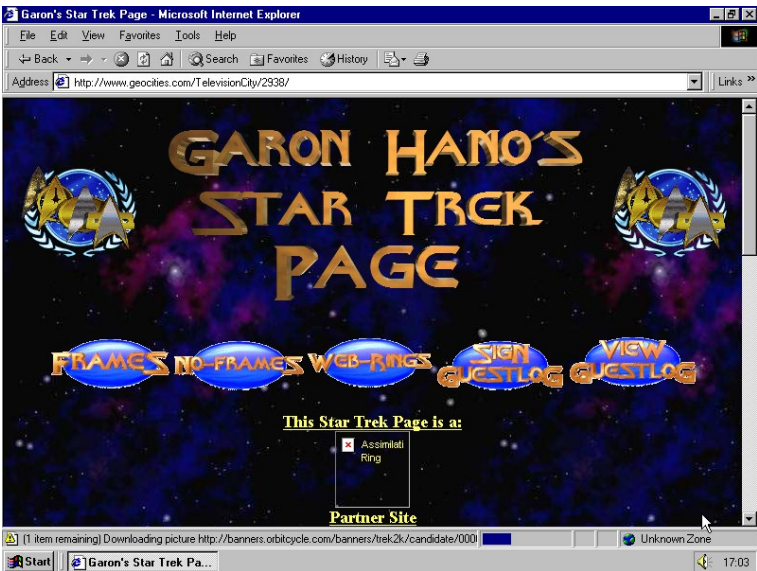
Fig. 1e

Sorry, I can't stop myself from showing some examples from my One Terabyte of Kilobyte Age archive to you. I hope you can sense the people who created these pages developed against the invisibility and transparency of interfaces.

I have many more. But back to Norman: to support his intention of removing the interface from even the peripheral view of the user, he quotes himself from *Psychology of Everyday Things*[12] and lifts the doorknob metaphor from industrial design to the world of HCI:

> *A door has an interface – the doorknob and other hardware – but we should not have to think of ourselves using the interface to the door: we simply think about ourselves as going through the door or closing or opening the door.*[13]

I really don't know any mantra that has been quoted more often in interface design circles.

You can ask, if I am obviously sarcastic and disagreeing with any of the points Norman makes, why do I ask students to read this very text? The reason is the sentence that appears right after the previous quote: "The computer really is special: it is not just another mechanical device."[14]

No one ever wants to refer to this moment of weakness; already in the very next phrase Norman says that the metaphor applies anyway, and the computer's purpose is to simplify lives.

But this "not just another mechanical device" is the most important thing I like to make students aware of: the complexity and beauty of general-purpose computers. Their original purpose was not to simplify life. This is maybe a side effect sometimes. The purpose was, or could have been, the man–computer symbiosis. "The question is not 'What is the answer?' The question is 'What is the question?'",[15] Licklider quoted French philosopher

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12 Donald A. Norman, *Psychology of Everyday Things* (New York 1988).

13 Norman, Why interfaces don't work, p. 218.

14 Ibid.

15 Joseph C. R. Licklider, Man–computer symbiosis, in: *The New Media Reader*, eds. Noah Wardrip-Fruin and Nick Montfort (Cambridge, MA 2003), p. 75.

Henri Poincaré when he wrote his programmatic "Man–computer symbiosis", meaning that computers as colleagues should be a part of formulating questions.

The purpose could be bootstrapping, as in Engelbart[16] or, as Vilém Flusser formulated 1991 in his essay "Digitaler Schein"[17] (the same year as the Norman text was published!): the "Verwirklichen von Möglichkeiten",[18] the realising of opportunities. All this is quite different from 'making life easier'. One can sense that Norman's colleagues and contemporaries were not that excited about the doorknob metaphor. In a short introductory article "What's an interface", Brenda Laurel diplomatically notices that, in fact, doorknobs and doors are beaming complexity, control and power, "who is doing what to whom".[19]

The shape of the interface reflects the physical qualities of the parties to the interaction (the interactors, if you will). A doorknob is hard and firmly mounted because of the weight and the hardness of the door; it is round or handle-shaped because of the nature of the hand that will use it. The doorknob's physical qualities also reflect physical aspects of its function. It is designed to be turned so that the latch is released and so that it is easier for the user to pull the door open.

A point that is often missed is that the shape of the interface also reflects who is doing what to whom. The doorknob extends toward the user and its qualities are biased towards the hand. The door will be opened; a human will open it – the human is the agent and the door is the patient of the action. In a high-security government office I visited the other day, there was no doorknob at all. I was screened by a hidden camera and the door opened for me when I passed muster. My sense of who was in control of the interaction was quite different from the way I feel when I enter

16   Thierry Bardini, *Bootstrapping: Douglas Engelbart, Coevolution, and the Origins of Personal Computing* (Stanford 2000), p. 24: "Engelbart took what he called 'a bootstrapping approach,' considered as an iterative and coadaptive learning experience."

17   Vilém Flusser, Digitaler Schein, in: Vilém Flusser, *Medienkultur* (Frankfurt/M. 1997), pp. 202–215.

18   Flusser, Digitaler Schein, p. 213.

19   Laurel, *The Art of Human–Computer Interface Design*, p. xii.

a room in my house. In the office, the door – representing the institution to which it was a portal – was in control.[20]

In 1992, French philosopher Bruno Latour, who according to his reference list was acquainted with Norman's writings, published "Where are the missing masses? The sociology of a few mundane artifacts".[21] The text contains the mind-blowing section "Description of the door", which canonises the door as a "miracle of technology", which "maintains the wall hole in a reversible state". Word by word his investigation of a note pinned onto a door – "The Groom Is On Strike, For God's Sake, Keep The Door Closed"– and with elaboration on every mechanical detail – knobs, hinges, grooms – he dismounts Norman's intention to perceive the doorknob as something simple, obvious and intuitive.

<div align="center">***</div>

"Why interfaces don't work" does not mention the word "affordance", but the doorknob is a symbol of it, accompanying the term from one design manual to another. And, more importantly, it was again Don Norman who among other things – or should I say, first and foremost – adapted and reinterpreted the term 'affordance', originally coined by ecological psychologist Gibson, for the world of human–computer interaction.
A very good basic summary on the topic was written by Viktor Kaptelinin with "Article on affordances" in the 2nd edition of Encyclopedia of HCI, a highly recommended resource: "Affordance is […] considered a fundamental concept in HCI research and described as a basic design principle in HCI and interaction design."[22] Affordance as in Norman, not in Gibson.

20 Ibid.
21 Bruno Latour, Where are the missing masses?, in: *Shaping Technology / Building Society: Studies in Sociotechnical Change*, eds. Wiebe E. Bijker et al. (Cambridge, MA 1994), pp. 225–259.
22 Victor Kaptelinin, Affordances, in: *The Encyclopedia of Human–Computer Interaction* (Interaction Design Foundation); https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/affordances, accessed July 28, 2018.

Gibson's Affordances:[23]

- Offerings or action possibilities in the environment in relation to the action capabilities of an actor
- Independent of the actor's experience, knowledge, culture or ability to perceive
- Existence is binary – an affordance exists or it does not exist

Norman's Affordances:[24]

- Perceived properties that may or may not actually exist
- Suggestions or clues as to how to use the properties
- Can be dependent on the experience, knowledge, or culture of the actor
- Can make an action difficult or easy

The difference is properly explained in a widely quoted table from "Affordances: Clarifying and evolving a concept" by Joanna McGrenere and Wayne Ho, written in 2000.[25] The authors summarise the shift: "Norman […] is specifically interested in manipulating or designing the environment" so that utility can be perceived easily."

… or vice versa …

"Unlike Norman's inclusion of an object's perceived properties, or rather, the information that specifies how the object can be used, a Gibsonian affordance is independent of the actor's ability to perceive it."[26]

As we know, Don Norman later admitted[27] to misinterpreting the term, corrected it to "perceived affordances", and apologized for starting the mess and devaluation of the term.[28]

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23 Cf. ibid.
24 Cf. ibid.
25 Joanna McGrenere and Wayne Ho, Affordances: Clarifying and evolving a concept, in: *Proceedings of the Graphics Interface 2000 Conference* (Montréal 2000), p. 8.
26 McGrenere and Ho, Affordances, p. 3.
27 Don Norman, Affordances and design (2008); https://jnd.org/affordances_and_design/, accessed January 20, 2021.
28 That should remind us of another term that has existed in HCI since 1970, at least at Xerox PARC lab: "user illusion", which at the end of the day is the same principle, and also a foundation of interfaces as

Far too often I hear graphic designers claim that they have added an affordance to the screen design when they have done nothing of the sort. Usually, they mean that some graphical depiction suggests to the user that a certain action is possible. This is not affordance, either real or perceived. Honest, it isn't. It is a symbolic communication, one that works only if it follows a convention understood by the user.[29]

Almost 20 years later, as the community has grown, claims have become even more ridiculous, with the word "affordance" being used by UX designers in all possible meanings, as a synonym for whatever.
When I started to work on this lecture, Medium.com, which always knows what I am interested in at the moment, delivered to me a fresh 11 minutes read on uxplanet.org: How to use affordances in UX.[30] Already the title indicates confusion, but not to the author, who obviously thinks that affordance is an element of an app and it can be used as a synonym for Menu, Button, Illustration, Logo, or Photo. The article references a three-year-old text[31] laying out six rather absurd types of affordances: explicit, hidden, pattern, metaphorical, false, and negative.
This terminological mess is nothing new for the design discipline; also, the word "affordance" and its usage are not the biggest deal. There are other terms at stake and their usage is more troubling, such as "transparency" or "experience". Maybe this affordance clownery could be ignored or could even be seen positively as a commendable attempt to bring sense into a world of clicking, swiping and drag-and-dropping; a good intention to

we know them. "At PARC we coined the phrase 'user illusion' to describe what we were about when designing user interfaces." See Alan Kay, User interface: A personal view, in: *The Art of Human–Computer Interface Design*, ed. Brenda Laurel (Reading, MA 1990), pp. 191–207.

29   Don Norman, Affordance, conventions and design (Part 2) (2018); https://jnd.org/affordance_conventions_and_design_part_2/, accessed August 20, 2018.

30   Tubik Studio, UX Design glossary: How to use affordances in user interfaces, UX Planet (2018); https://uxplanet.org/ux-design-glossary-how-to-use-affordances-in-user-interfaces-393c8e9686e4, accessed January 20, 2021.

31   Paula Borowska, 6 Types of digital affordance that impact your UX, Webdesigner Depot (2015); https://www.webdesignerdepot.com/2015/04/6-types-of-digital-affordance-that-impact-your-ux/, accessed January 20, 2021.

contextualise them in order to interpret them through psychology and philosophy.

But I'd also like to mention that this urge to talk about and define affordances is not so innocent, with affordance being a cornerstone of the HCI paradigm user-centred design – which was coined[32] and conceptualised by (again!) Don Norman in the mid 1980s – as well as the user experience bubble that (again!!) Don Norman started.[33] Both blew up in 1993 when he became head of research at Apple. User experience or UX swallowed other possible ways to see what an interface is and how it could be.

In my essay "Rich user experience, UX and desktopization of war",[34] I wrote about the danger of scripting and orchestrating user experiences, in "Turing complete user"[35] I mention that it is very difficult to criticise the concept, because it has developed a strong aura of doing the right thing, of "seeing more", "seeing beyond", etc.

I asked the aforementioned Johannes Osterhoff about his interpretation of UX. He replied:

> *When I say UX I usually mean the processes that I set up so that a product meets customer's (i.e. users') needs. Processes because usually I deal with complicated tools that take a long time to develop and refine – much beyond an initial mock-up and quick subsequent implementation. […] I mean the interplay of measures that have to be taken to enhance a special piece of software [in] the long run: this involves several disciplines such as user research, usability testing, interaction design, information visualization, prototyping, scientific*

32   User-centered design, Wikipedia; https://en.wikipedia.org/wiki/User-centered_design, accessed July 24, 2018.

33   "I invented the term because I thought human interface and usability were too narrow. I wanted to cover all aspects of the person's experience with the system including industrial design graphics, the interface, the physical interaction and the manual. Since then, the term has spread widely, so much so that it is starting to lose its meaning." Norman in Peter Merholz, Peter in conversation with Don Norman about UX & innovation, Adaptive Path; https://web.archive.org/web/20181112043020/http://www.adaptivepath.com/ideas/e000862/, accessed July 29, 2018.

34   Olia Lialina, Rich user experience, UX and desktopization of war; http://contemporary-home-computing.org/RUE/ (2015); accessed January 20, 2021; published in this volume, pp. 40–64.

35   Olia Lialina, Turing complete user (2012); http://contemporary-home-computing.org/turing-complete-user/, accessed January 20, 2021; published in this volume, pp. 12–37.

and cultural research, and some visual design. In a big software company, strategy and psychology [are] part of this, too. And also streams of communication; which form and frequency is adequate, what works in cross-located teams and what does not.[36]

Another former student, Florian Dusch, principal of the software design and research company zigzag in Stuttgart, when answering my question, also refers to UX as "many things", "holistic", and "not only pretty images": "We're working hard with our clients to make them understand that UX is not only pretty images, but a holistic user-centred approach to building products. There's a nice video from Don Norman on that."[37]

The next quote is from *The Best Interface is No Interface*,[38] a very expressive book brought to the world in 2015 by Golden Krishna who "currently works at Google on design strategy to shape the future of Android":

This is UI:
Navigation, subnavigation, menus, drop-downs, buttons, links, windows, rounded corners, shadowing, error messages, alerts, updates, checkboxes, password fields, search fields, text inputs, radio selections, text areas, hover states, selection states, pressed states, tooltips, banner ads, embedded videos, swipe animations, scrolling, clicking, iconography, colors, lists, slideshows, alt text, badges, notifications, gradients, pop-ups, carousels, OK/Cancel, etc. etc. etc.

This is UX:
People, happiness, solving problems, understanding needs, love, efficiency, entertainment, pleasure, delight, smiles, soul, warmth, personality, joy, satisfaction, gratification, elation, exhilaration, bliss, euphoria, convenience, enchantment, magic, productivity, effectiveness, etc. etc. etc. [39]

36   Johannes Osterhoff to Olia Lialina, June 3, 2018.
37   Florian Dusch to Olia Lialina, June 2, 2018.
38   Golden Krishna, *The Best Interface Is No Interface: The Simple Path to Brilliant Technology* (Berkeley 2015), p. 47.
39   Golden Krishna, Golden Krishna; https://www.goldenkrishna.com, accessed January 20, 2021.

The German academic Marc Hassenzahl also delivers a wonderful definition of UX with the following introduction of himself on his website: "He is interested in designing meaningful moments through interactive technologies – in short: Experience Design."[40] Already from this small selection of quotes by people who have been in the business for a long time and know what they do, you can sense that UX is big, big and good, bigger and better than … small-minded and petty things.

The paradox is that technically, when it comes to practice, products of user experience design are contradicting its image and aura. UX is about nailing things down, it has no place for ambiguity or open-ended processes.

Marc Hassenzahl is contributing to the scene not only through poetic statements and interviews. In fact, in his 2010 book *Experience Design: Technology for All the Right Reasons*, he proclaims "the algorithm for providing the experience"[41] in which the "why" is a crucial component, a hallmark that justifies UX's distinguished position.
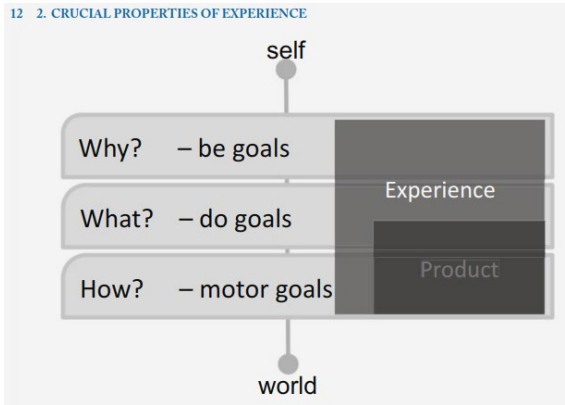
Fig. 2: Marc Hassenzahl and John Carroll, *Experience Design: Technology for All the Right Reasons* (San Rafael 2010), p. 12.

40 Marc Hassenzahl, Experience Design (2016); https://hassenzahl.wordpress.com, accessed July 30, 2018.
41 Marc Hassenzahl and John Carroll, *Experience Design: Technology for All the Right Reasons* (San Rafael 2010), p. 12.

In a series of video interviews[42] Hassenzahl recorded with the Interaction Design Foundation, he states that people don't just want to make a phone call, there are different reasons behind each of them: business, goodnight kiss, checking if a child is at home, ordering food. And all those 'whys' need their own design on both the software and the hardware level. Again, an ideal UX phone is a different phone for each need or at least a different app for different types of calls.

The why of UX is not a philosophical, but a pragmatic question, that could be substituted with "what exactly?" and "who exactly?".

User experience design is a successful attempt to overcome the historic accident Don Norman makes responsible for difficult-to-use interfaces of the late 1980s: "We have adapted a general purpose technology to very specialized tasks while still using general tools."[43]

Here is a fresh insight from the studio UX Collective on how to train your UX skills: "It's a good idea to limit yourself by imposing some assumptions, constraints, and a platform (mobile / desktop / tablet etc). If working in pairs, one person could pick a problem, and the partner could refine it. So choose one of the following, decide on a mobile or desktop solution, and then keep asking questions."[44]

The list has 100 suggestions, here are a few:

> *20. Create an alarm clock.*
> *21. Create an internal tool that allows a major TV network to tag and organize their content.*
> *22. Create a time tracker.*
> *23. Create a chat-bot for financial decisions.*
> *24. Create a music player.*

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42 Marc Hassenzahl, User experience and experience design, in: User Experience and Experience Design (Interaction Design Foundation); https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/user-experience-and-experience-design, accessed July 28, 2018.

43 Norman, Why interfaces don't work, p. 218.

44 Jon Crabb, 100 Example UX problems, UX Collective (2018); https://uxdesign.cc/100-example-ux-problems-f90e7f61dd9f?gi=99b943a95614, accessed January 20, 2021.

25. Create a smart mirror.

26. Prompt the user to engage in a daily act of kindness.

27. Track your health with some kind of wearable tech.

28. Locate your locked bike and be informed if it moves.

29. Prevent your parked car from being stolen while you go on holiday.

30. Build a smart fridge.[45]

"We can design in affordances of experiences"[46] said Norman in 2014. What a poetic expression if you forget that "affordance" in HCI means immediate unambiguous clue, and "experience" is an interface scripted for a very particular narrow scenario.

There are many such examples of tightly scoped scenarios around. To name one that gets public attention right at the moment – early May 2018 in the middle of the Cambridge Analytica scandal – Facebook announces an app for long-term relationships:[47] Real long-term relationships – not just "hook-ups", to quote Mark Zuckerberg. If you are familiar with my position on general-purpose computers and general-purpose users, you know that I believe there should be no dating apps at all; not because I am against dating, but because I think that people can date using general-purpose software, they can date in email, in chats, you can date in Excel and Etherpad. But if the free market demands a dating software, it should be made without asking "why?" or "what exactly?", "hook-up or long-term relationship?", etc.

Please allow me again to show a screenshot or two of old web pages. I have a "before_" category in the One Terabyte of Kilobyte Age archive, which I assign to pages that authors created with a certain purpose

45   Ibid.

46   Don Norman, Commentary by Donald A. Norman, in: *The Encyclopedia of Human–Computer Interaction* (Interaction Design Foundation); https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/user-experience-and-experience-design#heading_Commentary_by_Donald_A_Norman_page_100758, accessed July 28, 2018.

47   Sam Machkovech, Mark Zuckerberg announces Facebook dating. *Ars Technica* (2018); https://arstechnica.com/information-technology/2018/05/mark-zuckerberg-announces-facebook-dating/, accessed January 20, 2021.

in mind, which nowadays are taken over by industrialised, centralised tools and platforms. The first category is before_flickr, the next before_ googlemaps. The last one reminds me of ratemyprofessors.com, so I tagged it before_ratemyprofessor. These pages are dead and none of them became successful, but they are examples of users finding their ways to do what they desire in an environment that is not exclusively designed for their goals: this is what I would call a true user experience. It is totally against the ideology of UX.
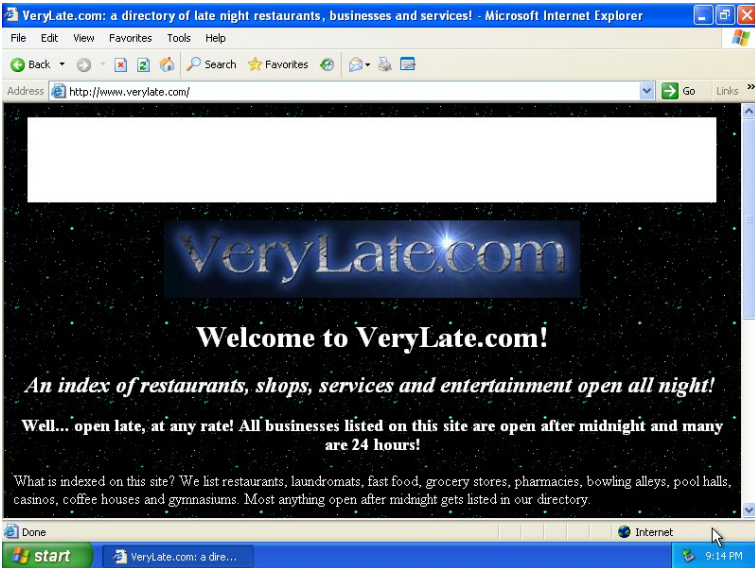
Fig. 3a (and b, c): Dragan Espenschied & Olia Lialina, Screenshot of restored GeoCities page from the One Terabyte of Kilobyte Age archive.
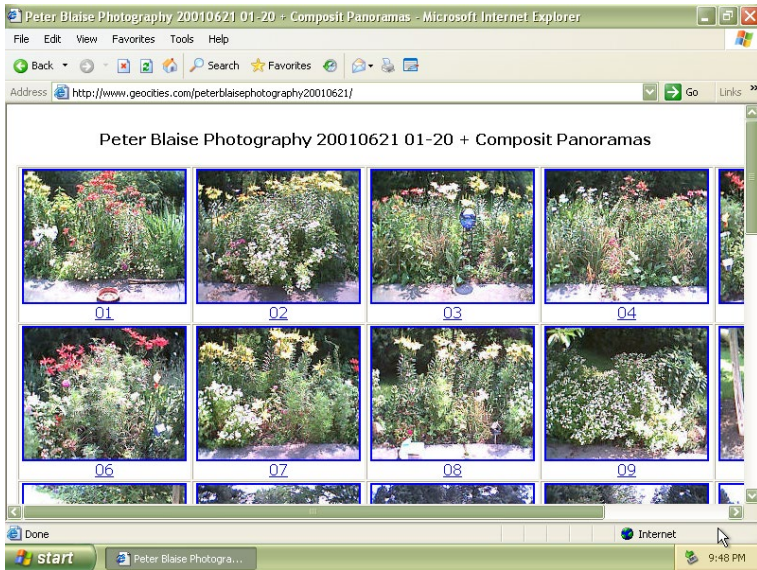
Fig. 3b
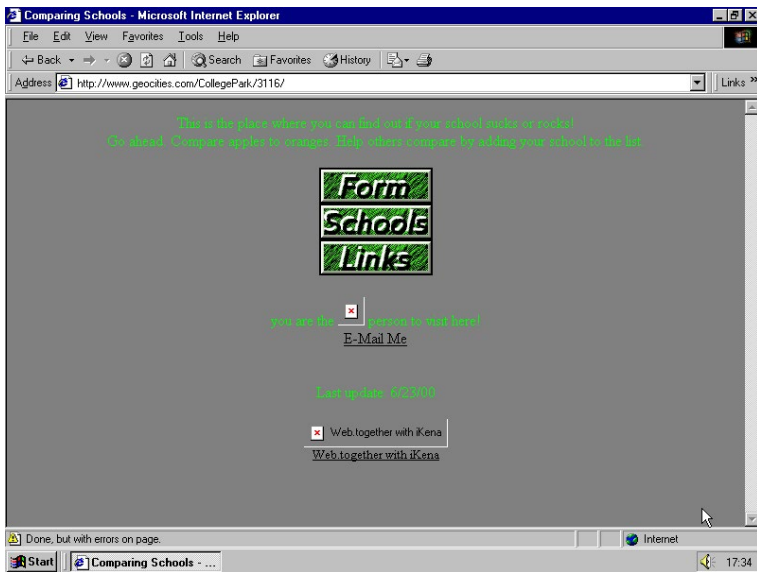
Fig. 3c

***

So, apart from contradicting Don Norman's call and saying that computers of the future should be visible, I'd like to suggest finally disconnecting the term "affordance" from Norman's interpretation, to disconnect affordance from experience, from the ability to perceive (as in Gibson), and from experience design needs; to see affordances as options for possibilities of action, and to insist on the general-purpose computer's affordance to become anything if you are given the option to program it; to perceive opportunities and risks of a world that is not limited to mechanical age laws and artefacts.

In the chapter on affordance, the authors of the influential interaction design manual *About Face* – which for many years was subtitled "the essentials of interaction design', and which in the latest edition changed to "classic of creating delightful user experiences" – observe:

> *A knob can open a door because it is connected to a latch. However, in a digital world, an object does what it does because a developer imbued it with the power to do something [...]. On a computer screen though, we can see a raised three-dimensional rectangle that clearly wants to be pushed like a button, but this doesn't necessarily mean that it should be pushed. It could literally do almost anything.[48]*

Throughout the chapter, designers are advised to resist this opportunity and to be consistent and follow conventions. Because indeed everything is possible in the world of zeroes and ones, they introduce the notion of a "contract": "When we render a button on the screen we are making a contract with the user [...]."[49]

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48 Alan Cooper, Robert Reimann and David Cronin, *About Face 3: The Essentials of Interaction Design* (Indianapolis 2007), p. 284.

49 Ibid., p. 285.

If there is a button on screen it should be pressed, not dragged-and-dropped, and should respond accordingly. And they are absolutely right … but only when the interface is limited to knobs and buttons.

When Bruno Latour wanted his readers to think about a world without doors, he wrote:

> *[I]magine people destroying walls and rebuilding them every time they wish to enter or leave the building […] or the work that would have to be done to keep inside or outside all the things and people that left to themselves would go the wrong way.*[50]

A beautiful thought experiment, and indeed unimaginable – however, not in a computer-generated world where we don't need doors really. You can go through walls, you can have no walls at all, you can introduce rules that would make walls obsolete. These rules and contracts – not behaviours of knobs – are the future of user interfaces, so we have to be very thoughtful about the education of interface designers.

<p align="center">***</p>

There are two more concepts I promised in the title but haven't yet addressed: forgiveness and human–robot interaction (HRI). My questions are: How does the preoccupation with strong clues and strictly bound experiences – affordance and UX – affect the beautiful concept of "forgiveness", which theoretically would have to be a part of every interactive system? And how do concepts of transparency, affordance, form follows function, form follows emotion,[51] user experience, and forgiveness refract in HRI?

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50 Freeman J. Dyson et al., *Technology and Society: Building Our Sociotechnical Future*, eds. Deborah G. Johnson and Jameson Wetmore (Cambridge, MA 2008), p. 154.

51 Form follows emotion is a credo of German industrial designer Hartmut Esslinger, which became a slogan for frog, the company he founded in 1969. See: Frog Design, About Us; https://www.frogdesign.com/culture, accessed August 18, 2018; Owen Edwards, Form follows emotion, Forbes (1999); https://

I'll start with forgiveness. The following is a quote from Apple's 2006 "Human interface guidelines", which I think gives a very good idea of what exactly is meant by forgiveness when it comes to user interfaces.

> **Forgiveness**
>
> *Encourage people to explore your application by building in forgiveness – that is, making most actions easily reversible. People need to feel that they can try things without damaging the systems or jeopardizing their data. Create safety nets, such as Undo and Revert to Saved commands, so that people will feel comfortable learning and using your product.*
>
> *Warn users when they initiate a task that will cause irreversible loss of data. If alerts appear frequently, however, it may mean that the product has some design flaws. When options are presented clearly and feedback is timely, using an application should be relatively error-free.*
>
> *Anticipate common problems and alert users to potential side effects. Provide extensive feedback and communication at every stage so users feel that they have enough information to make the right choices. For an overview of different types of feedback you can provide, see "Feedback and Communication" (page 42).*[52]

Its essence is making actions reversible, offering users stable perceptual cues for a sense of "home", and always allowing "Undo".

In 2015 Bruce Tognazinni and Don Norman noticed that forgiveness as a principle vanished from Apple's guidelines for iOS and wrote the angry article "How Apple is giving design a bad name".[53] Bruce Tognazinni himself has authored eight editions of Apple's "Human interface design

www.forbes.com/asap/1999/1112/237.html, accessed August 18, 2018.

52 Apple Human interface guidelines (Apple Computer Inc., 2006), p. 45.

53 Bruce Tognazzini and Don Norman, How Apple is giving design a bad name. *Fast Company* (2015); https://www.fastcompany.com/3053406/how-apple-is-giving-design-a-bad-name, accessed January 20, 2021.

guidelines", starting in 1978,[54] and is known for conceptualising interface design in the context of illusion and stage magic.
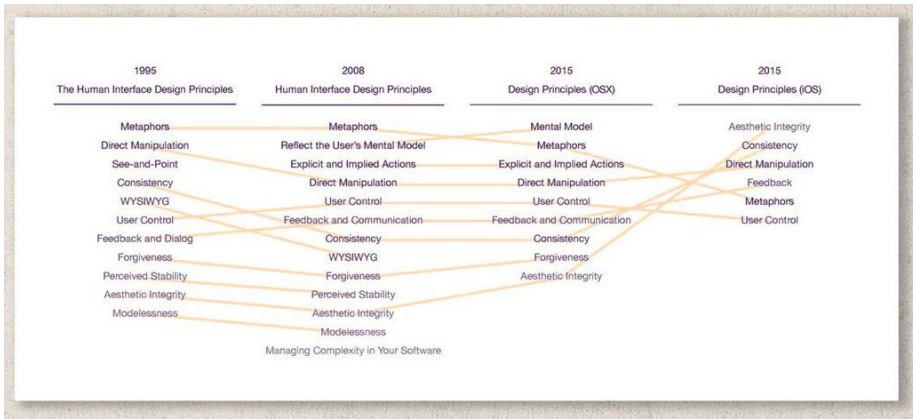

Fig. 4: Diagram tracing the changes in core principles of Apple's guidelines over time, by Michael Meyer.

Users of both Apple, Android, and all other mobile phones without keyboards noticed the disappearance of forgiveness even earlier, because there was no equivalent to ⌘-Z or Ctrl-Z on their devices. They noticed but didn't protest.

In my view of the world, Undo should be a constitutional right. It is the top demand in my project, User Rights.[55] In addition to the many things I said in support of Undo elsewhere, in the context of this talk I'd like to emphasise that all the hype around affordances and UX developed in parallel with the disappearance of Undo – this is not a coincidence. Single-purpose applications with one button per screen would guide through life without a need for Undo.

54 See: Bruce Tognazzini, About Tog, AskTog (2012); https://asktog.com/atc/about-bruce-tognazzini/, accessed January 20, 2021.

55 Olia Lialina, User Rights website; https://userrights.contemporary-home-computing.org, accessed January 20, 2021.

Fig. 5: Metez, Teja. 'External Undo Button'. Undo – Reloaded, 2015.

Though what users really need from operating system vendors is a global Undo function. It could have been the only contract, we could have had a world where further discussions about affordances would be obsolete.

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Being part of New Media dynamics, the field of HCI is very vibrant and very "pluralistic". Tasks for interface designers are to be found far beyond the screens of personal computers and submit buttons. There are new challenges like virtual reality and augmented reality, conversation and voice user interfaces, even brain computer Interaction. All these fields are not new by themselves, they are contemporaries of graphical user interfaces (GUI), and by calling them new I rather mean "trending right now" or "trending right now again" in HCI papers and in mass media.

The last few years were all about artificial intelligence, neural networks and anthropomorphic robots, in movies, literature, and consumer products. I adjusted my curriculum as well and introduced rewriting an ELIZA[56] script to my interface design course, so that students prepare themselves for designing interfaces that talk to the users and pretend that they understand them. I personally have a bot,[57] and this talk will be fed to its algorithm and will become a part of the bot's performance. Some more years and this bot might be injected into a manufactured body looking something like me and will go to give lectures in my place.

Watching films and TV series where robots are main protagonists, following Sophia's[58] adventures in the news, regular people dive into issues that were considered exotic only a short time: the difference between symbolic and strong AI, ethics of robotics, trans-humanism.

The omnipresence of robots, even if just mediated, provokes delusions: "We expect our intelligent machines to love us, to be unselfish. By the same measure we consider their rising against us to be the ultimate treason."[59] (Zarkadakis)

Delusions lead to paradoxes: "Robots which enchant us into increasingly intense relationships with the inanimate, are here proposed as a cure for our too-intense immersion in digital connectivity. Robots, the Japanese hope, will pull us back toward the physical real and thus each other."[60] (Turkle)

Paradoxes lead to more questions: "Do we really want to be in the business of manufacturing friends that will never be friends?"[61] (Turkle)

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56 N. Landsteiner, Eliza (Elizabot.Js), mass:werk (2005); https://www.masswerk.at/elizabot/, accessed January 20, 2021.

57 Olia Lialina, GIFmodel_ebooks – Twitter bot, 2015; https://twitter.com/GIFmodel_ebooks, accessed January 20, 2021.

58 Hanson Robotics; https://www.hansonrobotics.com, accessed January 20, 2021.

59 George Zarkadakis, *In Our Own Image: Savior or Destroyer? The History and Future of Artificial Intelligence* (New York 2017), p. 51.

60 Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York 2012), p. 147.

61 Ibid., p. 101.

Should robots have rights? Should robots and bots be required to reveal themselves as what they are?

The last question suddenly entered the discourse after Google's recent demo of Duplex,[62] causing Internet users to debate whether Google's assistant should be allowed to say "hmmm", "oh", "errr", or to use interjections at all.

Fig. 6: ITU Pictures. Sofia, First Robot Citizen at the AI for Good Global Summit 2018. May 15, 2018.

Without even noticing, we, the general public, are discussing not only ethical but interface design questions and decisions. And I wish or hope it will stay like this for some time.

Why Is Sophia's (robot) head transparent?[63]

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62 Jeffrey Grubb, Google Duplex: A.I. assistant calls local businesses to make appointments; https://www.youtube.com/watch?v=D5VN56jQMWM, accessed July 28, 2018.

63 Why is Sophia's (robot) head transparent? Quora thread, 2018; https://www.quora.com/Why-is-Sophi-as-robot-head-transparent, accessed January 20, 2021.

Users ask the Internet another design question: Is it just to look like *Ex Machina*, or is it for better maintenance? Or maybe it marks a comeback of transparency in the initial, pre-Macintosh meaning of the word?

Curiously, when scientists and interaction designers talk about transparency at the moment, they oscillate between meaning exposing and explaining algorithms and the simplicity of communication with a robot:

Designing and implementing transparency for real time inspection of autonomous robots[64]

Robot transparency: Improving understanding of intelligent behaviour for designers and users[65]

Improving robot transparency: real-time visualisation of robot AI substantially improves understanding in naive observers[66]

The researcher Joanna J. Bryson – co-author of the aforementioned papers – has a very clear position on ethics. "Should robots have rights?" is not a question for her. Instead, she asks why design machines that raise such questions in the first place.[67]

However, there are enough studies proving that humanoids (anthropomorphic robots) that perform morality are the right approach for situations where robots work with and not instead of people: the social robot scenario, where "social robot is a metaphor that allows human like com-

64 Andreas Theodorou, Robert H. Wortham and Joanna J. Bryson, Designing and implementing transparency for real time inspection of autonomous robots. *Connection Science* 29 (2017), pp. 230–241.

65 Robert H. Wortham, Andreas Theodorou and Joanna J. Bryson, Robot transparency: Improving understanding of intelligent behaviour for designers and users. Towards Autonomous Robotic Systems: 18th Annual Conference, TAROS, Guildford, UK, July 19–21, 2017.

66 Robert H. Wortham, Andreas Theodorou and Joanna J. Bryson, Improving robot transparency: real-time visualisation of robot AI substantially improves understanding in naive observers. IEEE RO-MAN 2017: 26th IEEE International Symposium on Robot and Human Interactive Communication, Lisbon, Portugal, Aug 28–Sep 1, 2017.

67 See: Theodorou, Wortham and Bryson, Designing and implementing.

munication patterns between humans and machines".[68] This is quoted from Frank Hegel's article "Social robots: Interface design between man and machine", a text that truly impressed me some time ago, though it doesn't announce anything revolutionary; on the contrary, it states quite obvious things like "human-likeness in robots correlates highly with anthropomorphism"[69] or "aesthetically pleasing robots are thought to possess more social capabilities […]."[70]

Very calmly, almost in between the lines, Hegel introduces the principle for a proper fair robot design: the "fulfilling anthropomorphic form",[71] which should immediately lead humans to understand a robot's purpose and capabilities. Affordance for a new age.

Robots are here: they are not industrial machines, but social, or even "lovable"; their main purpose is not to replace people, but to be among people. They are anthropomorphic, they look more and more realistic. They have eyes ... but not because they need them to see. Their eyes are there to inform us that seeing is one of the robot's functions. If a robot has a nose it is to inform the user that it can detect gas and pollution, if it has arms it can carry heavy stuff; if it has hands it is to grab smaller things, if these hands have fingers, you expect it can play a musical instrument. Robots' eyes beam usability, their bodies express affordances. Faces literally become an interface.

Back to Norman's wisdom:

> *Affordances provide strong clues to the operations of things. Plates are for pushing. Knobs are for turning. Slots are for inserting things into. Balls are for throwing or bouncing. When affordances are taken advantage of, the user knows what to do just by looking: no picture, label, or instruction needed.[72]*

68 Frank Hegel, Social robots: Interface design between man and machine, in: *Interface Critique*, eds. Florian Hadler and Joachim Haupt (Berlin 2016), p. 104.

69 Ibid., p. 111.

70 Ibid., p.112.

71 Ibid., p. 106.

72 Mads Soegaard, Affordances; https://www.interaction-design.org/literature/book/the-glossary-of-human-computer-interaction/affordances, accessed July 30, 2018.

Manual affordances ("strong clues") are easy to comprehend and accept when they are part of a GUI: they are graphically represented and located – somewhere – on screen. Things got more complex for designers and users when we moved to so-called "post GUI", to gestures in virtual, augmented and invisible space. Yet this cannot be compared with the astonishing level of complexity when our thoughts move from human–computer interaction to human–robot interaction.

The image on the next page is from a selection of students' sketches; I asked them to embrace the principle of fulfilling the anthropomorphic form and take it to the limit. What could an anthropomorphic design be if everything that doesn't signal a function is removed? For example, if the robot can't smell there is just no nose. And why have two hands if you only need one? What could this un-ambiguity mean for interaction and product design?

And finally: How is the HCI principle of forgiveness faring in HRI? In contrast to the current situation in graphical and touch-based user interfaces, forgiveness is doing very well in the realms of robots and AI.

It is built in: "[t]he external observer of an intelligent system can't be separated from the system."[73] Robot companions are here "[n]ot because we have built robots worthy of our company but because we are ready for theirs" and "[t]he robots are shaping us as well, teaching us how to behave so they can flourish."[74] These quotes from Turkle and Zarkadakis remind us of Licklider's man–computer symbiosis, Engelbart's concept of bootstrapping, and other advanced projections for the coexistence of man and computer, it's just that this time it is about man and robot, not man and computer-on-the-table situations.

73 Zarkadakis, *In Our Own Image*, p. 71.
74 Turkle, *Alone Together*, p. 55.

Fig. 7: Andreas Eisenhut, Concept for swimming lifesaver robot. Video still, June 2018.

Forgiveness is in-built, but in HRI it is built into the human element. It is all on our side.

We are witnessing how the most valuable concept of HCI – Undo – meets a fundamental principle of symbolic AI – scripting the human interactor.[75] I'm curious to see what affordances will further emerge. And who will undo whom when symbolic AI is replaced by a "Strong" or "Real" AI, as it's now called.

75 "A successful chatterbot author must therefore script the interactor as well as the program, must establish a dramatic framework in which the human interactor knows what kinds of things to say […]" Janet H. Murray, *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* (New York 1997), p. 202.

HOME

From My
To Me
(2021)

This article is an elaboration on the statements about the WWW, web design and personal websites I made in my recent talks[1] and articles, as well as those included in the volume. As the editor (and probably the readers as well) noticed, as soon as I look for counter examples to new media products made following the cruel and hypocritical UX paradigm, I come up with a website – or more precisely, with a website of a particular genre – "the 90s GeoCities".[2]

This selectivity has reasons and is intentional. As a keeper and researcher of the One Terabyte of Kylobyte Age[3] archive, I am surrounded by GeoCities sites built and abandoned by amateur webmasters between 1995 and 2009. Amateur websites are central to my argument because they are the corpus of the archive and my research on web history. This focus is not accidental, though – it was developed from the thesis that personal web pages are the conceptual and structural core of the WWW.

Their emergence was accidental, their time was short, their value and influence were downplayed, they were erased or hidden. And since this arrogance of the IT industry and Human Computer Interaction (HCI) circles was also not accidental, but followed the call of the "invisible computer", the core instrument of which is alienating the users from their medium, I chose to argue for the opposite and to illustrate the argument with artefacts that highlight moments in the history of the medium when its users were in power.

The choice of the word "moments" and the use of the past tense is also intentional and deserves comment. The fact that the time of personal pages is over is self-evident. What is obfuscated by today's early web

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1 Namely "They may call it home", given at Collegium Helveticum October 24, 2019, https://youtu.be/FGmuH-S6xq8, and "end-to-end, p2p, my to me" talk at Transmediale on January 31, 2020, https://youtu.be/eHyn3sKNdA8; access: October 29, 2020.

2 In my recent article "GeoCities' afterlife and web history", I write about the shortcomings and hazards of this term https://blog.geocities.institute/archives/6418; access: October 29, 2020.

3 The archive keeps 381,934 GeoCities pages rescued by Archive Team in 2009, and restored by Dragan Espenschied in 2011. Materials and outcomes of the research are published on https://blog.geocities.institute/. 72 screenshots a day have been (and continue to be) posted in chronological order on https://oneterabyteofkilobyteage.tumblr.com/ since February 7, 2013.

nostalgia (netstalgia) trend, though, is the fact that there was never a time for them.

Just as there was no Web 1.0 period by itself. First of all, the term is retrospective. And second: the Web 2.0 marketing claim made by the Silicon Valley of 2004[4] regarding the Web's future should not be allowed to define 10 years of web history prior to it as being neither homogeneous nor the opposite. There was no 2.0 cut into the history of the Web that left certain content and forms – namely personal websites – behind.

Nor was there some sort of evolution or natural development that would make people stop building their personal websites. Professionalisation or faster Internet, which you could hear as reasons for amateur pages dying out, could have become the reasons for the opposite, for a brighter, rich and long tradition of people building their cyberhomes themselves.

There was no time in the history of the Web when building your home was celebrated and acknowledged by opinion leaders. The idea that you should invest time in building your corners of cyberspace was mercilessly suppressed by hosting service providers and "fathers" of the Internet. The sarcastic "They may call it a home page, but it's more like the gnome in somebody's front yard"[5] was stated not by some social networking prophet, not by, metaphorically speaking, Mark Zuckerberg or Jack Dorsey, but by Tim Berners-Lee himself, and it happened as early as 1996, the year we usually see as a golden age of amateur pages.

I have several suggestions for those who decide to make their home page in the third decade of the twenty-first century. Most of them will appear at the end, but there is one I'd like to make right away:

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4   "Web 2.0 is the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform." Tim O'Reilly, Web 2.0 Compact definition: Trying again, O'Reilly Radar, December 10, 2006, http://radar.oreilly.com/2006/12/web-20-compact-definition-tryi.html. An early less polemic definition of the term was given by O'Reilly a year before in What is Web 2.0, https://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html, access: June 7, 2020.

5   Tim Berners-Lee, On simplicity, standards, and "intercreativity", in: *World Wide Web Journal* 1 (3): *The Web After Five Years* (Inc. O'Reilly Media), p. 8. Also online https://www.w3.org/People/Berners-Lee/1997/w3j-3-iview.html; access: April 4, 2019.

Don't see making your own web page as a nostalgia, don't participate in creating the netstalgia trend. What you make is a statement, an act of emancipation. You make it to continue a 25-year-old tradition of liberation.

To understand the history of the Web and the role of its users, it is important to acknowledge that people who built their homes, houses, cottages, places, realms, crypts, lairs, worlds, dimensions [Fig.1–13] were challenging the architecture and the protocols, protocols in a figurative not technical meaning. Users hijacked the first home page of the browser and developed this concept in another direction.[6] A user building, moving in, taking control over a territory was never a plan. It was a subversive practice, even in 1995.

Q: The idea of the "home page" evolved in a different direction.

A: Yes. With all respect, the personal home page is not a private expression; it's a public billboard that people work on to say what they're interested in. That's not as interesting to me as people using it in their private lives. It's exhibitionism, if you like. Or self-expression. It's openness, and it's great in a way, it's people letting the community into their homes. But it's not really their home. They may call it a home page, but it's more like the gnome in somebody's front yard than the home itself.[7]

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6   Originally the home page was defined as "the hypertext document you see when you first enter the web", Ed Krol, *The Whole Internet User's Guide & Catalog, Revised Edition* (Sebastopol, CA 1992), p. 229. But the concept was evolving and splitting: "The welcome page for a server is often now called a 'home' page because it is a good choice for a client to use as a home (default) page. The term 'home' page means the default place to start your browser. Don't be confused by this, though. There are two separate concepts." https://web.archive.org/web/19970605145352/http://www.w3.org:80/pub/WWW/Provider/Style/Etiquette.html; access: October 29, 2020. In addition, a "home" page is a hypertext document, which is a starting point for a user. Users with hypertext editors make their own home pages. Other users use home pages provided for anyone in their organisation. An example is the CERN home page, https://www.w3.org/Talks/Tour/FindingOurWay.html; access: October 29, 2020. In "My corner of the internet", 2014, https://blog.geocities.institute/archives/5118, I provide an overview of different meanings and the history of the term.

7   Berners-Lee, On simplicity, standards, and "intercreativity", p. 8.
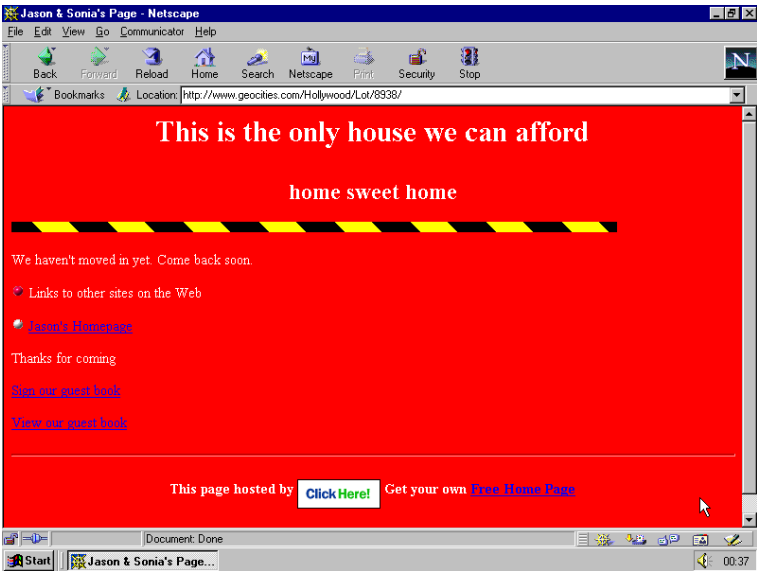
Fig. 1 (and the following screenshots): Dragan Espenschied & Olia Lialina, Screenshot of restored Geo Cities page from the One Terabyte of Kilobyte Age archive.
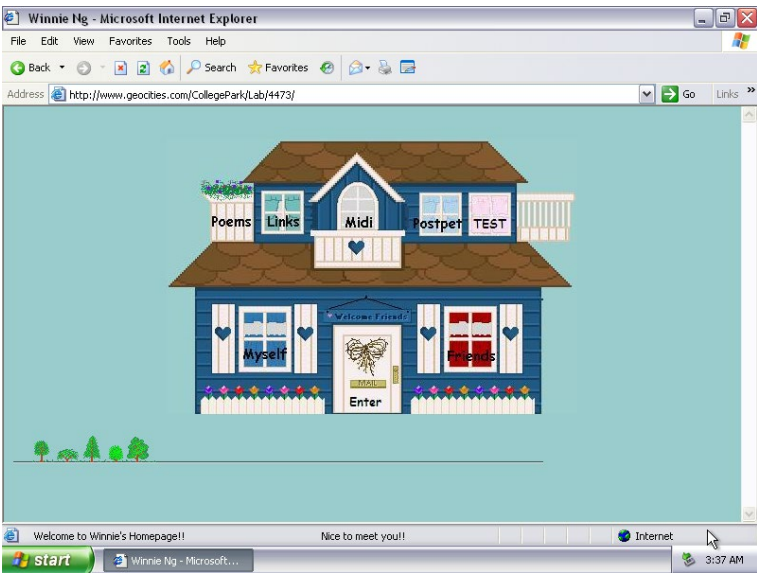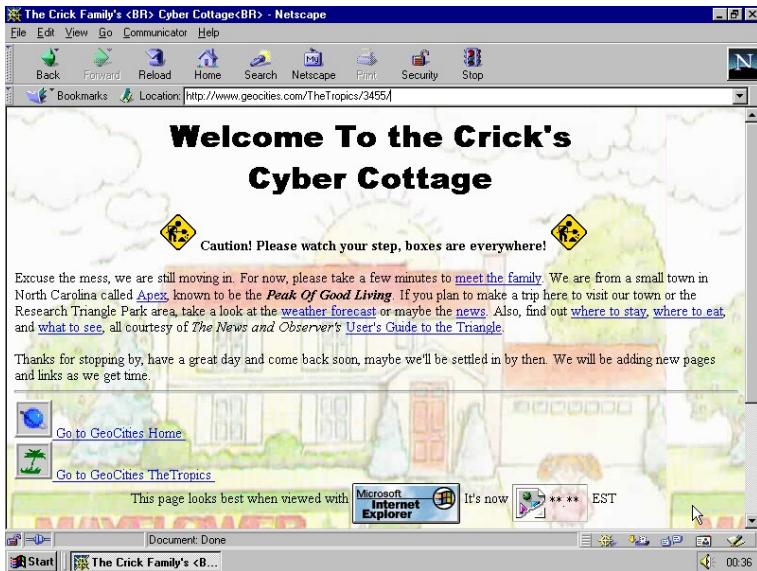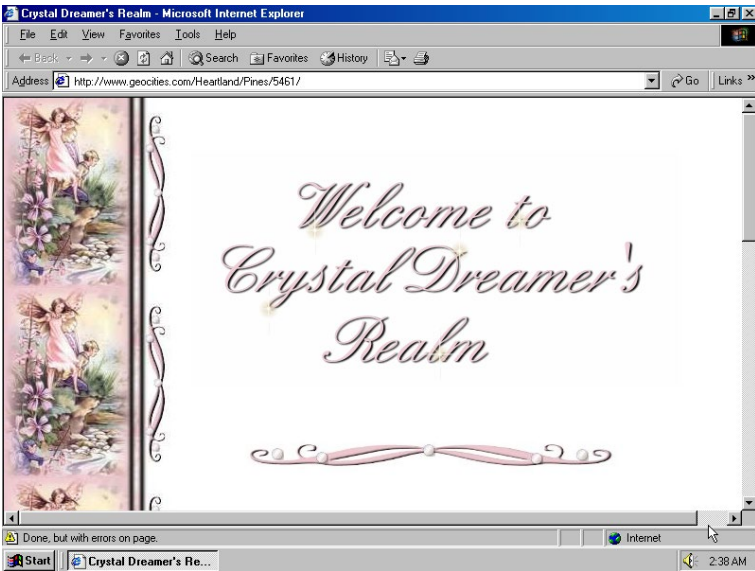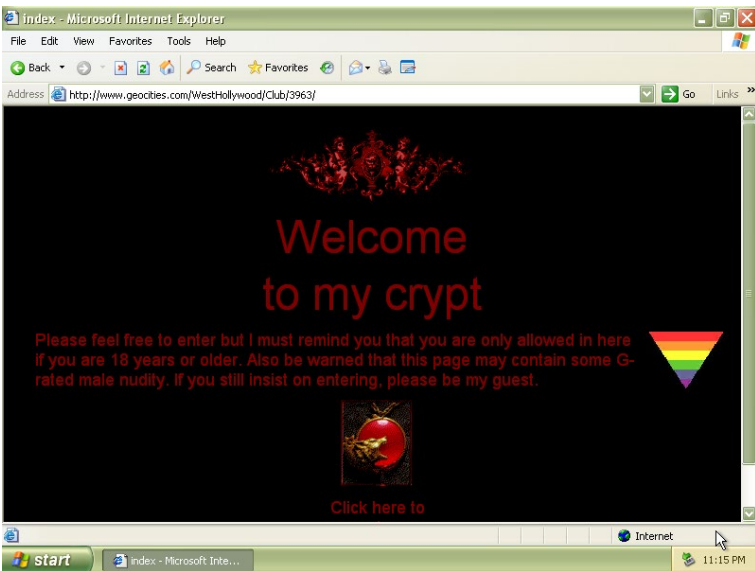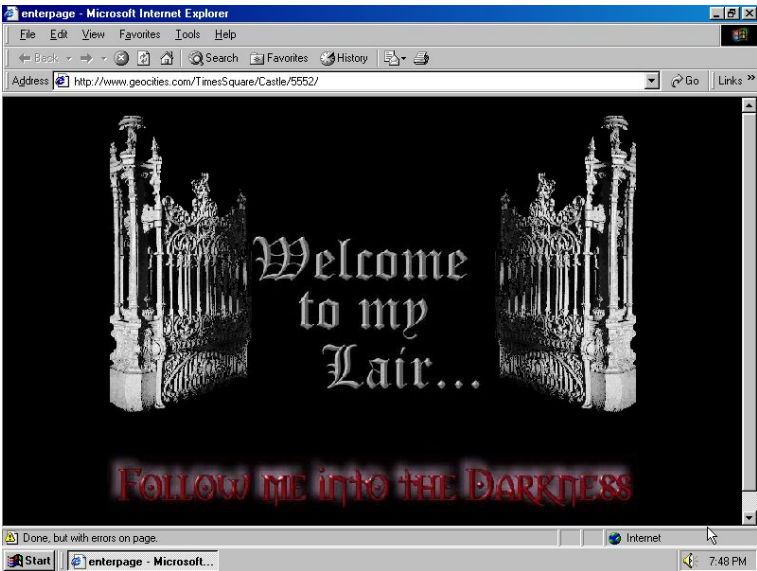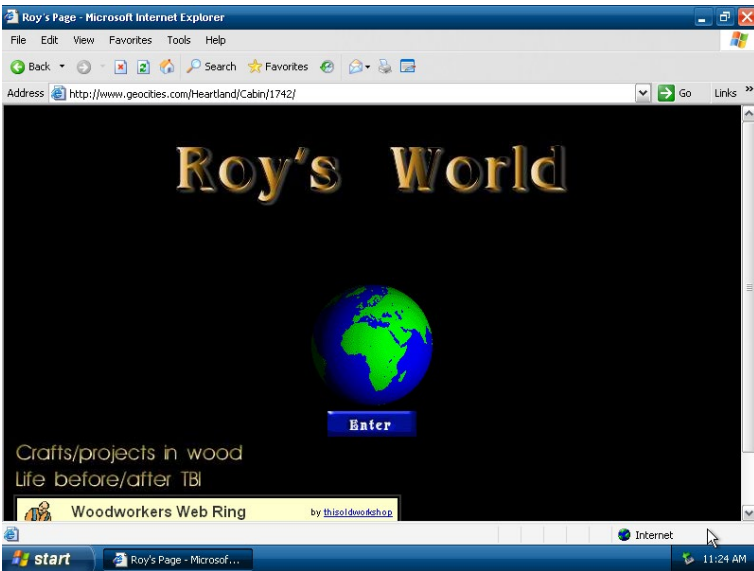

Fig. 2

Fig. 3

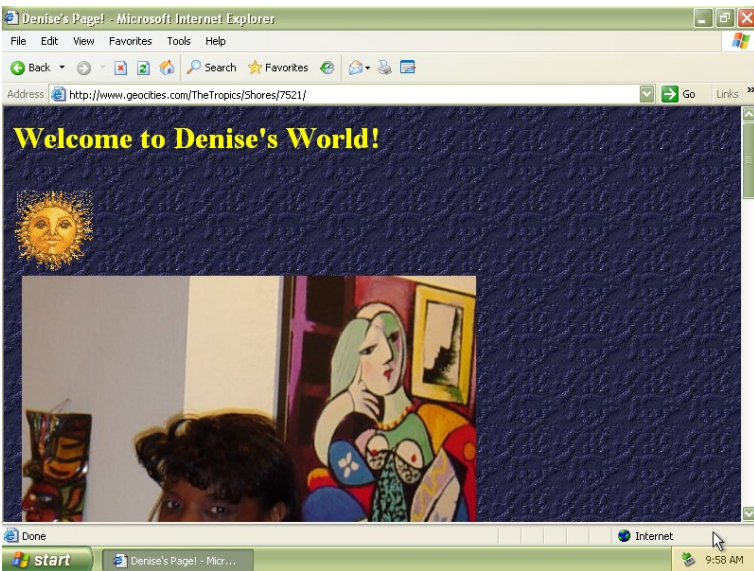Fig. 4

Fig. 5

Fig. 6

Fig. 7
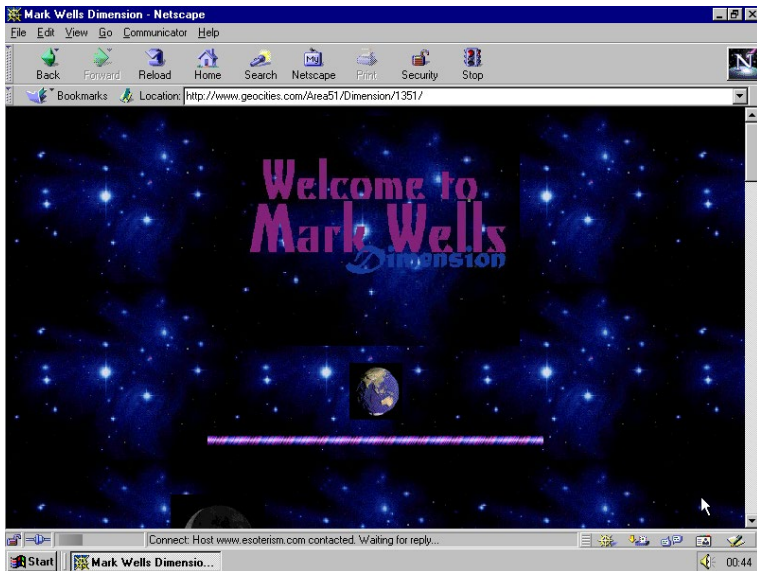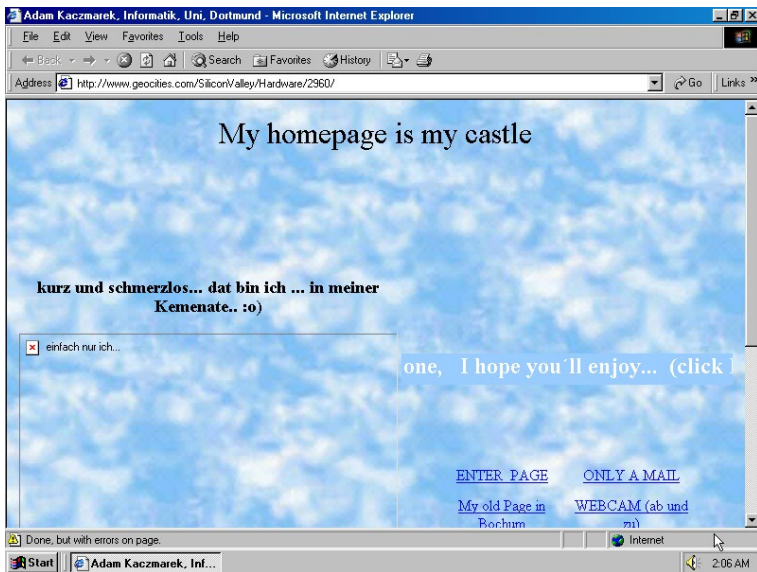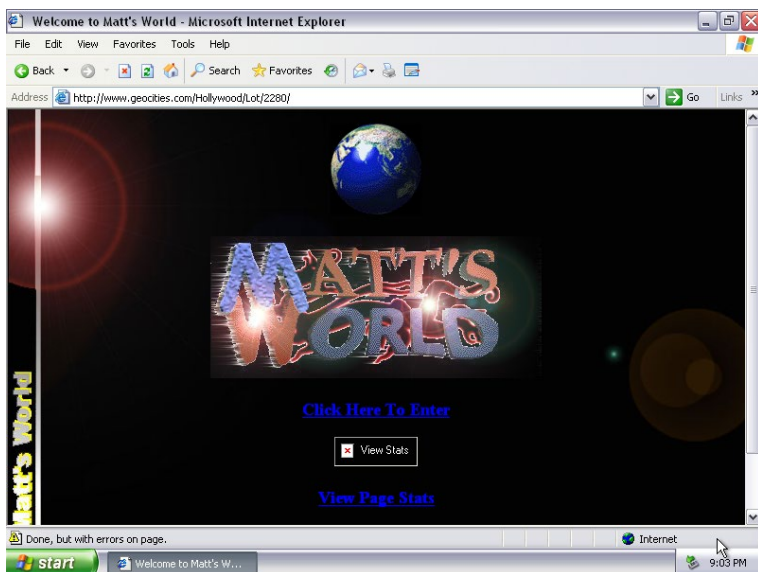

Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

Tim Berners-Lee didn't intend to be sarcastic. It would be fair to quote the rest of the answer to see that what he called for was giving web users better, faster and more seamless[8] ways to connect.

> *People don't have the tools for using the Web for their homes, or for organizing their private lives; they don't really put their scrapbooks on the Web. They don't have family Webs. There are many distributed families nowadays, especially in the high-tech fields, so it would be quite reasonable to do that, yet I don't know of any.[9]*

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8   Some paragraphs later in the interview, Tim Berners-Lee emphasises again that connected computers should be tools, services, portals that are given to people: "When you turn on your computer what you should see is information, what you should deal with is information. You should be able to create it, to absorb it; you should be able to exchange it freely in the informational space. The computer should just be your portal into the space, in my view." Berners-Lee, On simplicity, standards, and "intercreativity", p. 8.

9   Ibid.

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Such "webs" started to arrive some years later in the form of LiveJournal, Friendster, Facebook and other platforms that clearly showed web users that their part was to be connected and deliver content, not to build anything.

I don't think that in 1996 anybody was really hurt or stopped making web pages because of the remark the father of the Web made. People building what was "not really their home" were reading other texts at that time: HTML manuals, web graphics tips and tricks, and source codes of each other's websites. They would rather buy *HTML for Dummies* or *Home Sweet Home Page and the Kitchen Sink* than the WWW Consortium corporate journal.

Mentioning web design manuals is not a side remark here, but a suggestion to pay closer attention to the books that explained the World Wide Web to newcomers and taught them to make web pages as documents[10] of the epoch: books such as *Teach Yourself Web Publishing with HTML 3.2 in 14 Days*; *Building Your Own Website*; *Jazz Up Your Web Site in a Weekend*; *Frontpage Web Publishing & Design for Dummies*; *Publish it on the Web!* – and other titles that shout: the Web is the future, the future belongs to you, learn HTML and embrace the future! The older the manual, the younger the medium, the more powerful and diversified is the role of the manual's reader, the Web user. But in the context of this article I send you there not to look for the "good old days". The manuals are also evidence of the personal web pages and their authors being ridiculed by experts: on the very same pages that motivated a newcomer you can often read "amateur" as a negative adjective.

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10 At this moment the GRI library has 83 items published between 1993 and 2002. Today they are my source of information, being very often the only reference to the websites that ceased to exist before they were preserved in any other way. A screenshot from a web design manual is nothing close to an archived website, it is also much less than an interview with a designer or developer of it. Screenshots are not sufficient, you can't call them "good enough", rather "at least something", but as these web projects were too complex for web archives and too embarrassing for their creators to keep and recall – there is "at least something" you can reference, analyse or attempt to reconstruct.

This page shouts "Amateur"[11]

There's nothing that says, "I'm an amateur Web designer and I don't know what I'm doing" like 3-D logos[12]

Visit an amateur home page and see how excessive scrolling drags its nails across the blackboard of the user's experience[13]

Already as early as in 1996, personal home pages as a genre and early web makers (as a group) were made fun of and blamed for all the ugly stuff. It is the year when David Siegel publishes *Creating Killer Web Sites*. Describing the history of the WWW till that moment, he announces the third generation of web design to come to replace the second-generation site, which for him was the world of amateur web and which he described as "At worst, noisy backgrounds and interminable waits for sound files make these sites unbearable. At best, they are nice white sites with color-coordinated icons".[14]

The audience for personal pages is basically only one person – the creator of the site.[15]

It's perfectly OK for you to be as wild and crazy as you want because the only people who will probably visit your site are friends and family – and they are well aware of your lack of aesthetic taste.[16]

11 Vincent Flanders and Michael Willis, *Web Pages That Suck: Learn Good Design by Looking at Bad Design* (San Francisco, CA 1998), p. 111.
12 Vincent Flanders and Dean Peters, *Son of Web Pages That Suck: Learn Good Design by Looking at Bad Design* (San Francisco, CA 2002), p. 204.
13 Jeffrey Zeldman, *Taking Your Talent to the Web: A Guide for the Transitioning Designer* (Indianapolis, IN 2001), p. 95.
14 David Siegel, *Creating Killer Web Sites: The Art of Third-Generation Site Design* (Indianapolis, IN 1996), p. 29.
15 Flanders and Willis, *Web Pages That Suck*, p. 13.
16 Flanders and Peters, *Son of Web Pages That Suck*, p. 2.

*[…] they cram every page with embedded MIDI (music) files, pointlessly scroll-
ing JavaScript messages, huge full-color photographs, animated GIFs (flames
and dripping blood are especially popular), and blinking and moving text […]
That is bad design, and (we think) bad markup, even if it validates – which is
pretty unlikely because folks attracted to dripping blood animations tend not
to spend much time learning about web standards.*[17]

The last quote is from *Taking Your Talent to the Web*, the book with the
most beautiful title ever given to a manual. That's why I borrowed it to
be our library's pseudonym.[18] I also find this book very wise in many as-
pects: first and foremost for Zeldman's conviction regarding the medium
specificity of web practice and his attempt to divorce it from graphic
design in this and other texts. Also, the work that he and his colleagues
do at A Book Apart, a publishing house that makes manuals for contem-
porary web designers, cannot be underestimated. But I also think that
it was a big mistake to neglect amateurs' contributions to the develop-
ment of the Web's language.

In my opinion, people struggling to position a dripping blood animation
in between two skulls and under <marquee>ENTER IF YOU DARE</mar-
quee>, and pick up an appropriate MIDI tune to sync with the blood drip,
made an important contribution to showing the beauty and limitation of
web browsers and HTML code.

Making fun and blaming amateurs is only half of the problem. More dam-
aging for the history of the Web was the ignoring of personal home pages
and their authors in "how-to" books.

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17 Zeldman, *Taking Your Talent to the Web*, p. 189.

18 The library is not only research material for my GRI colleagues and students, but also an object, an
interactive sculpture called "Taking Your Talent to the Web". It goes to events and exhibitions and, ac-
cording to the space, takes a form of a book piles or bookshelves. Visitors are welcome to flip through,
take photos of the front and back covers, or just stare (and take selfies) at the particoloured row of
book spines and read the titles that say a lot about the epoch of the early Web: *The Web Design WOW!
Book*; *Cyberspace for Beginners*; *Graphical Treasures on the Internet*; *Finding Images Online*; *Home
Sweet Home Page and the Kitchen Sink*.

Neither the usability (Jakob Nielsen) nor the creativity (Jeffrey Zeldman, David Siegel) camps and their followers spared a page to analyse the home pages of amateurs, sorting things exclusively between themselves. From time to time they (as in Nielsen, Zeldman, Flanders) mentioned artists and web artists as exceptions to the rules they established, but not web vernacular. Even after designers of "photoshop" sites and dot.com unviable hybrids discredited the profession, experts suggested looking for new ideas among… professionals.

Veen: "I find inspiration in noncommercial Web creations"[19] claims Veen and gives examples of designer portfolios.

"In order to move beyond a conservative, copycat style, you must look beyond the inbred corporate web to the personal sites of today's leading web designers"[20] echoes Cloninger.

Danish researcher Ida Engholm in her 2002 paper "Digital style history: the development of graphic design on the Internet" wrote, "Web design has become an aesthetic phenomenon in its own right and with its own means of expression."[21]

She continues: "Until now few attempts have been made from the perspective of aesthetic theory to develop reflective approaches to web design." Ida Engholm was too cautious and modest with this remark. To my knowledge she was the first to attempt such an approach in the international academic press. And one can see that she was strongly informed (or misinformed) by the "how-to books" of the above-mentioned Siegel, Cloninger, Zeldman.

She writes: "[…] web design didn't develop in a vacuum but shares features with development trends in 20th century design and art and with traditional design areas such as industrial design and graphic communication." Following Cloninger she looks for web design roots in Swiss Style

19   Jeffrey Veen, *Art and Science of Web Design* (Minneapolis, MN 2000), p. 71.

20   Curt Cloninger, *Fresh Styles for Web Designers: Eye Candy from the Underground* (Indianapolis, IN 2001), p. 8.

21   Ida Engholm, Digital style history: The development of graphic design on the Internet. *Digital Creativity* 13 (December 1, 2002), pp. 193–211, https://doi.org/10.1076/digc.13.4.193.8672

and Grunge, and discusses Kilobyte Minimalism, Hello Kitty and other popular online, but still graphic, design styles.

Indeed, web design didn't develop in a vacuum, it grew out of vernacular web, it grew in opposition to vernacular expression. But there was obviously an information and education vacuum created around it by authors of design manuals and other experts and evangelists.

Only in 2008, in *Fresher Styles of Web Design*, Cloninger, following Cory Archangel's Dirtstyle,[22] introduced "1996 Dirt style", which he attributed to Myspace, blingee.com and other sites and communities "greatly influenced by hobbyist created personal home pages circa 1996"[23] without giving a single example of any website from that era.

No wonder that young web designers think that responsive web design was invented this century, although Ethan Marcotte never hid the fact that he only coined the term,[24] brought back and popularised the principle of liquid layouts, which was very popular among personal home page makers of the mid 90s; and why Aaron Walter, the author of *Designing for Emotion*[25] – a web design manual that explains step-by-step how to create a service in a way that its users think that there is a real person behind it – dares to deliver his point without once mentioning a personal home page.

Webmasters and their production were an easy target. Professional designers, evangelists – they all took their chance/really took the opportunity: ridiculing, discrediting, alienating, exposing clean styles and templates, usurping the right to make design decisions.

And they succeeded, they protected the Internet from "wrong" colour combinations, annoying background sound, from marquees and blinking, but in the long term it was the beginning of the end of web design

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22 http://www.coryarcangel.com/things-i-made/2002-009-dirtstyle-design, https://web.archive.org/web/20021208124943/http://www.dirtstyledesign.com/; access: October 29, 2020.

23 Curt Cloninger, *Fresher Styles for Web Designers: More Eye Candy from the Underground* (Berkeley, CA 2008).

24 Ethan Marcotte, Responsive web design, A List Apart (blog), May 25, 2010, https://alistapart.com/article/responsive-web-design/; access: October 29, 2020.

25 Aarron Walter, *Designing for Emotion* (New York 2012).

itself. The rhetoric of alienation that design experts practised in 1996 was picked up by IT giants a decade later.

To quote Vincent Flanders' (the extensively quoted above Flanders, who, book by book, article by article, humiliated websites that were too bright, too loud, too confusing) tweet from 4 years ago: "in 2016 web design is what Google wants it to be".[26] Even more true in 2020.

There is no web design and web designers any more, there are graphic designers and developers again, front-end and back-end developers this time. For me as a net artist and new media design educator, this splitting of web designer into graphic designer and front-end developer is bitter, because it is the death of a very meaningful profession.

> *Web publishing is one of the few fields left where the generalist is valuable. To make a great site you need to know a little bit about writing, photography, publishing, UNIX system administration, relational database management systems, user interface design, and computer programming[,][27]*

writes Philip Greenspun in Philip's and Alex's *Guide to Web Publishing* in 1999. It would be naive to think that it would work the same way two decades later, taking into account the complexity of modern online products. But still the web designer is a generalist in a leading position. But knowing a bit of everything is not the most important part of the profession. The generalist as web designer is a person who sees the medium designed and shows it to the users, a person who is growing up together with the medium (and never gets old because the medium is forever new) and who has the potential to reshape it, because intelligence is still the ends:

> *"Web designers are still there though, I think. Just maybe more and more are actually growing into Frontend developers or turning to something more spe-*

26 "People keep asking me, 'What's web design in 2016?' Simple. It's whatever Google wants it to be." February 2, 2016, https://twitter.com/vincentflanders/status/694362260060389376; access: October 29, 2020.

27 Philip Greenspun, *Philip and Alex's Guide to Web Publishing* (San Francisco, CA 1999), p. xxi.

cific like becoming UI/UX designers, or Product designers. It's less browser focused maybe, less 'web'? Even though most of these still technically rely on web protocols and technologies"[28]

– net artist at night and "full-stack developer with more experiences as a front-end developer" –, Émilie Gervais sees it more optimistically in our email correspondence but still confirms the shift: the Web is not a medium but underlying technology.

Underlying and invisible. Most of the digital products and interfaces we use today are in fact browsers opened in kiosk mode. The majority of mobile apps, digital signages, installations, and other big and small "experiences" are constructed with HTML, CSS and JavaScript. Front-end developers who can talk with screens and layouts in these languages are demanded, celebrated, well paid … but harmless; they master technologies without ambitions to master the medium.

Without web designers, the Web is left to front-end developers who implement Material Design guidelines ("what Google wants it to be"), graphic designers mix-n-matching "illstrations for every occasion"29 – and for the rest of us there is Artificial Design Intelligence (ADI).[30]

"There is no room for ornament on the web. People want to look at Instagram […] because their brain already understands how Instagram is laid out. In my opinion the goal of an artist vs a UX/UI/product designer is totally opposite.

28 Émilie Gervais in personal email on February 20, 2020.

29 www.humaaans.com is an illustration library, which became "an overwhelming trend in editorial and web illustration over the past few years, with particular prevalence currently in the realm of tech. […] adopting a visual language that signals positivity, and connectedness is a tool to paper over the social and political harm and divisiveness their products create – and illustration has increasingly become a centerpiece of the strategy", as Rachel Hawley describes it in: Don't worry, these gangly-armed cartoons are here to protect you from big tech. *Eye on Design* (blog), August 21, 2019, https://eyeondesign.aiga.org/dont-worry-these-gangley-armed-cartoons-are-here-to-protect-you-from-big-tech/; access: October 29, 2020.

30 World, meet the first ever AI (artificial intelligence) solution for website design and creation: Wix ADI. Wix ADI: Design AI that will change website creation, June 8, 2016. https://www.wix.com/blog/2016/06/wix-artificial-design-intelligence/; access: October 29, 2020.

To combat templatization and minimalism I try to exaggerate designs with ephemeral styles and effects[,]"[31]

– says Steph Davidson. She is web art director at Bloomberg, a publishing house that actually makes an effort[32] to revive the genre – with a website that is different. Bloomberg designers are not the only ones. There are exceptions and we identify them as such. For example, every work of German web design duo Christoph Knoth and Konrad Renner makes people say "wow, the Web (design) is alive". They confirm that "there is a small movement that is fusing web design back together with new tools. We design and develop frontends and backends and it feels like a perfect habitat for our work. We are the living proof".[33]

"Small movement" is very important for rescuing the profession and the idea that one – be it a publishing house, a festival, a journalist investigation, a person – needs a website.

[…] the idea of a site and its relationship to our online identity has far more depth of possibility than ever before, which makes me think the concept of having one's own site online might never be more relevant given how 'homeless' our digital presence is online currently[,][34]

writes co-founder of Reclaim Hosting initiative, Jim Groom.

The homeless status is a reality for individuals, who never know when Facebook will implode together with their images and interactions, and for institutions begging Google and Wikipedia to edit their "knowledge panels". Experts and celebrities are not better settled than naive users of Instagram.

31 Steph Davidson in personal email on February 26, 2020.
32 https://pad.profolia.org/bloomberg – a list of Bloomberg's special issues compiled by Steph Davidson on July 17, 2017; access: October 29, 2020.
33 Christoph Knoth in personal email on March 3, 2020.
34 Jim Groom, Lifebits, the Next Corner of Cyberspace? *Bavatuesdays* (blog), January 13, 2020, https://bavatuesdays.com/lifebits-the-next-corner-of-cyberspace/; access: October 29, 2020.

Nothing is more eloquent than popular tech journalist Katie Notopoulos tweeting "I had an idea for a blog, but realized that there's nowhere to like, make a new blog (rip tumblr), so I think the best blogging platform now is.... a really long caption on an Instagram?"[35] or aforementioned web design guru David Siegel, whose web home today is a link list on Medium.[36] Many links to his own text about the future of the Web once published on dsigel.com point to the Wayback machine.

The father of hypertext gave up updating hyperland.com and directed it to his YouTube channel.[37] The mother of Post-Internet made a spectacular home page[38] for marisaolson.com – the rest of her portfolio is outsourced to blocks and channels on are.na. Among the ruins of online portfolios rises the home page of artist Petra Cortright,[39] who links everything she's done in between 2012 and 2019 to "petra cortright 2019 2018 2017 2016 2015 2014 2013 2012" on lmgtfy.com – a very contemporary gesture, which could be interpreted as both despair and arrogance.

In this situation I think a new role and an understanding of web designers could be rebuilding homes; showing gnomes the way out of corporations' front yard, if I may steal Tim Berners-Lee's metaphor.

These are not "ornaments" per se, Davidson mentions, and not the awesome audio visual effects Knoth and Renner provide to their clients; it is the notion of having an appearance – that they bring back by exaggerating it – and subsequently a place of your own outside of standard interfaces and grids of algorithmic timelines.

* * *

35 Katie Notopoulos on Twitter on December 14, 2018, https://twitter.com/katienotopoulos/status/1073392120847851520

36 "I built my first home page in early 1994. This is my new home online. It contains links to everything I have ever written, created, or been part of." David Siegel on January 10, 2016, https://medium.com/@pullnews/david-siegel-jack-of-none-998a70be0e57; access: October 29, 2020.

37 https://www.youtube.com/user/TheTedNelson; access: October 29, 2020.

38 "Home page" in the second meaning of the word, i.e. the first page of the site.

39 https://www.petracortright.com/hello.html; access: October 29, 2020.

To turn designers and users away from technology and back to the medium one should try to adjust the optics and see the people who made the Web, to write the history of the users (not corporations that released these or those products, or updates) and frame it in a continuum of their actions, views, self-identification. Not an easy task because on the Web we are always confronted with revolutions, with histories of big men and binary time[40] and space: before/after, web 1.0/web 2.0, desktop/mobile, flat/material.

My slow climb from 1995 to 2004 in the 1TB archive, my personal journey online that started in 1994 and is still not over, as well as two decades of teaching new media designers to see and show the environment they work with, we should recognise several trajectories we (web users) took since 1993.[41]

From web designer to front-end developer could be one of these trajectories. This is partially introduced on the previous pages. To make it complete I'd first of all have to place it in a more complex, forking path, starting from webmaster (not web designer), following the genesis and metamorphosis of that profession (passion) through time and niches of the Web.

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40 The pace known as Internet time (or Netscape Time) is not only about velocity, but the dramatism of change that could happen in a very short time. When lecturing about WWW history, I emphasize it by adding to the common saying, "there may be 7 calendar years in one Internet year, but there are 100 years in between 1996 and 1997", referring to the overnight sinking of connection prices, the Wired cover that announced the death of the web pages, the release of Netscape communicator, which suggested thinking about the Web as an application, not sites. The same observation can be applied to the events of 1995, when Netscape browser was released to "kill" its predecessor Mosaic. And even more to 1993 when Mosaic appeared as the first alternative to WWW. In Architects of the Web, Robert H. Reid marks everything that was on the Internet before Mosaic as B.C. where C is "commercialization".

41 Release of Mosaic browser. "NCSA's Mosaic™ wasn't the first Web browser. But it was the first to make a major splash. In November 1993, Mosaic v. 1.0 broke away from the small pack of existing browsers by including features – like icons, bookmarks, a more attractive interface, and pictures – that made the software easy to use and appealing to 'non-geeks'." http://www.ncsa.illinois.edu/enabling/mosaic; access: October 29, 2020.
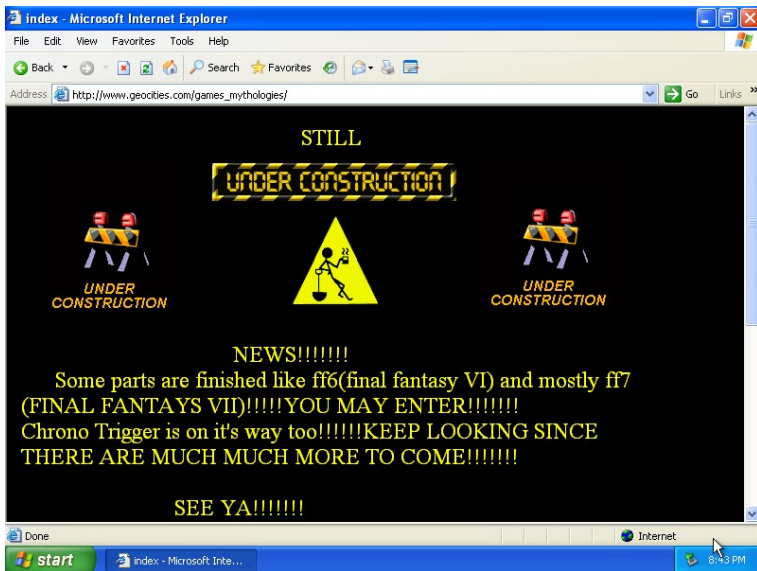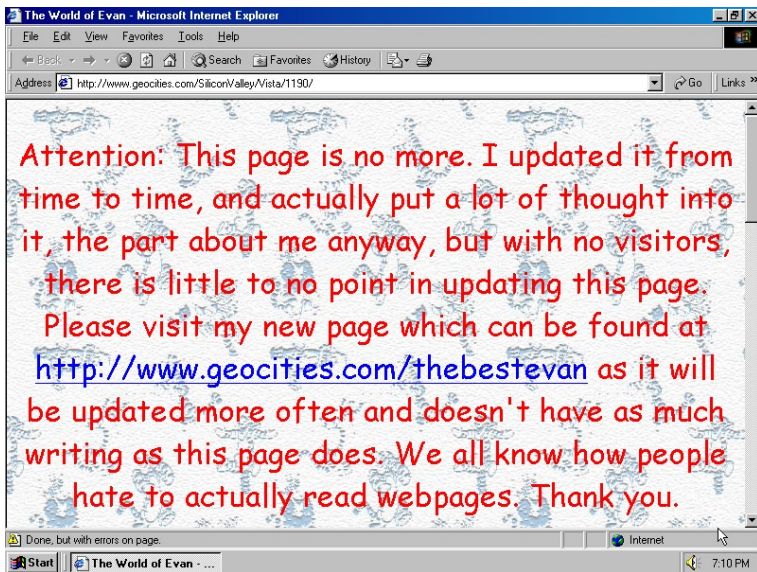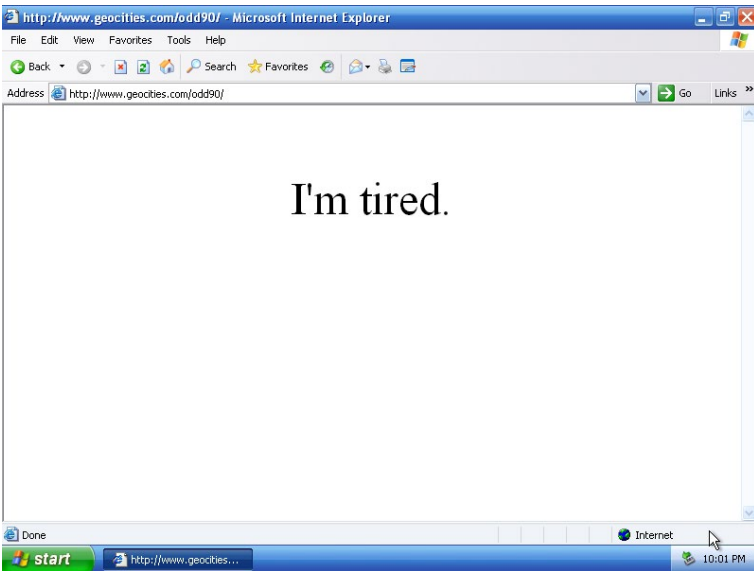
Fig. 14

Fig. 15

Fig. 16

Another trajectory, which would demand a longer text, is *Under Construc-*
tion → *Update* → *Upload.* The history of the Web distinguishing three
generations – three "Us". Where Under construction stands for building
the Web; Update for having difficult relations with the Web, not having
time for the Web, it's complicated, "get a real life", and more [Fig 14–16];
and Upload – users' involvement reduced to feeding the forms with pho-
tos, texts, or other types of "generated content".
From "Links to other sites on the Net" to "The only link you'll ever need"
would be a symbolic name for seeing the Web through web users' rela-
tions with the links. From being (constructing your page as) a portal to
a node, from linking to search engines to becoming invisible to search
engines and ceasing to exist because search engines (the search engine)
took over. [Fig. 17–19]

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Stop

Bookmarks Location: http://www.geocities.com/Athens/7021/

Fantasy Literature

To be included on this site over time is a list of writers and writing URIs.

Links

- Robyn's Writing and Writers Resource Pages
- Science Fiction and Fantasy Writers
- Writer's Web Navigation Page
- Authors
- Science Fiction and Fantasy Writers Co-Op
- StoryCraftGabe Torok - My World of Science Fiction
- Dragon Tails and other Amateur Stories
- Ed's AD&D Fiction Page
- Gabe Torok - My World of Science FictionGabe Torok
- Kingdom of New Caithness
- Green Cross
- Light in the Darkness
- Science Fiction and Fantasy Gallery of Public Domain Fiction

Document: Done

Start Fantasy Literature - N...   00:36

Fig. 17

Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: http://www.geocities.com/RainForest/6515/   What's Related

Guestbook:
Sign View
Statistics

Links!

Garfield!

Calvin and
Hobbes!

Search!

My html
help!

JavaFun!

Now Surf On Dude

ALTAVISTA

eXcite

infoseek

LYCOS

YAHOO!

JavaScript error: Type 'javascript:' into Location for details

Start Netscape   En 12:58

Fig. 18

Fig. 19

Let's have a closer look at "topgun's Home Page" [Fig. 20], made and last updated in September 1995. A significant one for the archive: first of all because it is the oldest; second, it is one whose author I could trace, which is rarely the case; and third, because the creator, the person behind Bruce who is testing how to make a web page is none other than Ganesh Kumar Bangah, a big name in South-East Asian IT world: it was he who bought Friendster in 2009.[42]

In 1995 he was 16 years old and made his first home page by modifying a sample page made by David Bohnett, himself the founder of GeoCities, who was 40 at the time, but had maybe only some months more experience with the Web than Ganesh Kumar Bangah. David Bohnett's first page was not saved, but in an interview he recalled that it was visually identical to Ganesh's one (it was anonymous and placed into Hollywood

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42 Friendster CEO: I made you, Zuckerberg. *Observer* (blog), July 1, 2011, https://observer.com/2011/07/friendster-ceo-i-made-you-zuckerberg/; access: October 29, 2020.
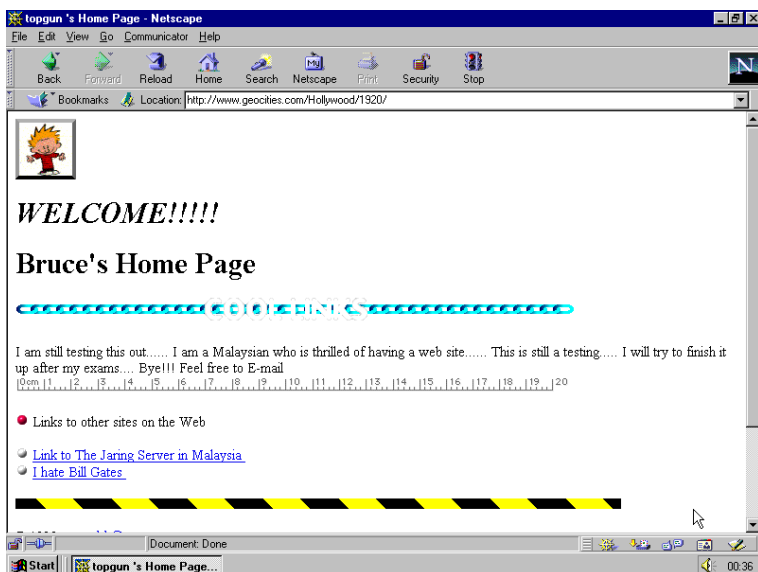
Fig. 20

Neighbourhood). This sample suggested two major ideas to the users signing in to his platform: they should or could be "under construction" and contain "links to other sites of the net" [Fig. 21–23]. A must that people took seriously, replacing Bohnett links with their own. Making links being the node was the duty,[43] the reason or an excuse to be online. You are maybe not an expert in anything, you are not a fan of anybody, but you can provide links to others and that's a noble role. These links could be to search engines [Fig. 18,24] and this didn't look like a paradox.

43 Olia Lialina, *Vernacular Web in Digital Folklore Reader* (Lialina, Espenschied, 2009), p. 27. Also online, http://art.teleportacia.org/observation/vernacular/links.html; access: October 29, 2020.
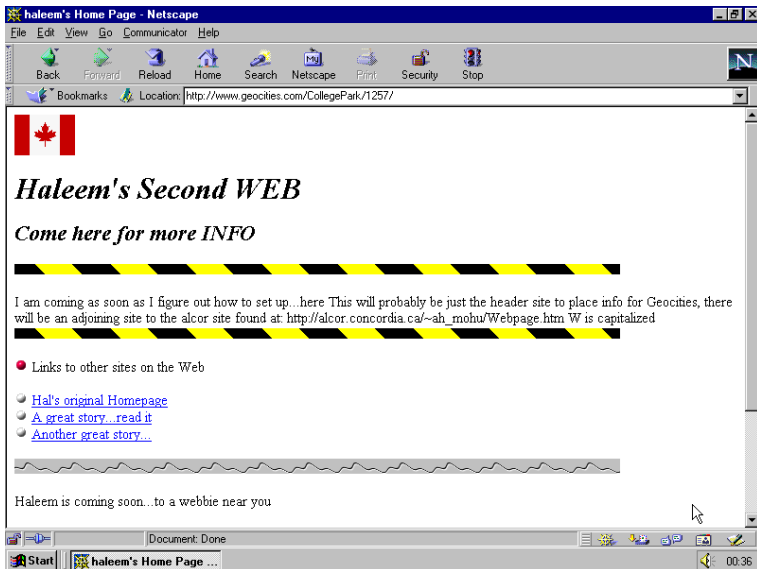
Fig. 21

Fig. 22
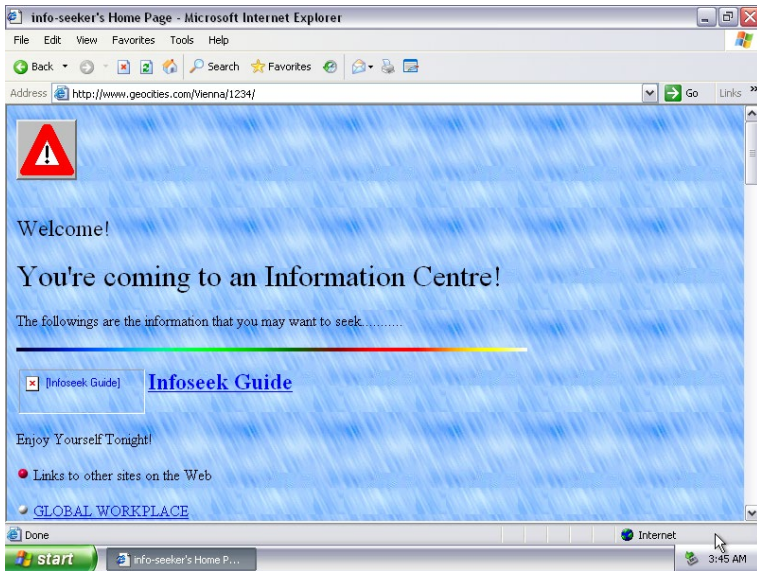
Fig. 23
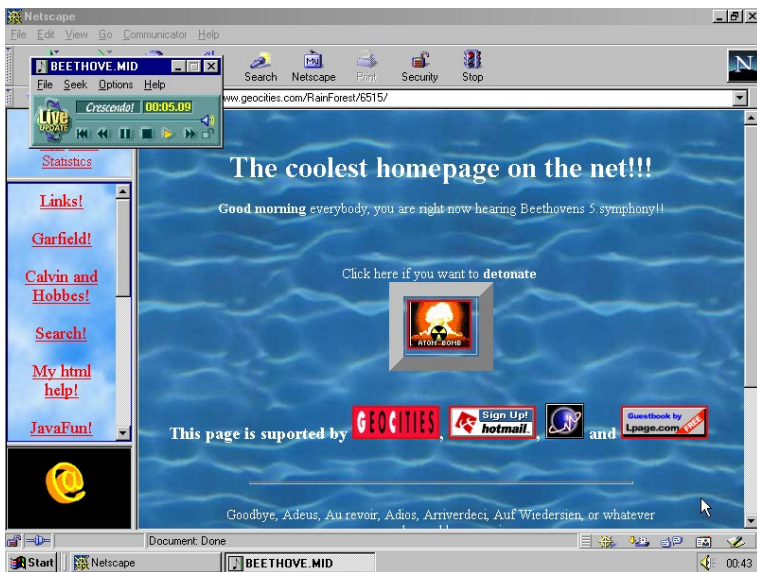
Fig. 24

Links are the spice that makes the Web so interesting. Links perform the magic [...].[44]

There are no rules about which documents can point where – a link can point to anything that the creator finds interesting.[45]

If you are building a site for people in growing roses, don't stop with just pictures of your roses; include the list of rose resource links.[46]

Good home pages provide useful resources and links to other Web documents. Web is a project in community authorship.[47]

There are sites that help you find people, sites that help you find jobs, sites that help you find other web sites[,][48]

– the authors of the design manual *Home Sweet Home* stated in 1997, and they didn't mean Google or search engines, they meant that it is a valid reason to create a website.

There are plenty of sites around the World Wide Web that exist only to provide a Web 'mouse potato' with huge lists of links to pages that are informative, entertaining, or "cool".[49]

Traditional home pages easily degenerate into an endless vertical list of links.[50]

44 Gus Venditto, *Microsoft FrontPage 97: HTML and Beyond* (New York 1997), 1997, p. 20.

45 Krol, *The Whole Internet User's Guide & Catalog*, p. 231.

46 Paul E. Robichaux, *Jazz Up Your Web Site: In a Weekend* (Rocklin, CA 1997), p. 16.

47 Bryan Pfaffenberger, *Publish It on the Web!: Windows Version* (Boston 1995), p. 61.

48 Robin Williams and Dave Mark, Home Sweet Home Page and the Kitchen Sink, Pap/Cdr edition (Berkeley, CA 1997), p. 45.

49 Paul McFedries, *The Complete Idiot's Guide to Creating an HTML Web Page*, 2nd book & CD edition (Indianapolis, IN 1997), p. 15.

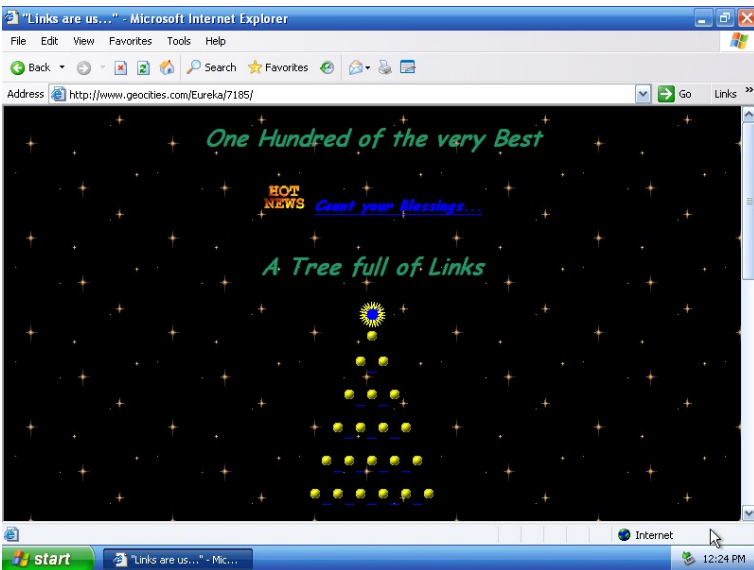50 Siegel, *Creating Killer Web Sites*, p. 33.
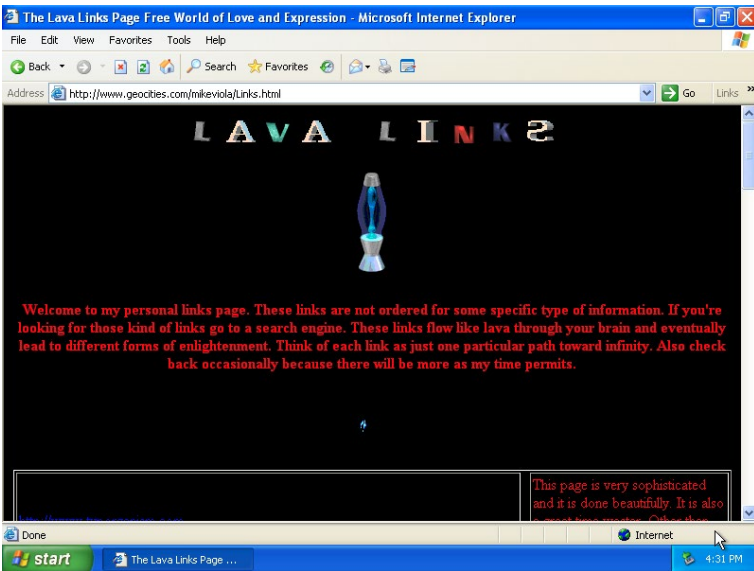
Fig. 25

Fig. 26

David Siegler's remark sounds like a prophecy, knowing what happened to his own web presence. Indeed, webmasters were aware and often made an effort to transform the list into something rather intriguing, imagining and structuring them as a lava lamp [Fig. 25] or Christmas tree [Fig. 26].

The latter, "Links are us", deserves special attention. It provided 100 links to what were, in 1999, important sources. Netscape is still there, Google is already there. Hans Hollenstein links to whitehouse.gov as well as "~" folders on .edu servers. But what does he put on the top of his Tree Full of Links? What's the shiny Christmas star? Is it Microsoft? Apple? Yahoo? No, it is the author's own complete solution to Rubic's Cube[51] as a Java applet… His invention, his pride and his right to make the link to it more prominent than links to the giants.

Back to our times. In the winter in early 2020, I taught a project "go as deep or stay as shallow", which is a quote from Joshua Quittner's Way New Journalism manifesto,[52] an optimistic text published on Hotwired in 1995, where Quittner called to the journalist of 25 years ago not to be afraid of making links to immerse themselves in the world of hypertext and hyper images *out* there, outside of your text or publishing platform. The group I was teaching was very young. I knew I would be the first to tell them about the difference between the Internet and the WWW, the history of hypertext and hyperlink, the values of EtoE and the treasures of p2p, and of the urgency of breaking out of walled gardens, the importance of not obeying the one link Instagram allows you. I was prepared to start from the basics. What I was not prepared for was that students would ask me what I mean by the only one link that Instagram allows its users? Where is it?

They didn't know about the link, they didn't see it, and were not missing anything. I was trying to fire up a resistance against the cruel policy of Instagram, but achieved the opposite. It made Instagram even more generous in their eyes.

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51 http://www.geocities.com/Eureka/7185/cb2.htm

52 Quittner on Way New Journalism http://archive.gyford.com/1995/11/13/HotWiredDemo/i-agent/index.htm; access: October 29, 2020.

Then I told this to an older student of mine. By "older" in this case, I mean she had already had a conversation with me about blue underlined words some semesters ago and had produced several great projects. She said that, with all due respect to all the links I made, Instagram's policy of not allowing links is great, it helps her to stay concentrated and to see only what she wants to see.

This is not a story about young people,[53] it is the destiny of computer users of all generations. Adapting, forgetting, delegating.

So often we hear and say that things change very fast. I don't know what is fast or what is slow, but what is clear to me is that the adaption of computer users' mindsets keeps up with this pace. First you stop making links, then you stop following ones made by others, then you ask, "what's a link?" Like a girl in the Apple commercial asks "What's a computer?"[54], a question that is supposed to portray the ultimate quality (transparency as invisibility) of a consumer electronic product.

Computer users accepted that making links is not their business. Instagram's one and only link in bio is not a question of the amount of links but the fact that the decision to make hypertext is not a prerogative of the users.

"Free speech in hypertext implies the 'right to link', which is the very basic building unit for the whole Web"[55] writes Tim Berners-Lee in 2000. He adds, "if the general right to link is not upheld for any reason, then fundamental principles of free speech are at stake, and something had better be changed".[56]

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53 Let me also mention that the students' project came up with great work, including Lyricslinks by Tim Jack Schmit, which is a music video you have to compile yourself by following the links through different platforms. https://pad.profolia.org/tj_lyricslinksthat; access: October 29, 2020.

54 Dennis Green, Apple is running an ad where a kid asks, "What's a computer?" – and people find it infuriating. *Business Insider* on January 24, 2018, https://www.businessinsider.com/apple-whats-a-computer-ad-sparks-anger-2018-1. Video available on YouTube https://youtu.be/pl-iJcC9JUc; access: October 29, 2020.

55 Tim Berners-Lee, *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web*, 1st edition (San Francisco 2000), p. 139.

56 Ibid., p. 141.

Links were indeed perceived so "basic" and "fundamental" that no contributor to user rights platform thought about adding a demand to link in 2013 or later. I noticed this while finishing this text and tried to improve the situation by placing my demand.[57] But one thing that has long existed is the unwillingness of corporations to make external links and the rise of walled gardens, where hypertext is only inside,[58] and links are made between documents not servers. And another is service providers taking away the technical possibility of turning text into hypertext, media into hypermedia, even inside one platform.

The <a href> tag is the most essential tag of HTML. A is for "anchor", HREF is for hypertext REFerence – <A HREF> is to tie, to weave, to knit. One would think it is the essence and the core, but we see more and more signs that in a year or two it will be "deprecated", browsers will just ignore it as some sort of <blink> or <marquee>, as if it is something decorative, but unnecessary, just a feature, that can be removed.

Content management systems and WYSIWYG web publishing (among other solutions that would make publishing instant) made a very attractive offer to their users: authors don't use tags to make links, just type "https://" and the platform will recognise it and automatically turn the address into the link. But a decade later they started to change their mind and URLs stayed inactive, appearing more as noise than information. Since 2016, Instagram users have wondered how to make links, how to go around "non-clickable URLs",[59] as hyperlinks are now called – an absurd collocation for an environment based on hyperlinks. "For the Web, the external

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57 The right to link, https://userrights.contemporary-home-computing.org/iqoxfwg/; access: October 29, 2020.

58 The trailblazers web-surfing event and competition was conceptualised in 2010 by my project group at Merz Akademie, as a competition where participants can exercise (or show off) their skills to go around through the walls of walled gardens. Announcements and documentation of the events available at http://nm.merz-akademie.de/trailblazers/; access: October 29, 2020.

59 https://www.quora.com/How-do-I-add-clickable-links-in-Instagram-comments; access: October 29, 2020.

link is what would allow it to actually become 'worldwide'",[60] to quote its inventor once again.

There are more sad neologisms around, for example the "Clickable Links"[61] extension I installed to make URLs "work" in Chrome, or "Linkificator", it's analogue for Firefox. Not to mention PANs like linktr.ee and il.ink, apps that you have to install to move round the only link Instagram allows. The mere existence of the apps shouts about the absurdity of today's web, the hypocrisy of social networks and the misery of their users. "The only link you'll ever need" is linktr.ee's slogan, with which I marked the current moment in the trajectory.

"[…] hyperlinks aren't just the skeleton of the web: They are its eyes, a path to its soul." Iranian blogger Hossein Derakhshan wonderfully said in his 2015 post on Medium, the title of which was "The web we have to save".[62] Derakhshan spend six years in prison for his posts online. He was released, went back on the Internet and viewed it as terrible that Facebook would not let him link properly and control the presentation of his texts. He was absolutely right in his critique.

At the same time I remember being puzzled when reading this text five years ago, because I realised that in his memories WordPress was paradise for links and the golden age for hypertext and the Web we have to save. How could this be? In my chronology, WordPress was the platform that started to take away users' control over the links; it is precisely WordPress that should be blamed for disrespecting hypertext, as it filled the Web with zombie links.

The question is rhetorical. We know the answer: we (users of free publishing tools) forget or adapt or accept very quickly.

60 Berners-Lee, *Weaving the Web*, p. 33.

61 https://www.laurentvw.com/project/clickable-links, Laurent Van Winckel, 2012.

62 Hossein Derakhshan, The Web we have to save. *Medium*, September 12, 2019, https://medium.com/matter/the-web-we-have-to-save-2eb1fe15a426; access: October 29, 2020.

Much like the false memories about WordPress is the current Myspace nostalgia,[63] namely the part where people recall their time on this platform as a time when they were coders. US scholar Kate M. Miltner presented her research "MySpace Had Us All Coding": A Nostalgic (Re)imagining of 'Web 2.0'"[64] about it at last year's conference "The Web That Was". Again, I had the impression that she was talking about another Internet or Myspace, because I remember the opposite, and in 2007 I wrote about Myspace as a platform that took HTML as a source code away from people.[65]

But true, when you compare the Myspace of that time with any service of today or even the Myspace of today, you feel like you were a coder if not a programmer. You could copy and paste glittering text code, decide whether sparkles are purple or pink.

I asked the audience whether, in a few years' time, teenagers who are now on Instagram will recall 2019 as a paradise, as a free wild web, a place when they were coders? Can it be that people who are on Instagram now will be nostalgic about the freedoms they had?

"Of course! Thank you, Instagram – we were allowed to upload!" Alex Gekker of Amsterdam University shouted from his seat.

Indeed, happy times when you could decide yourself to post a pic and not your phone doing it for you automatically. We will be recalling the 2010s as a time when we could post images ourselves.

Good old times… Remember Instagram where you could post an image? Remember Google that allowed you to type your search request? We had Twitter! You could unfollow people! Yes! Yes, in 2020 there were browsers that had a location bar and you could type in an address of a site!!

What? Address bar? Website? You could type? Was there a sort of typewriter?

63 MySpace and the coding legacy it left behind. *Codecademy News*, February 14, 2020, https://news.codecademy.com/myspace-and-the-coding-legacy/

64 https://easychair.org/smart-program/RESAW19/; access: October 29, 2020.

65 O. Lialina, A vernacular Web 2, 2007 http://contemporary-home-computing.org/vernacular-web-2/; access: October 29, 2020.

Delegating, adapting, forgetting.

Another timeline that vividly exposes this path would be *from making a website for your own dog to reposting someone's cat.* There are transitions in between these extremes: making a website for a cat, or posting your own cat. It is a trajectory to follow, to investigate. Again it is not binary, not just a dog's web for Web 1.0 vs a cat's web for Web 2.0. Though my research shows that cats, which later became a front-running symbol[66] of being online, played a small role in early web culture, and had another function.[67]

The page [Fig.27] is one of 848 pages tagged as "dog" in the One Terabyte of Kylobyte Age archive (as of june 7, 2020). The most spectacular ones have become part of an ongoing online exhibition.[68] Many of these pages are made in memory of a dog, many to celebrate a new puppy, some are personal, others belong to breeders. There are monumental and very simple ones, and some that I found are especially stunning. I tag them as "dog" and "webmasters" and there are 99 of them at the moment. Almost 100 of 848 dogs claimed they made their webpage themselves. [Fig.28–30]. We (people who are a bit older than these pages) know that it is not true. But for how long will this knowledge be there?

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66 "There is a giant gulf between doing something and doing nothing. And someone who makes a lolcat and uploads it – even if only to crack their friends up – has already crossed that chasm to doing something." Clay Shirky (in an interview with NPR), What happens when people migrate to the Internet?, https://www.npr.org/story/127760715, June 1, 2010; access: October 29, 2020. As a side note, I'd like to mention that 10 years ago I saw it as praising web vernacular, an invitation to the masses to go online, to be a part of online culture, and didn't see that, in fact, statements like this were also ignoring the abyss of the amateur Web, the equating of personal homes with doing nothing.

67 More on the topic can be found at https://blog.geocities.institute/archives/tag/cat and text Rascal, a Labrador, Mochi, a pug, and other webmasters at https://blog.geocities.institute/archives/655; access: October 29, 2020.

68 On the Internet, Everybody knows you had a dog https://dogs.geocities.institute/, regularly updated since August, 2015, 264 screenshots at the time of writing this text. The title is an allusion to Peter Steiner's famous cartoon published in *The New Yorker* on July 5, 1993, captioned "On the Internet, nobody knows you're a dog".
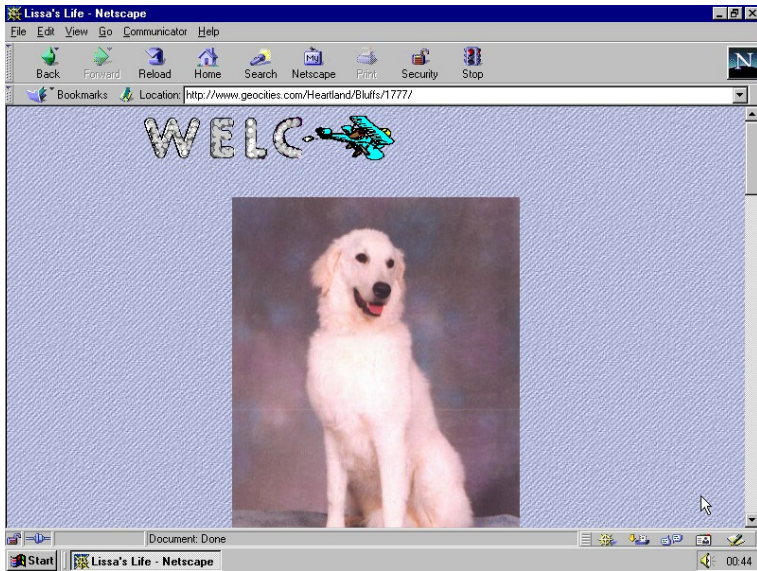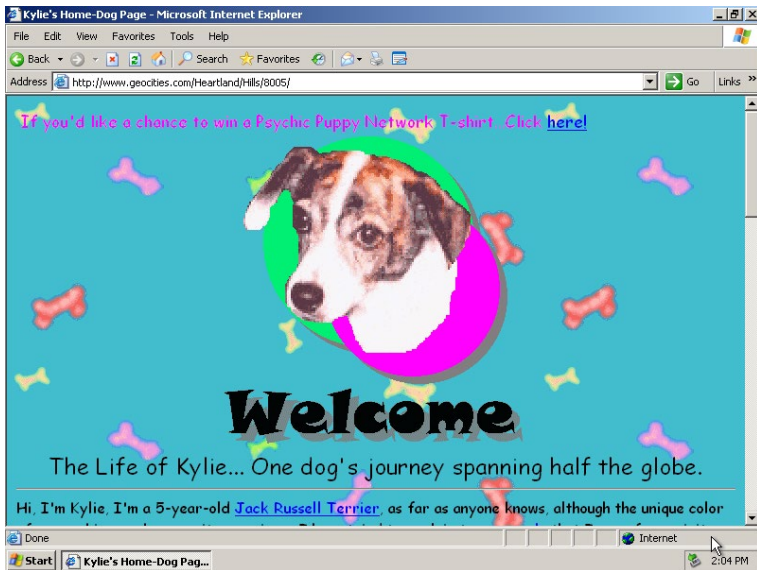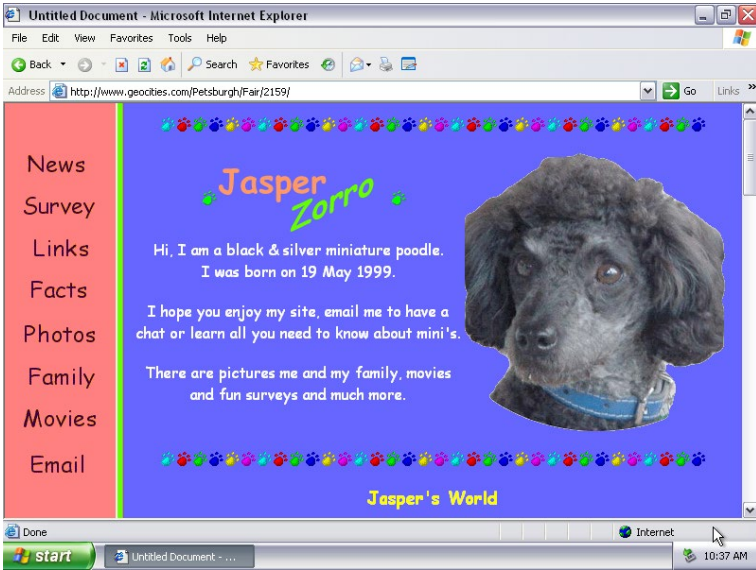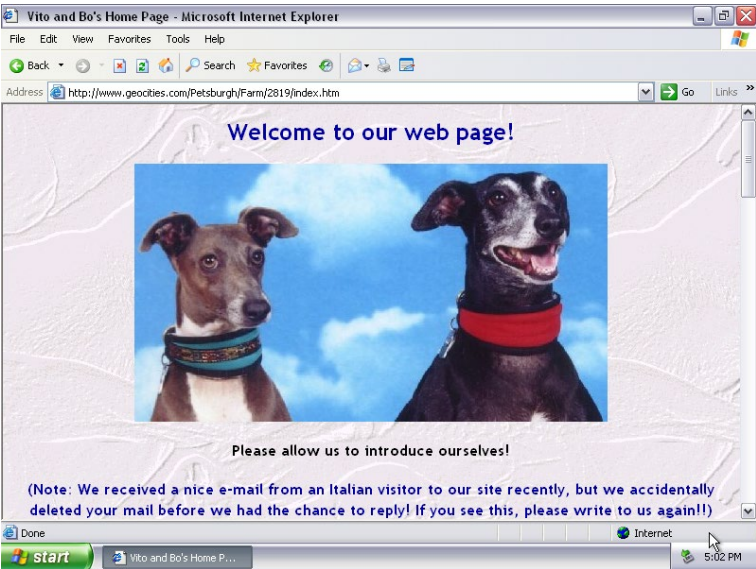
Fig. 27

Fig. 28

Fig. 29

Fig. 30

Chances are that the number of people who have ever heard about web pages made by people themselves is getting smaller every month. At the same time, the chances that your dog, cat or hamster doesn't need you to share its pictures and sounds online are getting higher every day. I'm sure that if you return to this exhibition in ten years from now and see the screenshots, you won't be surprised by dogs showing off their pages or posts. Theoretically, some sort of Alexa could probably already do it today, automatically photographing your pet, streaming it live, translating its barking into words and whatever.

And that's why I invite you to go into these pages in more depth: not to forget that these dogs were not dogs but people who spent a few weekends learning how to make a web page, and it was so exciting and so much fun that they also made them for their dogs. People, not dogs, not AI, not UX were making decisions about URLs, links, navigation, layouts, colour palettes and content.

Webmasters of the 1990s built homes, worlds and universes. But also, outside of intergalactic ambitions, they strongly pushed the concept of something being mine. The first-person possessive determiner "my" took on a very strong meaning – "my" because I build it, I control this presentation; my interests, my competences, my obsessions: in the trajectory *from my to me*, I suggest following its decline.

My Steven King, my Korn, my page for Sandra Bullock, my Eminem, somebody else's Eminem, my t.A.T.u., My Orlando Bloom, your Orlando Bloom, Martin's Mylène Farmer, Julia's John Malkovich, Jacob's pictures of Pamela Anderson [Fig.31–45]. They are Jacob's because he scanned them and put them online. My space for Leo, and my territory without him. Patricia's Xena, but not only because she is her fan; it is a page about Patricia's dreamworld where she is Zena. And this is a very important dimension of My. An alternative my-self. Alternative space where one can be someone else, someone that they want to be. Emphasis on MY! [Fig.46]
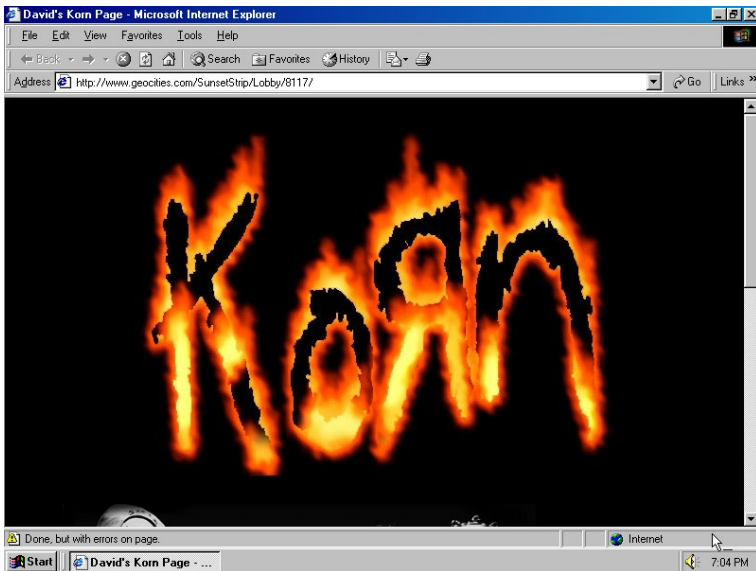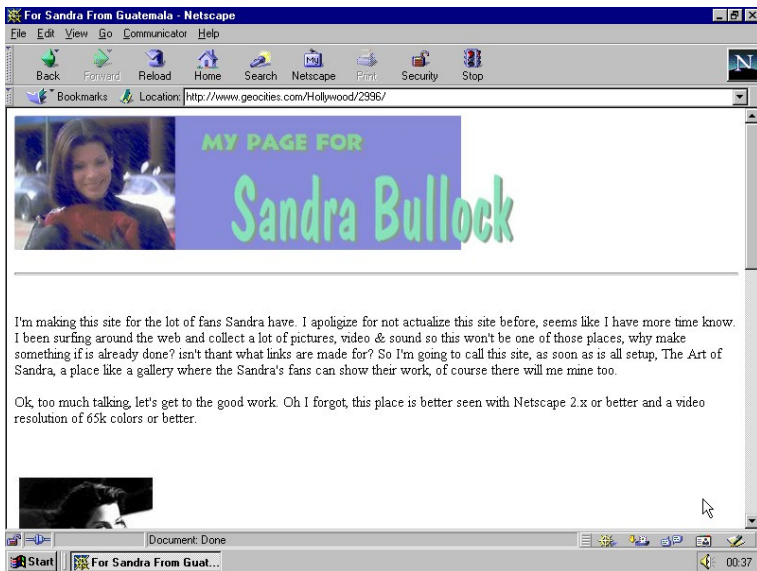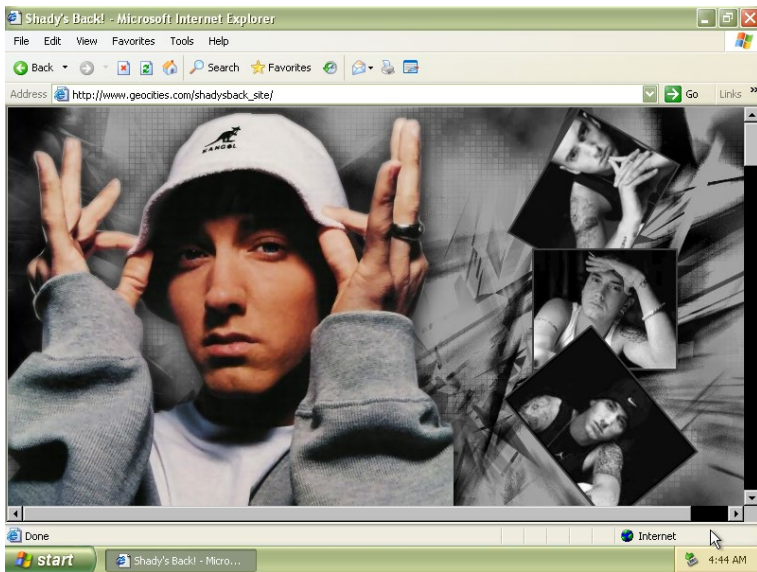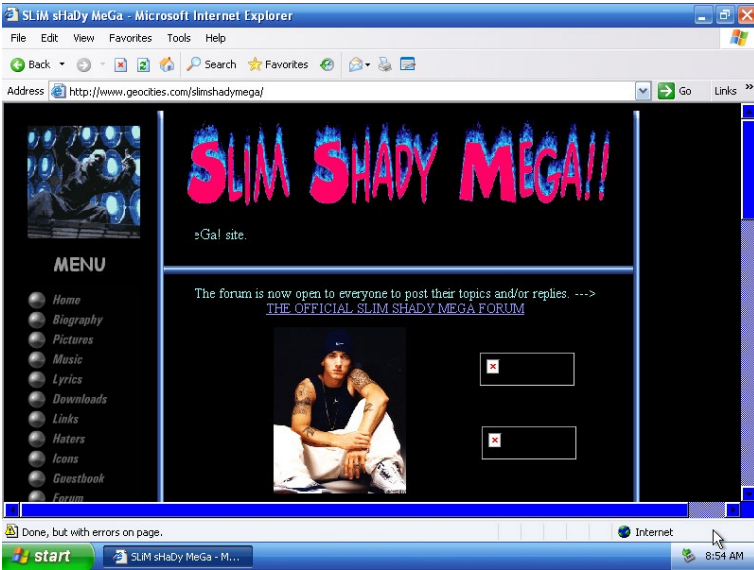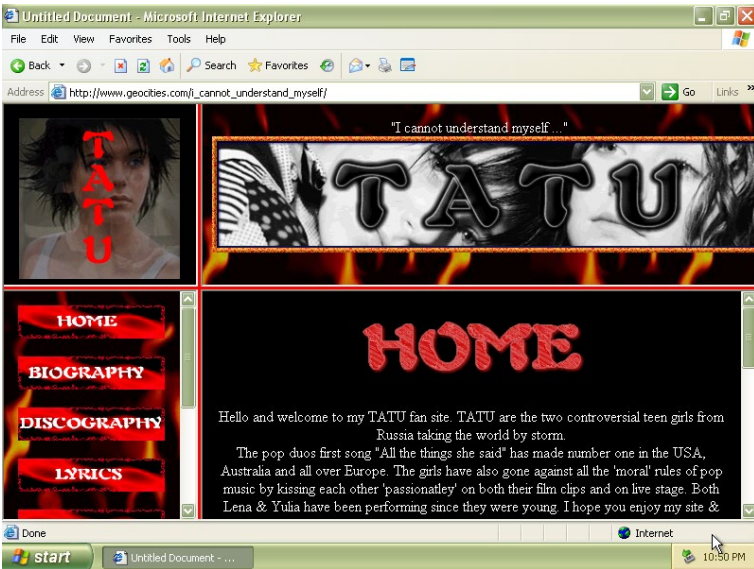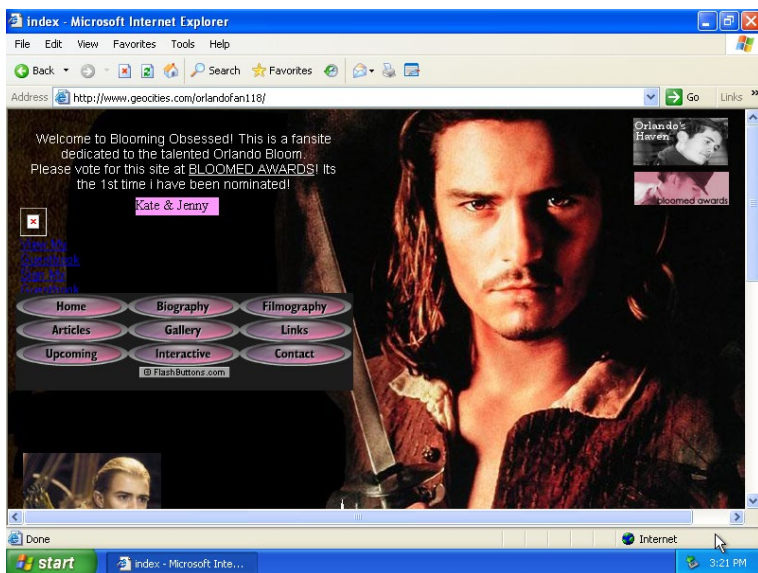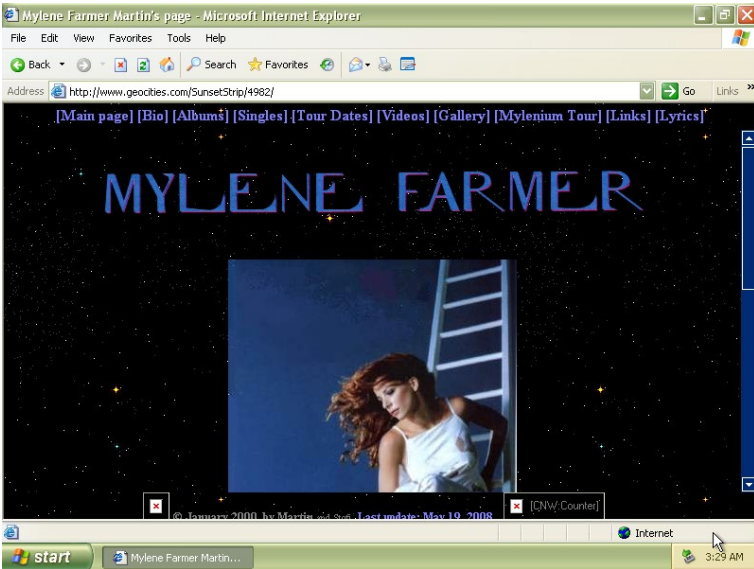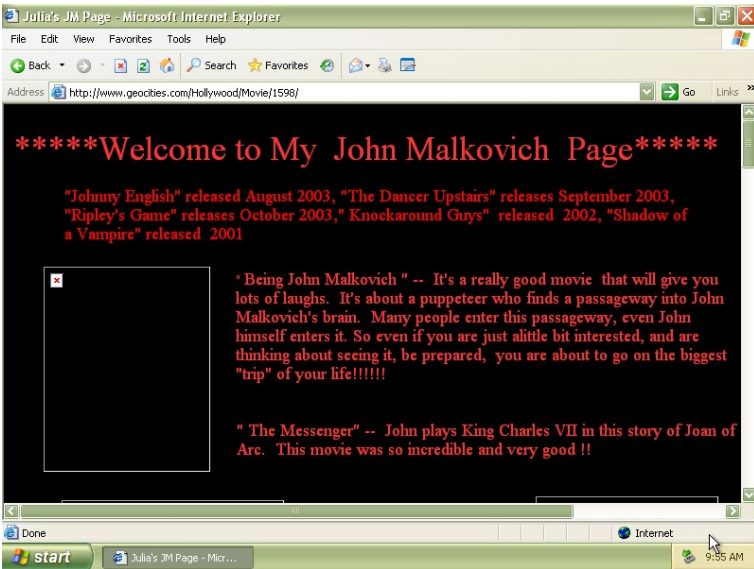
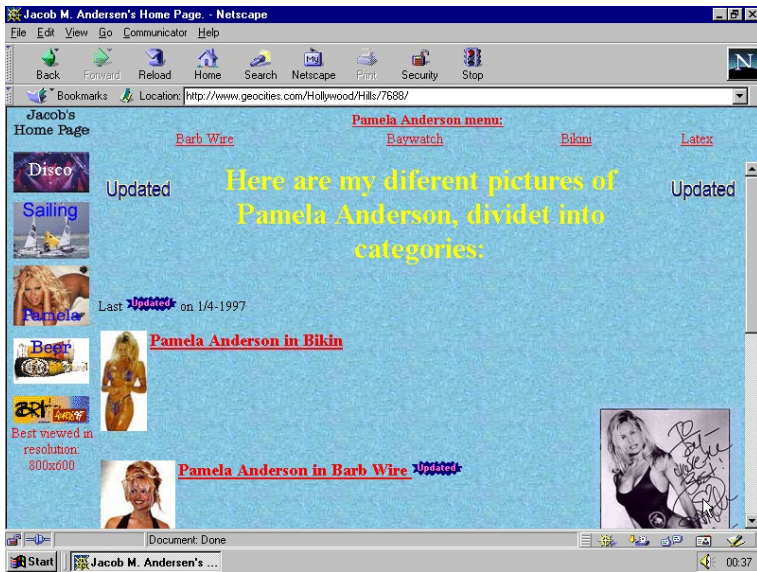Fig. 31

Fig. 32

Fig. 33

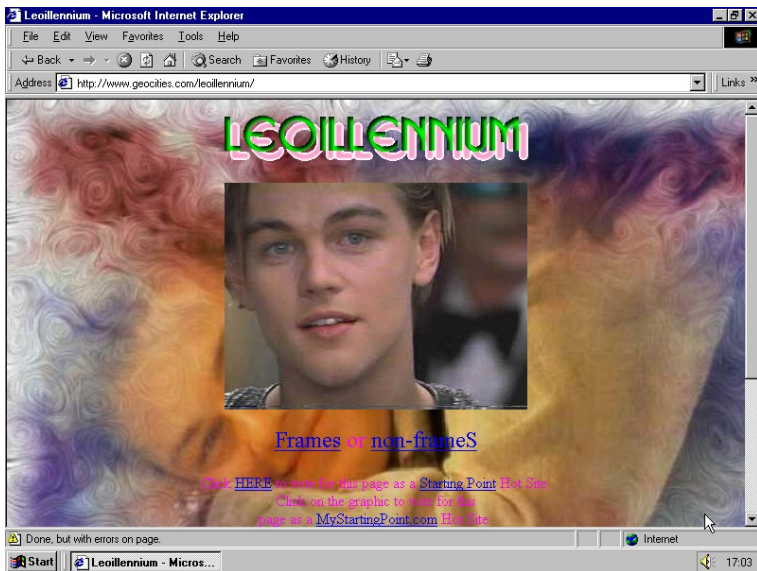Fig. 34

Fig. 35

Fig. 36

Fig. 37

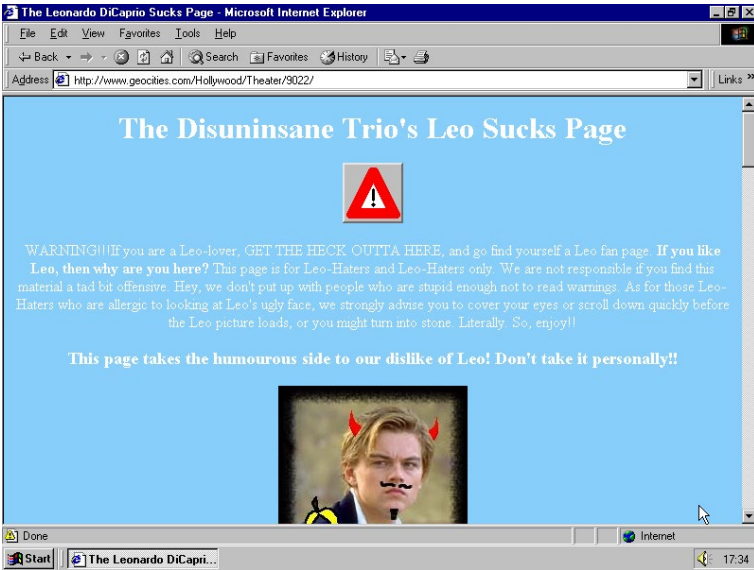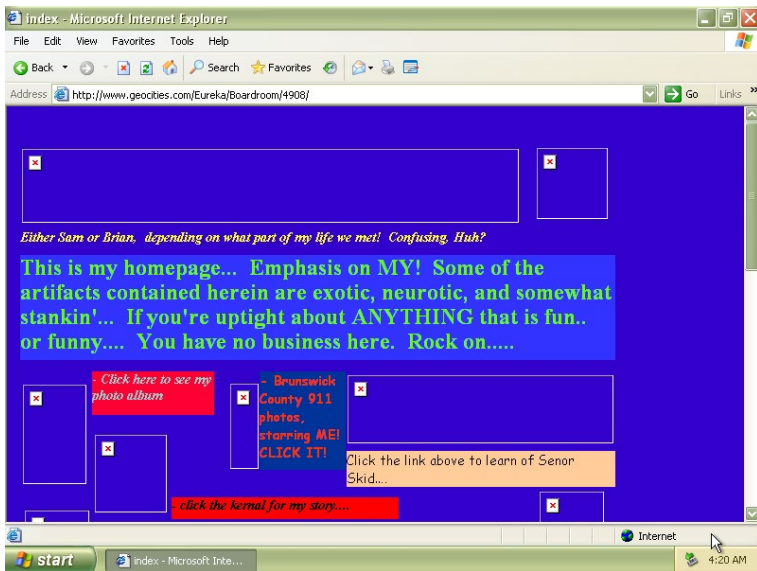Fig. 38

Fig. 39

Fig. 40

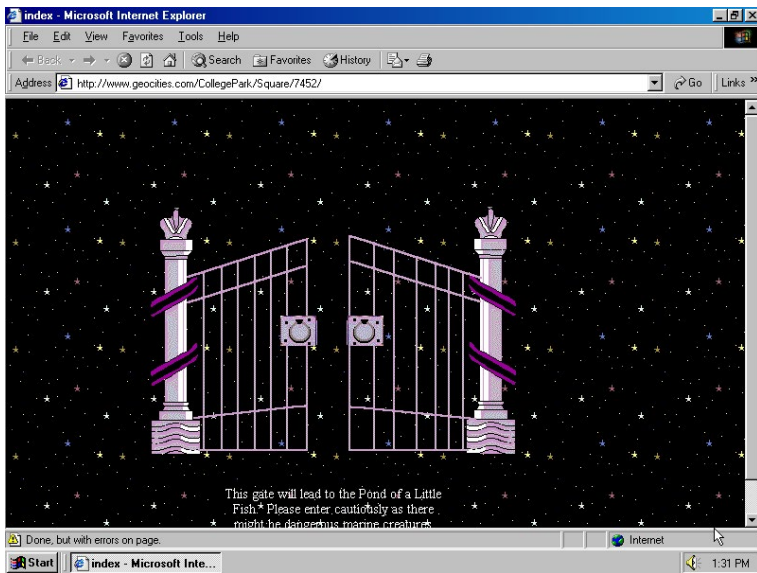Fig. 41

Fig. 42

Fig. 43

Fig. 44

Fig. 45

Fig. 46

Fig. 47
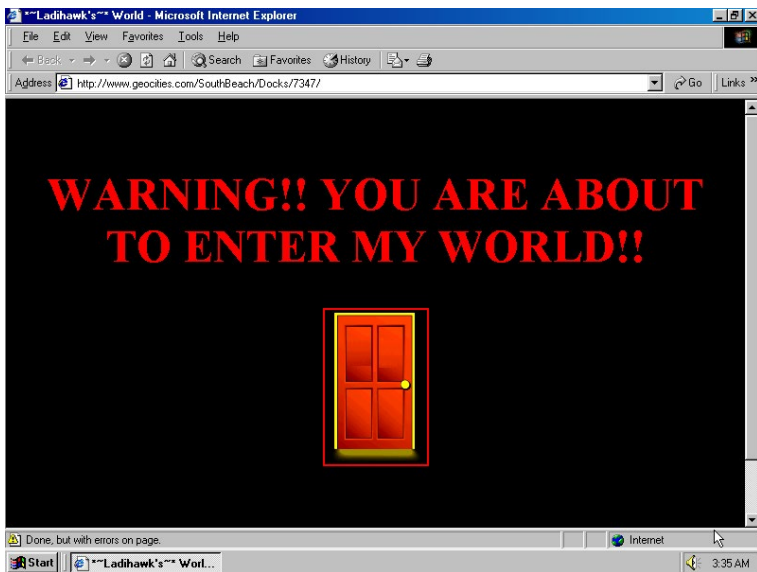
Fig. 48

Fig. 49
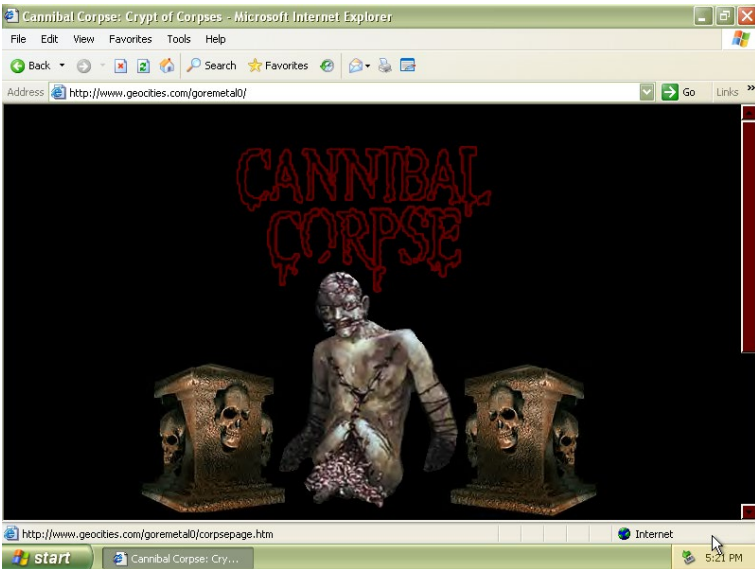
Fig. 50
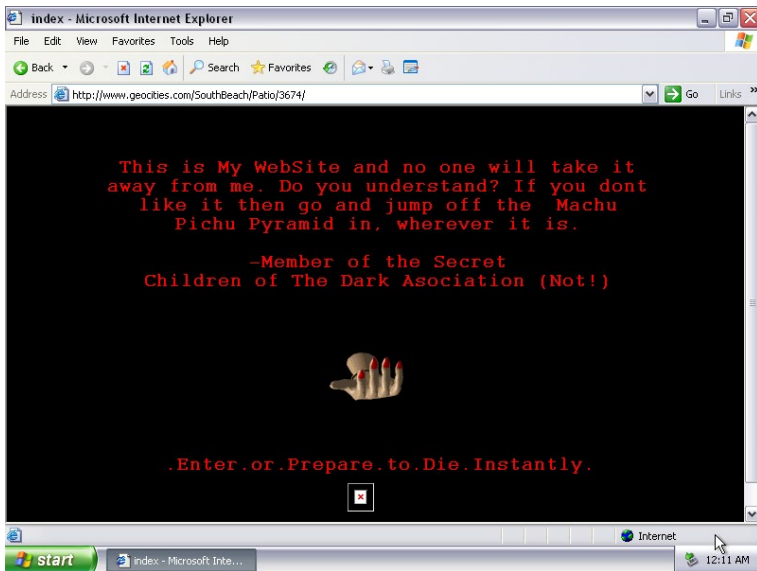
Fig. 51

The growing idea that things can belong to the person who wrote an html code, or scanned pictures, or collected something was unprofitable and dangerous. Today, users put a gate or a door on their page [Fig.47,48]. And what tomorrow? Will they start to think that the files behind them belong to them? And the day after tomorrow, will they come round to thinking hat their data should not be exposed or sold?

Today they change the colour of the scroll bar [Fig. 49,50] adapting it to the theme of their imaginary world, so what's next? Will they come around to the idea of installing a browser extension, or write one!

Dangerous! [Fig.51]

Fig. 52

Fig. 53

So much to do today:
kill memory, kill pain,
turn heart into stone,
and yet prepare to live again.
— *Anna Akhmatova*

AbOuT mE

I am yet another person with yet another homepage. What makes me different? Probably not much, other than the fact that I'm me and there's no one else like me in the rest of the entire world.

I am a strange girl. Not entirely sane, I continue my strange existence in beautiful San Francisco, California. I like it here. It's a very interesting city with plenty of exciting people to see and converse with. I blend in nicely with the rest of the freaks (yeah, that's me). And I just got the best tattoo on my spine on my lower back! This is the design.

Anyway...How do I live out my intensely boring life, you say? 90% of the time I work. And if I'm not working, I'm usually writing or complaining to a friend about all the pitfalls and shortcomings of my life. Great fun, no? But I do write a lot. I even have a novel started-but that's about all I've done with it, is start it. I write poetry every so often. It's not that great, but it's a hobby anyway.
I also spend a lot of time sailing. (Or at least wishing I was sailing.) From Feb. to April of this year, I spent two months living aboard a 145-foot square-topsail schooner (AKA a big sailboat) in the Sea of Cortez and the Pacific Ocean in Mexico. Wanna see some pictures of the ship? Here is a close-up pic of the ship. Here is a pic of the ship under the Golden Gate Bridge in San Francisco. Here is a pic of the ship against the sunset. Pretty, no? This was a trip that was the first of it's kind in

Fig. 54

All about me & more

who am I?? good question...as soon as I figure it out I will
let you know

Vacation   Florida Trip   FOTOS   My LINKS   SPORTS

GuessBook Sign

READ Comments

Email:
geinier@yahoo.com
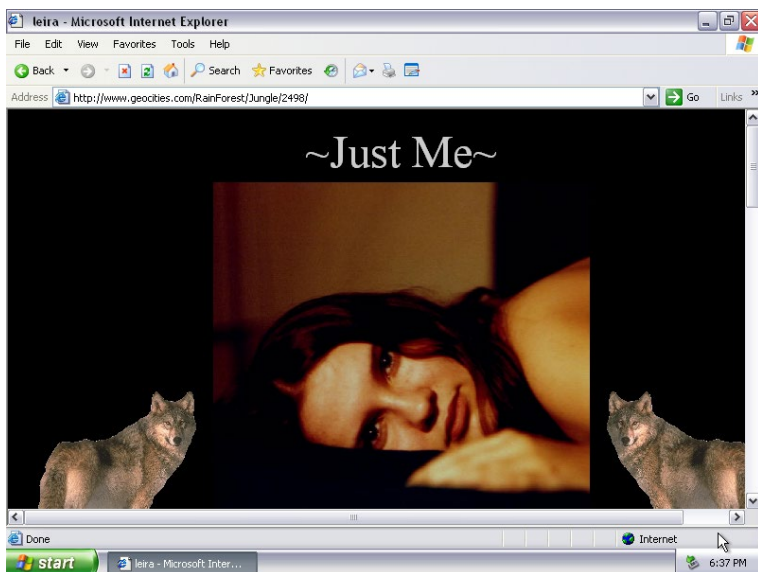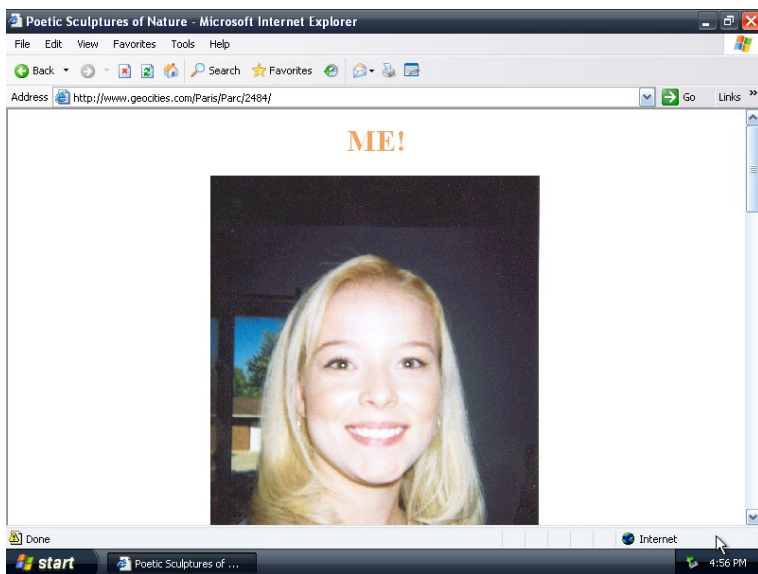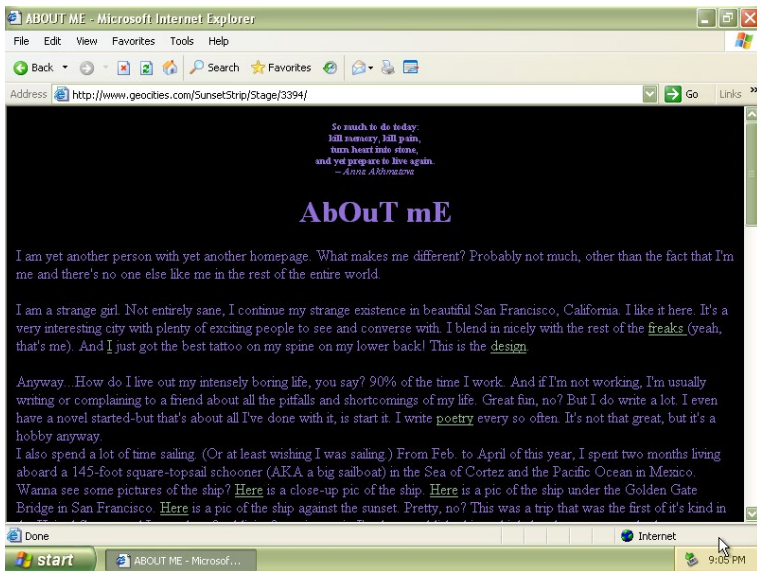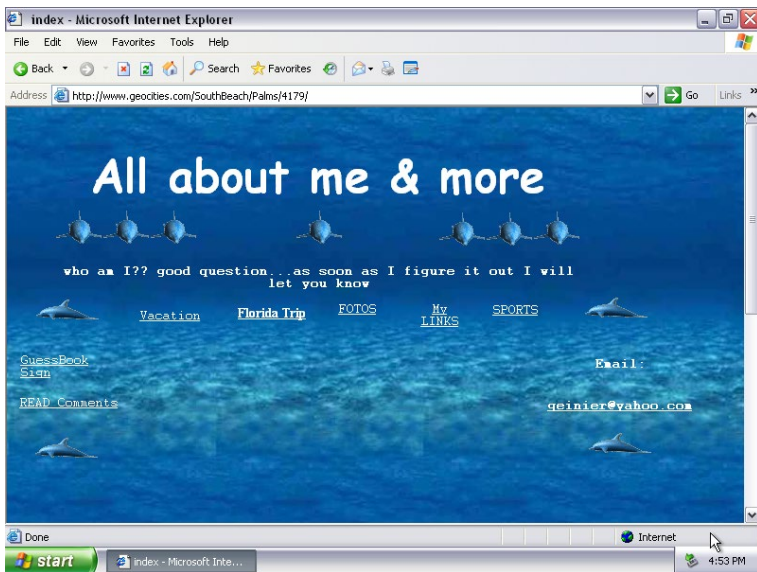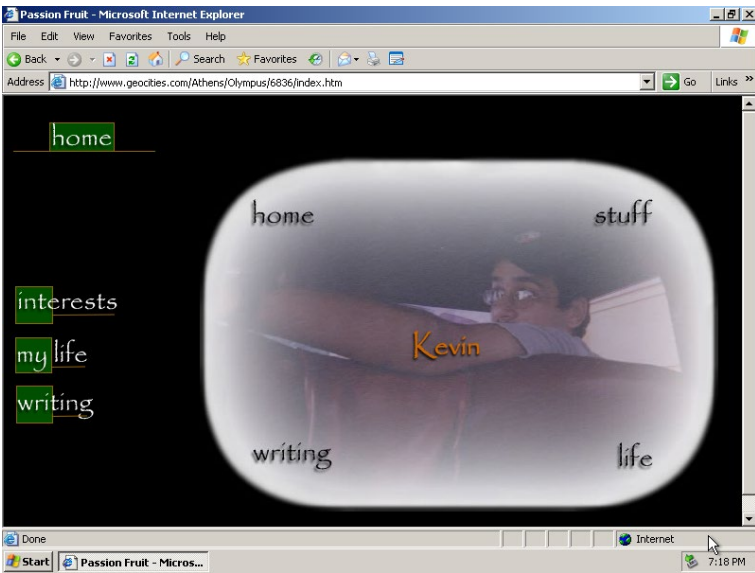
Fig. 55

177

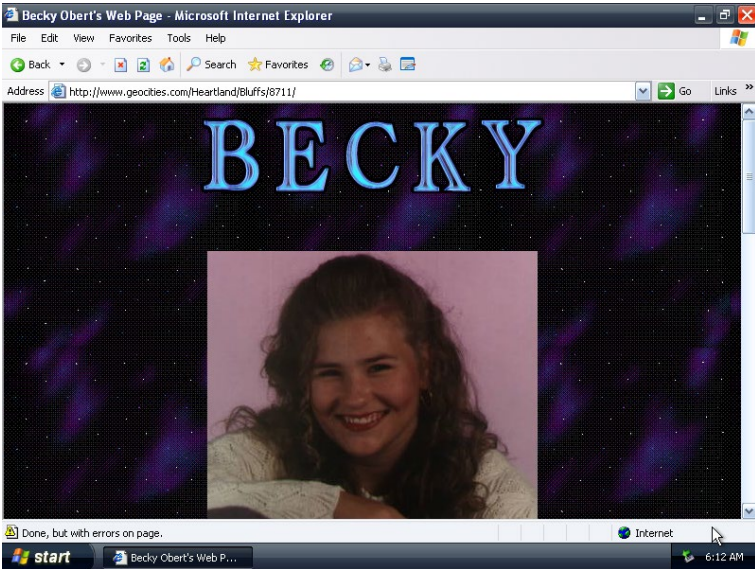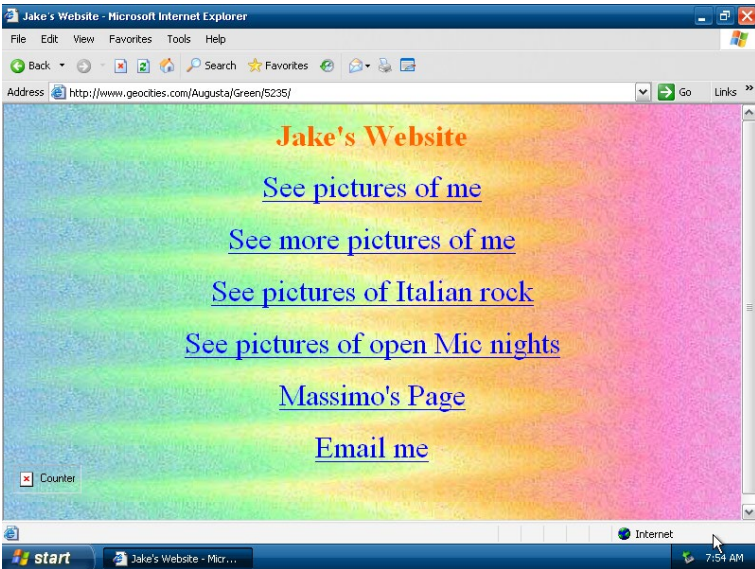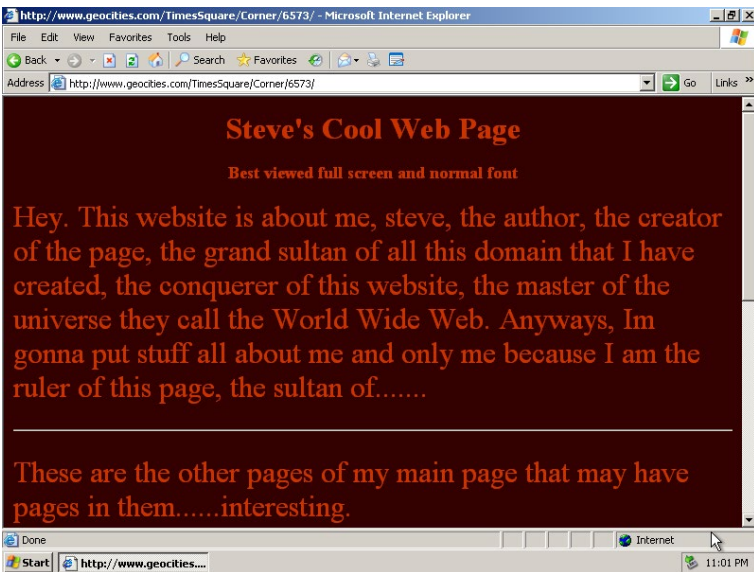Fig. 56

Fig. 57

Fig. 58

Fig. 59

179

Fig. 60

Fig. 61

180

Through the second part of the 90s, service providers took many actions to reduce and restrict: rewriting Terms of Service (ToS) and taking away frameworks,[69] not developing tools that would make it easy to update and communicate – editors, guestbooks, or web rings; and developing tools and services that would (theoretically) require the least effort, simultaneously promoting the idea of IRL, of some real life[70] that you were allegedly missing when making your web page.

But the smartest and most effective move the industry made (the aforementioned measures wouldn't work without it) was to push people from My to Me. To introduce forms that would motivate people to see themselves as the main – and then the only – content of what they do online. I'd like to stress that although early web pages (or home pages) are remembered as personal, the person who made it was not the initial content; that turn took place later.[71]

Just ME! Me! I'm me and there is no one else like me in the rest of the entire world. All about me and more. John, Kevin, Becky, Jake, Jason, Steve. [Fig.52–61]

Alongside the motivation to promote your ME that came from manuals and articles, there were some smaller, almost technical steps made by providers.

69 "In protest of Section 8", https://blog.geocities.institute/archives/5049, "is death for WEB sites as us" https://blog.geocities.institute/archives/6144, access january 21, 2021.

70 "I assume you have a life away from your computer screen", McFedries, *The Complete Idiot's Guide to Creating an HTML Web Page*, p. xvi.

71 David Bohnett in an unpublished interview on January 26, 2019: "[…] it [GeoCities] was also intended to be thematic and subject matter based. It never even occurred to me that people would like to talk about themselves and talk about where they eat and where they want to make it. So, it was all about themes and that's why you have a neighborhood of themes."
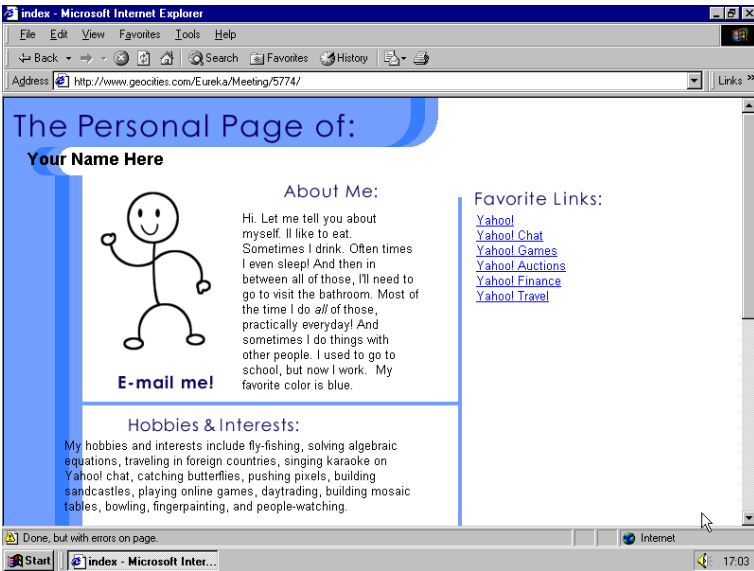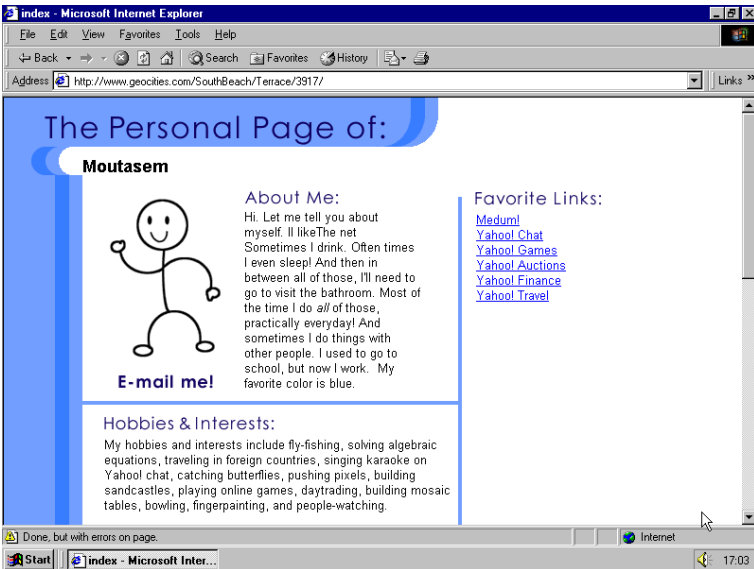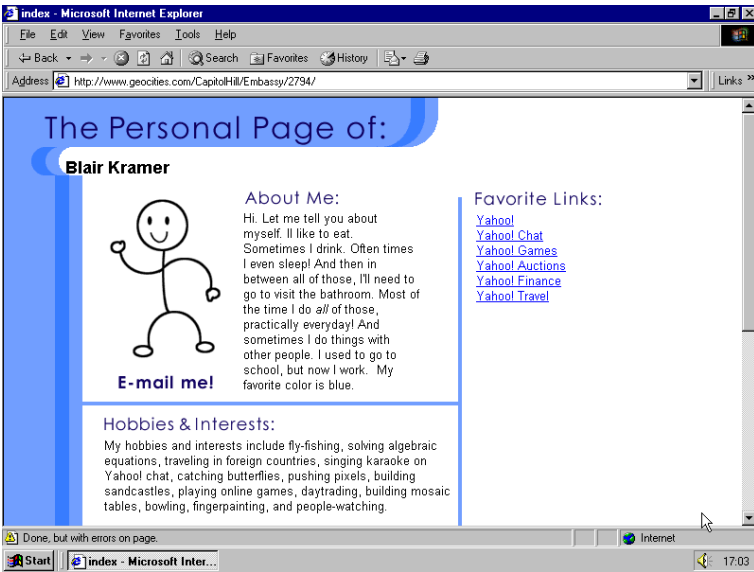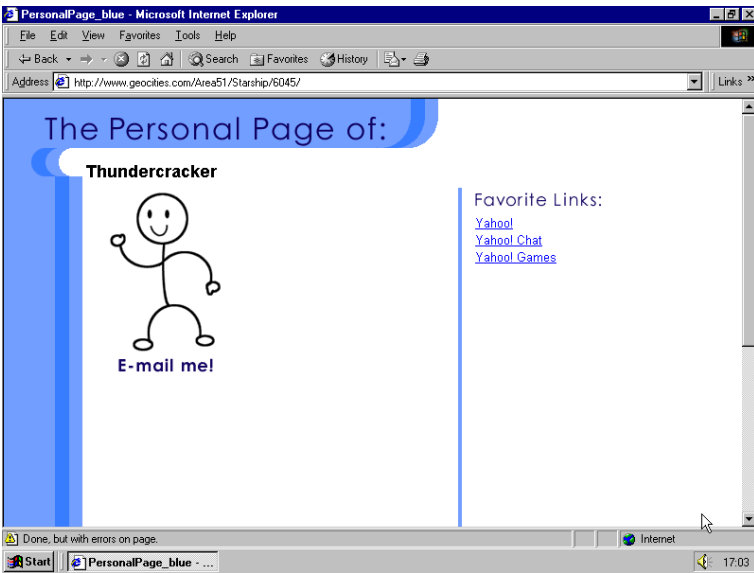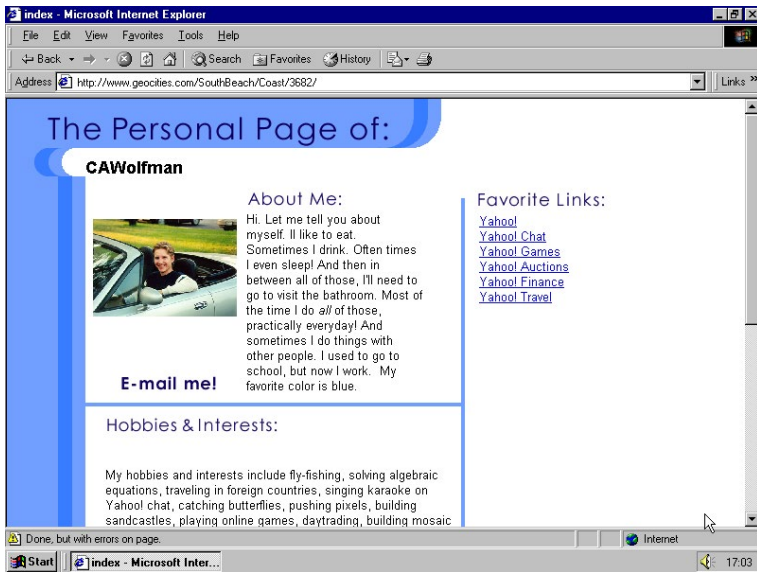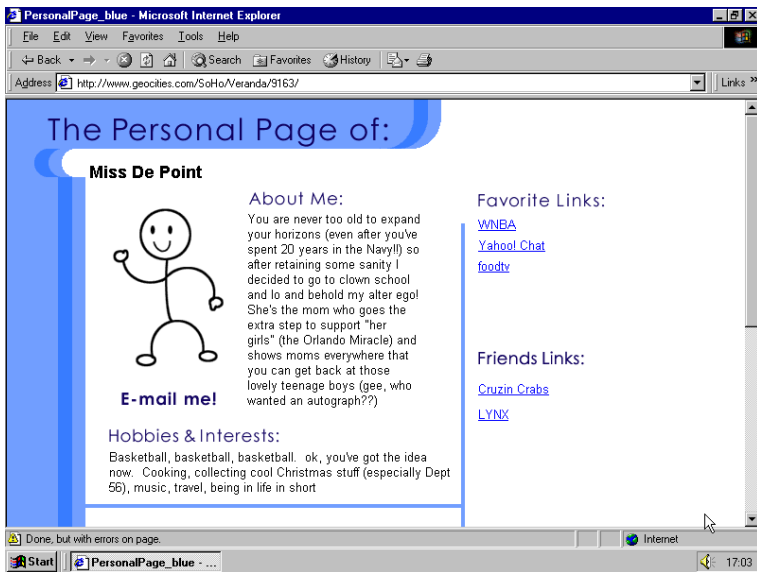
Fig. 62

Fig. 63

Fig. 64

Fig. 65

Fig. 66

Fig. 67

184

For example, as soon as Yahoo bought GeoCities they replaced the sample pages discussed above with templates. Personal Page Blue, introduced in summer 1999, is maybe the best known.[72] What you see in Fig.62 is not only the original design, but also the original text, that in humorous form invited you not to be shy and to talk about yourself:

> *Hi. Let me tell you about myself. Il [sic] like to eat. Sometimes I drink. Often I even sleep! And then in between all of those, I'll need to go to visit the bathroom. Most of the time I do all of those, practically every day! And sometimes I do things with other people. I used to go to school, but now I work. My favorite color is blue. [Fig. 63, 64]*

Many registered their profiles but didn't bother to change the text or never got to that point [Fig.65–67]. Text removed, picture exchanged, text exchanged, but not the picture. All possible combinations and variations, which never led to a page that would grow or be updated.[73]

Another frequently picked and abandoned "About Me" template was techie2; it was reminiscent of the Matrix fonts and colour combinations [Fig. 68–70].

I want to believe that Fig. 71 is Mark Zuckerberg trying out GeoCities by moving in the Wall Street neighbourhood three months before Facebook got operational. But I know there are good arguments to prove me wrong. The screenshot in Fig.72 is almost identical, but pay attention to the address line.

It is not in the neighbourhood,[74] but is a vanity profile – also a change introduced by Yahoo in 1999, another measure to make people think in terms of "me" not "my" categories.

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72 There are 2124 specimens in the GeoCities Archive.

73 More about GeoCities users trying to cope with the template in my post PersonalPageBlue: https://blog.geocities.institute/archives/2736 (2011); access: October 29, 2020.

74 A comprehensive list of all GeoCities Homestead Neighbourhoods and Suburbs by Blade: https://www.bladesplace.id.au/geocities-neighborhoods-suburbs.html; access: October 29, 2020.
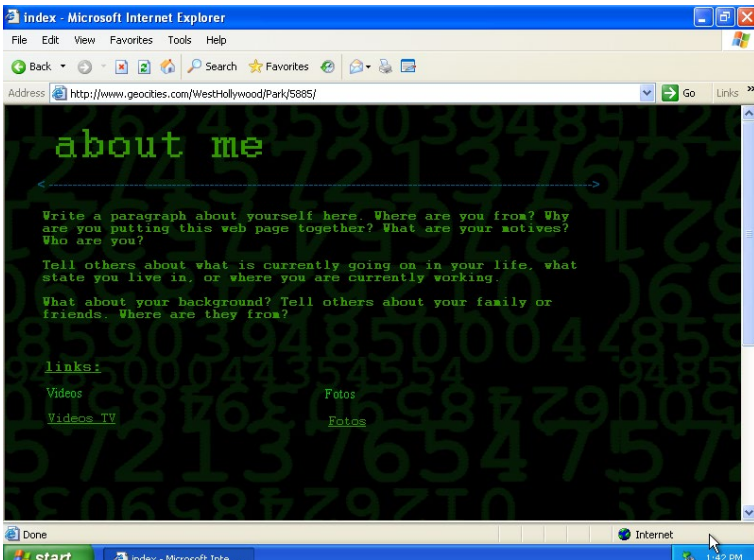
Fig. 68
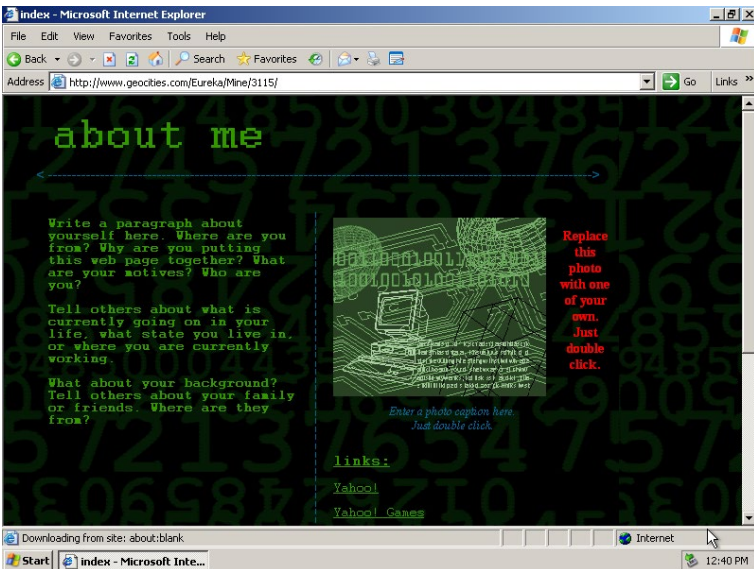
Fig. 69

Fig. 70
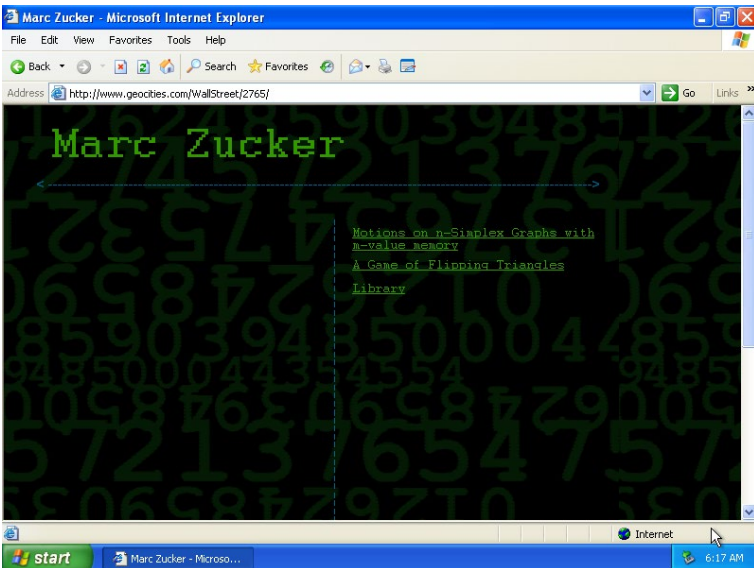
Fig. 71
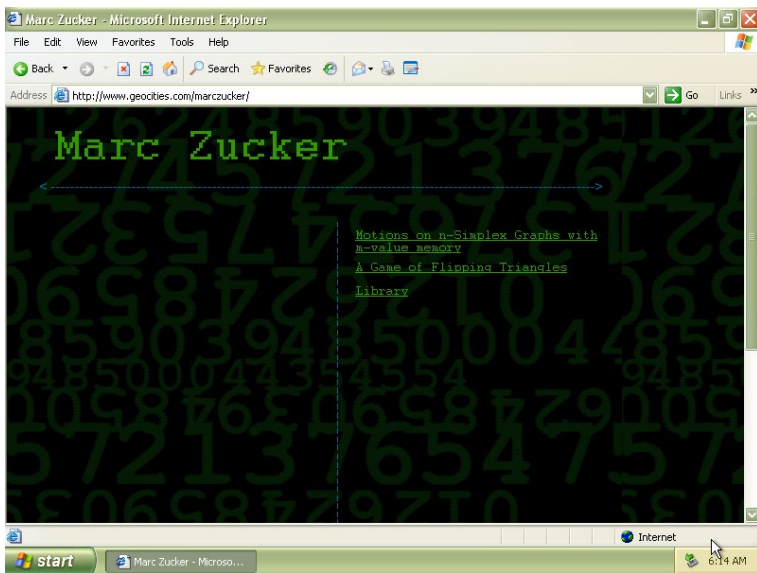
Fig. 72

Recently, at a One Terabyte Age workshop, a participant asked if it would make sense to visualise this rise of Me by arranging the pages according to the position of the About Me button in the navigation menu and see how it developed over time. I thought this would be rather a simplification and would object to the algorithmic approach, anyway, but what I saw with my own eyes would confirm that the About Me button indeed made itself a career and moved from the bottom to the top [Fig. 73–77].

In later history (Facebook), we would be able to remember the switch to the timeline, which was a push in the direction of telling the story of your life,[75] to immerse in the history of your "me."

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75 At the end of 2011, Facebook introduced a new layout and structure for their users' profiles – Timeline – described by the company itself in the Help section as: "your collection of the photos, stories, and experiences that tell your story." Anticipating its success, Wired described it as even more monumental: "Timeline is potentially an omnivorous collector of personal data that you can format to tell your story." Steven Levy, With Timeline, Facebook bids to reinvent the social biography. *Wired*, November 11, 2011, https://www.wired.com/2011/11/timeline-facebook/; access: October 29, 2020.

Fig. 73

Fig. 74

189
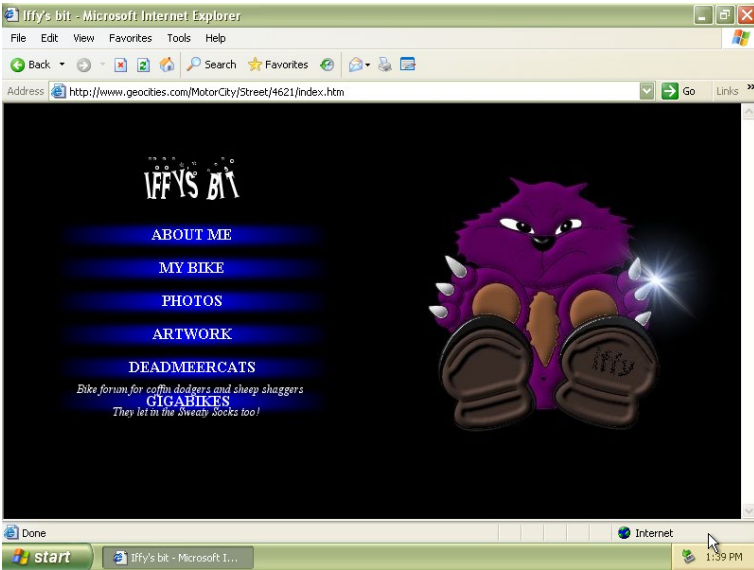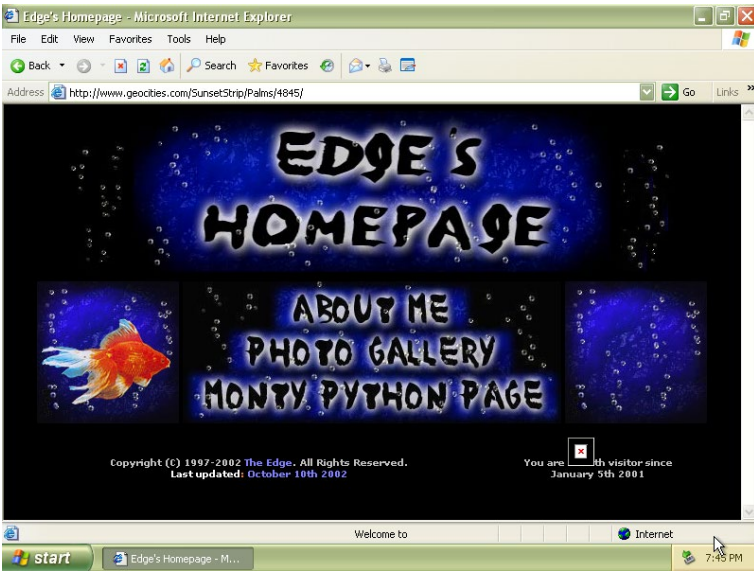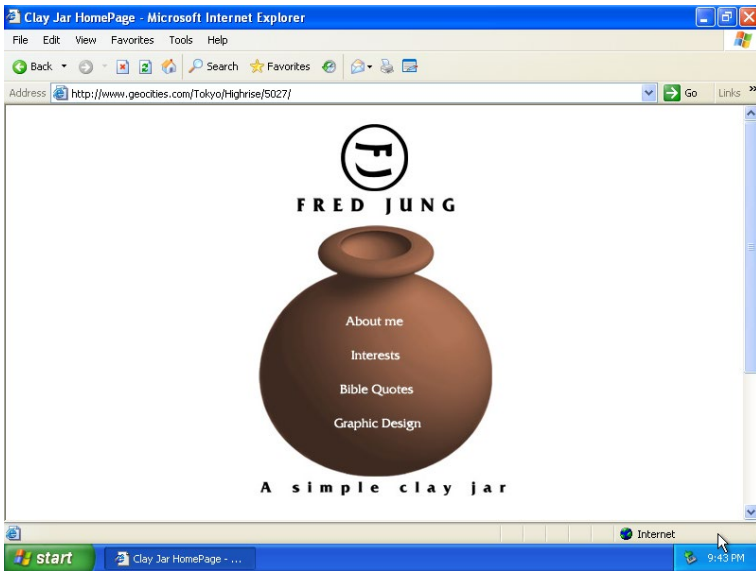
Fig. 75
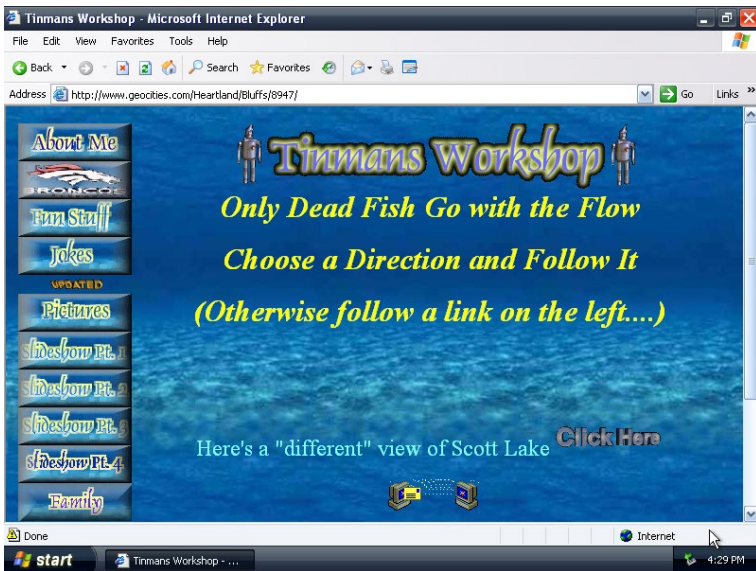
Fig. 76
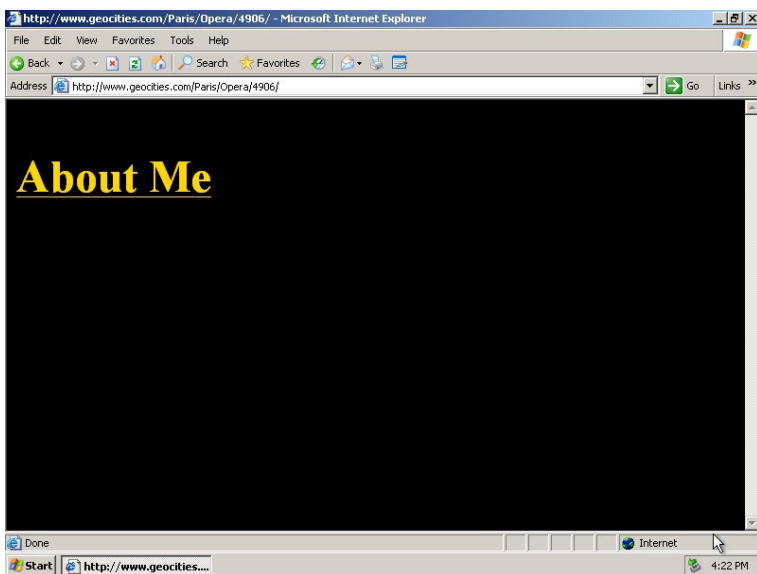
Fig. 77

I think it is also possible to distinguish the pinnacle of the transition from My to Me. It was very well highlighted (or even pushed) by the Person of the Year 2006 cover of Time Magazine.[76] You (me) were praised and celebrated and left in front of the mirror, to make selfies and post them on channels that would go bankrupt if their users didn't produce – and produce for free.

Where My was dangerous, Me was perfect. Me is cheap, Me is easy to control, Me is easy to channel, Me is slave of its own reflection, Me is a slave of the platforms that make the reflection glossy. Me is data. Me is data closest to metadata. This makes Me just perfect to satisfy advertisers and to sate neural networks.

What can be done? How to reclaim My?

Don't collaborate! Don't post your texts where you are not allowed to turn it into hypertext.

76 https://en.wikipedia.org/wiki/You_(Time_Person_of_the_Year); access: October 29, 2020.

Don't post your pictures where you can't link them to whatever you like. Don't use content management systems that turn your GIFs into JPEGs. Don't use hashtags, don't accept algorithmic timelines. In short, make a web page and link to others who still have one.

Leaving monopolists and/or using alternatives is easy to suggest. And many of us made the first step – for example, created a page on neocities.org or on tilde.club, or even bought a superglue.it kit and hosted their home page at their actual home, supporting the Reclaim hosting initiative.

In December 2019, I asked the founders of the aforementioned projects whether they thought all these 5-year-old initiatives were still active. They were not optimistic about winning the competition with the giants (Dan Phiffer[77] rightfully pointed me to the fact that I asked him about the Tilde Club not on Tilde Club but on Twitter). At the same time, Vasiliev's,[78] Drake's[79] and Ford's[80] answers – as well as Jim Groves' aforementioned thoughts on "homeless" – suggested that in 2020 there would be more reasons to emancipate than in 2013, or better to say those reasons are stronger in 2020 than in 2013, and that may be the time and the motivation to leave.

---

77 "This is how I started using the Internet in 1998, when I started college. This is the future I would like to displace the corporate social media dystopia. But here we are on twitter dot com still, so it's all a work in progress. Tilde itself is just one attempt of many to create an alternative. See also: http://mltshp.com, http://are.na, Mastodon, Secure Scuttlebutt, etc." Dan Pfeifer, DM Twitter, January 16, 2020.

78 "While the reasons for one wanting to have their own 'corner of cyberspace' are now much more defined, today's average users are looking for hand-holding help for actually doing it. Contemporary users are not like the bravehearts of the 90s and it feels to me that making self-hosted platforms less nerdy and more 'popular' (without making it dumb, of course) would help the people in rebuilding the Web we lost." Danja Vasiliev in personal email on January 13, 2020.

79 "I do think that one of the trends we will see over the next few years is a general exodus from social networks into saner alternatives – and I do believe one of those main alternatives will be creating personal websites again, where you have complete control over how you present yourself and what content you want to provide, and in what arrangement." Kyle Drake in personal email January 6, 2020.

80 "I am certain we need more spaces like this, places where you can experiment and be both dumb and kind in equal measure and people either leave you to it, or help you along." Paul Ford on September 17, 2020 on http://tilde.club/~ford/; access: October 29, 2020.

But to quote developer and passionate "tilderer" Jon Bell: "How can we make something like this last longer than a sunrise?"

I think that leaving the platforms and meeting somewhere else is not enough, or not even the biggest deal. The challenge is to get away from Me, from the idea that you are the centre of your online presence. Don't take this imposed, artificial role into the new environments. It will poison and corrupt the best of initiatives.
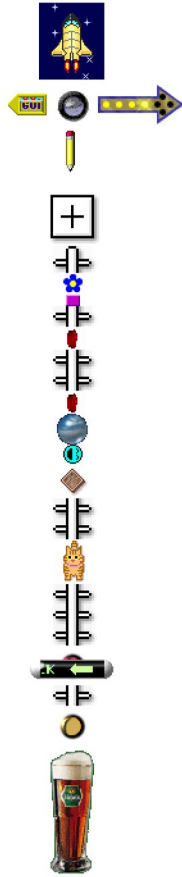
User Rights (2013)

In "Turing Complete User" (October 2012), I stated that the development of the Invisible Computer results in the creation of an Invisible User. We need to keep both the term and the idea of the user alive, to insure that users – those who use a system they haven't developed – don't lose either their rights or the opportunity to protect them. In the article I only briefly mention what these user rights could be.

Now I'd like to invite computer users to elaborate and suggest points (long or short) that should be included in a Bill Of Computer Users Rights. Please participate! At the moment we need to collect varying opinions. Don't think that it's only about big issues like free software or data privacy. Demand to have a back button, if its absence infringes upon your rights as a computer user!

userrights.contemporary-home-computing.org

olia lialina, 2013-10-04

Editorial note: The following thread is taken from userrights.contemporary-home-computing.org.

The contributers' original writing style and form of the comments have been preserved.

We, Computer Users, demand the right to …

UNDO

suggested by **olia lialina** on 2013-10-06

agree 47 disagree 1

UNDO was a gift from developers to users, a luxury a programmable system can provide. It became an everyday luxury with the first GUI and turned into a standard for desktop OSs to follow. Things changed with the arrival of smart phones: neither Android nor Windows phone nor Blackberry provide a cross application alternative to CTRL+Z (the iPhone gave to its users "shake to undo"). What is the logic of these devices' developers? Not enough space on the nice touch surface for undo button; idea that users should follow some exact path (app logic) that would lead somewhere anyway; promise that the "experience" (interface) is so smooth that you won't even need this function.

Should we believe it and give up? NO!

There are at least 3 reasons

1st: UNDO is one of not many generic ("stupid") commands. It follows a convention without sticking its nose into user's business.

2nd: UNDO has a historical importance. It marks the beginning of the period when comput-ers started to be used by people who didn't program them, the arrival of the real user and the naive user. The function was first mentioned in the 1976 IBM research report "Behavioral Issues in the Use of Interactive Systems" by Lance A. Miller and John C. Thomas. They outlined the necessity to provide future users with UNDO: "the benefit to the user in having – even knowing – of a capability to withdraw a command could be quite important (e.g, easing the acute distress often experienced by new users, who are worried about 'doing something wrong')."

3rd: UNDO is the border line between the Virtual and the Real World everybody is so keen to grasp. You can't undo IRL. If you can't undo it means you are IRL or on Android.

And apart from it, UNDO is the only time traveling technology we've got for the moment. Bit by bit into the past!

securely delete my history

suggested by [no name] on 2013-10-11

agree 31 disagree 1

comment by **despens** on 2013-10-12: I think this right is formulated too specialized. The real demand should be that all data is exposed to the user in an universal, manageable way, for example the file system (see the right to access the file system and organize my data), preferably in clear text format.

If the browser's history is saved in ~/.browser/history.txt there is no need to demand a function especially for the deletion of this data. In fact, many more things than deletion could be made, for example syncing, manipulation, etc. This is not possible if software is putting everything into databases that require extra knowledge to handle.

have an "export" function

suggested by **olia lialina** on 2013-10-07

agree 28 disagree 0

I borrow it from the talk "Where are the Files" Jason Scott gave in Stuttgart in 2012 http://www.merz-akademie.de/lectures/where-are-the-files. He argues (1:06:50) that you should never ever import anything to services which are unclear about their export responsibilities. Probably this point should become a sub-point of own data right.

Comment by **Danja Vasiliev** on 2013-12-23: this export function shall also be based on Open Document or Open File Format specifications.

use free software on your own computer

suggested by **olia lialina** on 2013-10-04

agree 27 disagree 0

I took it from The Free Software Foundation http://www.fsf.org/about/ "use free software on your own computer (and advocate within your business or community for others to adopt it)".

Comment by **davidm** on 2013-12-16: This is really the basic stepping stone on which the rest of the manifesto should rest. But free software must also follow the other rules we decide.

Comment by **Danja Vasiliev** on 2013-12-23: this right is often violated by the systems that don't let users to install software outside AppStores (or intentionally make this process too complicated for inexperienced users)

ignore updates

suggested by **olia lialina** on 2013-10-14
agree 24 disagree 0

No question, it is vital to update. If there is anything that is in the nature of new media it is updatability. And there are many cases when you are longing for an update and would rather demand the right to update 24/7. At the same time users are forced to update, though newer version doesn't mean better version, and better version doesn't mean that it is better for everybody. Quality is not the only issue. Another argument against forced updates is that they lead to alienation, because users are denied the chance to get attached to a particular program or operating system.

Comment by **Flick Harrison** on 2013-10-16: The cardinal rule of critical systems is "don't update willy-nilly." If my main machine did an update that killed something, while I was on deadline, oooooooohhhhhhh angry. It's also smart to avoid .0 releases, because these days beta-testing often happens in the marketplace.

Comment by **Selbylouwho** on 2013-10-17: And what about the right to ignore the "agree to these terms and conditions"?

Comment by **San Nuvola** on 2013-10-20: Terms and conditions are merely a way for website owners to discharge responsibility on the one hand, and to maintain banning/moderation power over the users. Maybe it's better to empower users by letting them impose their own terms of usage – i.e. usage as active praxis rather than something conceded by platforms. Or to negotiate them (this is applicable to updates as well, in the general tension towards user rights).

Comment by **olia lialina** on 2013-12-09: After updating my Android, I want to add: no auto updates, no auto back-ups, no auto awesomeness.

Comment by **NewMedians** on 2013-12-23: We like to be able to stick to older versions of our software but rage about inability of upgrading hardware.

see the URL from which content is displayed

suggested by **Danny Birchall** on 2013-10-07

agree 22 disagree 0

"Trust" in a browser context extends beyond the mechanical issuing and acceptance of HTTPS certificates. Through years of use, we have learned to read URLs as human statements and intentions of ownership and architecture, from the top level domain to the directory structure. Typically, technocratic content "management" systems have obscured these, to the detriment of the user: a well-formed URL is the first element of metadata about a web page that a user encounters, and it tells us something. Link shorteners like bit.ly initially obscure a URL, but the browser leads you to it eventually. Inside an app, things are different. Because web pages returned natively from the web remain an important source of structured information, many apps include an embedded browser function to display data directly from the WWW. Many omit the browser's "location" bar, and thus obscure the source of the information. The user's well-honed URL-reading skills are ignored, and the larger context of the web replaced with the narrow context of the app. A URL attached to content makes that content both addressable and accountable. All web-based content should come with its URL attached.

Comment by **despens** on 2013-10-07: Firefox on Android doesn't show URLs by default. At least it can be changed via a setting http://support.mozilla.org/en-US/kb/use-awesome-screen-search-firefox-android#w_how-to-set-firefox-to-always-show-the-url-in-the-address-bar

Comment by **Brendan Howell** on 2013-12-18: Indeed, and if you ever open the network tab in the developer view for some crappy big media web site it can be shocking to see all the tracking, ads and API crap that gets loaded from dozens of different servers.

Comment by **Danja Vasiliev** on 2013-12-23: see type of protocol being used – modern browsers tend to remove 'http://' part of URLs

Comment by **olia lialina** on 2014-02-17: URL is a weapon and the key to survival online. Read for example Addie Wagenknecht's FREE INTERNET FOREVER!!!! http://fffff.at/freewifi/ "When you try to load a page, the router will automatically redirect you to the login page: look at the URL, because from there you can see which system the airport is using."

Comment by **olia lialina** on 2014-05-01: Chrome is removing URL http://soylentnews.org/article.pl?sid=14/05/01/1428233&from=rss

Comment by **olia lialina** on 2014-05-02: https://news.ycombinator.com/item?id=7678580 good discussion under the post by Paul Irish "This is a new UI experiment that's deployed to a small fraction of users. We're looking at a few key metrics to see if this change is a net positive for Chrome users."

Comment by **olia lialina** on 2015-03-15: Seeing the actual URL is off by default and filed under 'Advanced'. http://t.co/ltAvtdBcBs https://twitter.com/despens/status/576168318903652352

Comment by **olia lialina** on 2018-10-09: https://www.wired.com/story/google-wants-to-kill-the-url/ "Whatever we propose is going to be controversial. But it's important we do something, because everyone is unsatisfied by URLs. They kind of suck."

own data

suggested by **olia lialina** on 2013-10-04
agree 21 disagree 0

It is the #1 demand of the User Data Manifesto by ownCloud founder Frank Karlitschek http://userdatamanifesto.org/ "The data that someone directly or indirectly creates belongs to the person who created it." The manifesto suggests 7 further points to regulate the relation between users and clouds.

Comment by **despens** on 2013-10-11: Frank's follow-up points define this more clearly what exactly is meant, he uses "ownership" as metaphor for a combination of knowledge and control: It is possible to find out everything about "my" data and to define what happens with it, without being at the mercy of somebody else. The manifesto's weakness is the spongy establishment of the user-data relation: "The data that someone directly or indirectly creates belongs to the person who created it." This makes the idea of ownership difficult, for example this could be an argument for DRM and surveillance architecture. In my opinion, digital culture is practices, not artifacts. Why not discuss processes instead of objects like files or "data" (as a "substance" that files or other digital objects are "made of"). Frank's manifesto would work better with ownership not as the foundation but the conclusion: Users should be able to *do* these seven things, if they can, we can call this ownership of data.

Comment by **hugo** on 2014-03-02: I share despens' concerns. I have worked with Frank on a version 2 of the manifesto. Unfortunately, he does not seem to want to change it any more… You can see my draft here https://github.com/hugoroy/user-data-manifesto.

logout

suggested by **florian kuhlmann** on 2013-10-11

agree 19 disagree 0

It's always fine becoming a user, but it must also be always possible to become a #non-user again. for this reason, we need the right to logout.

Comment by **Flick Harrison** on 2013-10-11: Definitely – while logged in, my account is less secure. It is also possible for the service to track me and interact with other services while I am logged in.

Comment by **florian kuhlmann** on 2013-10-14: the right to logout implies also the concept of login whenever you want to and need to. and this right to login-and-logout implies not being kicked out of the system as a punishment for misbehavior.

see the computer

suggested by **olia lialina** on 2013-10-04

agree 21 disagree 2

I see it as a fundamental right, though it won't be easy to advocate for it, because hardware and software industries will not give up the challenge to make computers as tiny as possible. Computer users are convinced as well that a good computer is one that is not visible or at least doesn't look like a computer. Myself, I don't plea for computers made huge and bulky again, at the same time, I believe that even when it is technologically possible to produce a totally invisible computer, the user should see that there is one. Seeing the computer is a necessary pre-condition for coming to the idea to ask "what is this computer doing?" and further questions.

Comment by **Danny Birchall** on 2013-10-07: Focusing on the materiality of computers distracts us from the understanding that power exists, and is constituted in, the network, as James Bridle points out.

Comment by **olia lialina** on 2013-10-07: Danny, I'm talking about visibility, not exactly the same as materiality. Don't know which of Bridle's texts exactly you quote, but I'm sure somebody who makes drones visible won't plea for invisible computer.

Comment by **Dan T.** on 2013-10-08: Well, I bought a new PC earlier this year, of the big heavy desktop variety (Windows 7, none of that Win8 crap) in the midst of all the web articles proclaiming the death of the PC, so I still stand for real solid visible computers myself.

Comment by **despens:** @Danny on 2013-10-11: If I see the computer, I can pull out the network cable or break off the antenna. :)

Comment by **NewMedians** on 2013-12-23: See the computer your data is being processed on. Probably similar to a demand of less computation being done on "cloud" services. If application has some online functionality this software shall not be limited to function exclusively while online.

buy and install software outside "app stores"

suggested by **Max** on 2013-12-17

agree 16 disagree 0

Comment by **despens** on 2014-01-04: Also to create and distribute software outside of "app stores"!

true anonymity

suggested by **San Nuvola** on 2013-10-20

agree 17 disagree 1

Meaning

a) the option to register, comment, interact, contribute content under non-identifiable or anonymous handles,

b) the non-correlability of an IP with a handle, and of an IP with a physical person.

know explicitly what information is being retained due to my interaction with your service/website/network/whatever

suggested by **Charlie Derr** on 2013-10-11

agree 16 disagree 0

Comment by **despens** on 2013-12-16: This demand is very difficult to fulfill because the routing of data on the Internet is extremely complex. There are so many points where some entity could make use of or manipulate any traffic, it is just overwhelming.

read source code

suggested by **Danja Vasiliev** on 2013-10-12

agree 16 disagree 1

and by doing so study the software that we use

Comment by **olia lialina** on 2013-10-12: I would add, that it virtually means that source code should be readable, not just open/available.

Comment by **despens** on 2013-10-12: The border between developers and users is marked by the difference between those who can read, understand and manipulate source code and those who cannot. Generally readable source code is something that works fine for descriptive languages that do not execute (e.g. pure HTML and CSS). Once you enter the level of

turingcompleteness, this demand is misguided, because there is no fixed level of abstraction or meaningful standard on coding style. Instead it should be demanded that languages are available to users that are mostly descriptive and still very powerful, or that a system is based on a certain programming paradigm, for instance the LISP machine or smalltalk or, like the original concept of OLPC, python.

pause media indefinitely and be able to resume where I left off.

suggested by **Dan T.** on 2013-10-08

agree 16 disagree 1

Not everyone has time to go all the way through some long piece of media (video, audio... even a text file!) in one session. It's nice if there's some way to hold your place until next time you return to it. Ancient media tend to be better at this than "modern, hi-tech" ones. A good old-fashioned paper book lets you insert a bookmark. An audio or video cassette will keep its place until you rewind it. Newer media tend to be worse at that. Embedded web audio/video has a tendency to reset, abort, time-out, or otherwise lose its place if you pause it and leave it open in a browser tab for extended periods. Even text articles left open in a browser will sometimes lose their place in "Ajaxy" sites full of gimmicky scripts, auto-refreshing, and the like. And don't get me started on BluRay disks, which manage to step backwards from the slightly-older DVD medium by using "sophisticated" techniques to defeat my DVD player's usual behavior of remembering its place in the current disc even if I power it down and resuming when I turn it back on; BluRays are a crapshoot where some of them will resume, some will ask me if I want to resume, and still others will just start over with the annoying ads. I wish all media gave me the chance to save my place and resume. (Netflix Streaming is actually pretty good in this regard, holding my place in multiple videos / video series.)

Comment by **Flick Harrison** on 2013-10-11: I also hate the way buffering has regressed recently. This makes it difficult to use media in the superior old way – if I want to re-watch a moment I just saw, I click earlier in the stream, and now it ALWAYS starts loading again from the spot I clicked, instead of re-playing the same file I already downloaded. Perhaps it's to do with i-frames and interpolation etc., but that's not my problem as a user... ;-) Cueing media is indeed important for teaching. Students get very distracted watching me fast-forward.

choose none of the above

suggested by **olia lialina** on 2013-10-04

agree 15 disagree 0

I borrowed this line from the subtitle "You May Always Choose None of the Above" of the chapter "Choice" in Douglas Rushkoff's *Program or be Programmed*, 2010, p. 46. Rushkoff doesn't talk about it as a right, but sees it more as a way to protect yourself from the marketers. I see a big potential in turning this appeal into a demand: not to follow the logic of the database, or at least not to accept it is a given. Not to answer male or female, Visa or Mastercard, now or later. If this pattern would be accepted by software developers, it could lead to more ambiguity in design and more advanced interaction scenarios.

Comment by **Flick Harrison** on 2013-10-11: Force-quit is always an option. ;-) http://xkcd.com/1197/ Guy Debord talks about the mania of bureaucracy, that if anyone discovers an option that is not on their menu, they must fight it to the death.

Comment by **Danja Vasiliev** on 2013-12-23: not to have mandatory fields in web forms

know whether my hardware will run free software

suggested by **hellekin** on 2013-12-05

agree 14 disagree 0

Hardware vendors usually don't get any profit from guaranteeing user's freedom, so they do not care about ensuring compatibility with free software. Worse, when you buy a computer, most will tell you "it's compatible with Linux", but they fail to understand that it's not enough to safeguard your freedom. The hardware should be labeled to tell whether it can (1) run a free software BIOS replacement (e.g., Coreboot); and (2) run all of its components without any binary blobs (e.g., 100% free firmware), as this is the only way to build trust into machines that will access our intimate thoughts and activity and be able to share that with third parties without our consent. Freedom requires free software requires free hardware.

Comment by **Danja Vasiliev** on 2013-12-23: hardware incompatibilities are often caused by the lack of free firmwares provided by the hardware manufacturers. so perhaps it makes

sense to speak of the right "to free firmware released in timely fashion for every new hardware on the market"

Comment by **despens** on 2014-01-06: Perhaps vendors should be required to release a Free Software version of their firmware after a certain period of time?

participate in society without having to use a particular software, device or corporate web site

suggested by **Brendan Howell** on 2013-12-09

agree 14 disagree 1

I should be able to participate in public discourse without having to use program X or web-platform Y. There should always be a way to participate without having to conform to some kind of commodity camaraderie. Public conversations should not be owned or controlled by one entity. (see AGPL)

Comment by **davidak** on 2020-03-27: i support this because i don't want my name to be printed in Comic Sans. this is just wrong.

not be forced to use an app

suggested by **Bendix** on 2014-04-29

agree 11 disagree 0

Users should not be forced to have multiple applications on their devices, instead of an easily combined version of this simple app. Example: Facebook tries to separate some elements from their app into a new app. The facebook-chat will soon be sepearated into a new app, the facebook-messenger. If you want to chat from your mobile device, you will be forced to install the messenger-app.

actually delete my account

suggested by **elviapw** on 2013-10-28

agree 11 disagree 0

a real keyboard (aka "hardkeys")

suggested by **despens** on 2013-10-11

agree 13 disagree 2

… preferably with cursor and command/meta keys! A lot of great design has been sacrificed for design that looks good for the "third user", a user that hasn't bought a product yet (see http://asktog.com/atc/the-third-user/). The worst example is that it became virtually impossible to buy a phone with a QWERTY keyboard. Simple actions like searching, writing, editing, calculating, controlling became needlessly painful to execute, and it is increasingly painful to interact with people that use touch devices to create their communication and leave their choices to an auto correction algorithm. Keyboards became a symbol for old-fashioned, boring computing. Companies that produced rather well-designed phones with full keyboards already went bankrupt, are about to vanish completely, or are giving up on producing such devices. This is a regrettable development.

- The keyboard is the most powerful input device. Users can only be an equal in front of a computer if they are able to manipulate symbols adequately that control the computer. While a lot of effort is put into creating the illusion that computers work with images nowadays, they are still symbol processing machines. With symbol manipulation available, users can do magic (e.g. write a program), without it only the computer can do magic.

- Using a symbol system like the alphabet makes it possible to create any kind of human-to-human message with ease and any desired level of precision or ambiguity.

- Keyboards offer the simplest two-level interface: Novice users can orient themselves visually, if they grow to use certain features more often or with more detail, they can use precise keyboard combinations and shortcuts to execute functions that are present in their minds rather than the computer screen. Neither visible nor invisible gestures can offer this level of interaction, reliance on them removes almost all possibilities for increasing the mastery of users. It is just terrible to watch users performing the same clumsy gestures over and over again for doing things repeatedly.

- Only symbol based navigation like search makes it possible for users to handle very large amounts of data. Without such ordering systems and meaningful ways of interaction with them, users' options are limited to what fits onto the screen and into visual memory. Unable to define exactly what they mean on pure touch devices, users become dependent on algorithms guessing what they actually want to do or need to laboriously switch contexts for general procedures that would be considered trivial with richer input possibilities. This created an inflated market of "apps".

- An always present hardware keyboard allows for modeless meta commands, like copy/paste, select, undo, help, quit etc.

Comment by **Miranda** on 2015-12-12: I believe that keyboards are an excellent piece of hardware, but I do not think that the use of a keyboard is a fundamental right for a user. I think that Despens makes some good points, but that they are conflating the familiarity of developers and users when working with an input device with the inherent usefulness of an input device. Perhaps a more accurate way to describe this would be "the right to manipulate a system using tools with functionality rivaling the tools used by the system's developers". At the moment, that exclusively means "keyboards", but that might not be the case in the future. :)

have 6 months+ to grab my files before a hosting service shuts down

suggested by **olia lialina** on 2014-04-10

agree 10 disagree 0

I suggest half a year as a minimum, not because I personally think it is the right amount of time. This number is not backed up by any case study or user tests either. Half a year is what Yahoo "gave" to its users on the 23rd of April 2009 to take care about their files. Half a year is what the Archive Team got to mobilize people and bots to rescue the remains of the Welcome to my Home Page empire. As a tribute to their deed, in memory of these events 5 years ago and with the intention to exercise at least some digital cultural memory among developers of cool stuff – I suggest to set a 6 months (plus whatever amount of time) sunset period in every ToS users of online hosting services have to agree to when signing up.

Comment by **despens** on 2014-04-10: A service could announce "we guarantee a total sunset period of 2.5 Geocities", meaning 15 months.

symmetrical access

suggested by **Baruch** on 2013-12-16

agree 10 disagree 0

I want to be able to learn as much about the companies and other entities providing web services as they might learn about me.

Comment by **A.D.** on 2018-11-15: In 2018 the upload to download ratio is 56KB/s / 800KB/s = 7%. It is similar even for faster connections. Is there a technical eplanation? Isn't this broadcasting?

disconnect

suggested by **Danja Vasiliev** on 2013-10-12

agree 10 disagree 0

while maintaining functionality autonomously and independently from the proverbial Cloud.

Comment by **hellekin** on 2013-12-05: YES! "Always on" is a fallacy, and one that fosters global surveillance, addiction, and dependability on centralized systems. When people are required to use Facebook, or have a phone to participate in society, those who don't are excluded. See also the concept of "eventually-connected networks" developed by Mocambos Networks' and Dyne hacker Vincenzo Tozzi, where communities that are excluded from the always-on Internet can still participate asynchronously to the electronic data network.

copy & paste

suggested by **Aram Bartholl** on 2013-12-22

agree 9 disagree 0

To copy & paste content between programs is a very fundamental tool. Especially news apps and similar don't let you copy text any more, it's just the beginning...

be un-Googable

suggested by **nancy mauro-flude** on 2013-10-13

agree 11 disagree 2

Comment by **despens** on 2013-10-13: This is already possible:

• via robots.txt https://support.google.com/webmasters/answer/156449?hl=en

• meta tags in HTML https://support.google.com/webmasters/answer/93710?hl=en It is important that this convention will be respected in the future.

Comment by **Brett O'Connor** on 2013-11-19 : Even with properly configured robots.txt it seems a website can appear in Google.
"How do I keep a robot off my server?" http://www.robotstxt.org/faq/away.html

access the file system and organize my data.

suggested by **Flick Harrison** on 2013-10-11

agree 9 disagree 0

Sandboxing will hinder creative re-purposing of project files. Locking all your documents in app-specific interfaces prevents the serious user from managing projects in their own way. Proprietary structures like the apple home folder hinder portability of a user's data. Elimination of the finder / explorer altogether, as on tablets and phones, disempowers the user and creates a further gap between the user with computer literacy and the user without. This might even eliminate the power user and leave behind only the regular user and the programmer.

Comment by **despens** on 2013-10-12: Flick, what's wrong with the home folder? As far as I can tell, it works like a Unix home directory in the sense that all software stores their settings in there and it is easily portable to another Apple computer.

Comment by **Flick Harrison** on 2013-10-14: It is pretty portable to another Apple system, I agree. Never transferred a user folder except through Migration Assistant but it seems pretty cut and dried in theory. The home folder isn't so bad but the constant attempt to save

everything under "movies," "documents," "music," "pictures" must be chosen against every time the option comes up. Older apps default to where I've told them to, but newer apps increasingly default (unalterably) to the Mac naive-user organization, or, worse, to internal databases that will increasingly be inaccessible except through that app. Why would I want to organize a media project for a high school under "movies," "documents," "music," and "pictures," when it contains all these? Should I make project folders under "documents?" Should I keyword everything and then have smart folders that more or less reliably turn up everything related to that project (along with however many false positives)? So that's why I don't use it myself, others may obviously differ. When I'm teaching, and I want students to save their work for posterity, to bring home to Windows or Android land, etc, they have to root through several places to find all their files and put them on a CD or USB stick. Modern apps like Photo Booth store their images in a database, which means you either dig through that or remember to open up every app you've used on that computer and copy it off. I prefer them to have a folder on the desktop with their name on it, and save all their files there. Thus the output is "drag that folder to Toast, burn it, the end." I mean, if you import videos into iPhoto, those get stored in "pictures," not movies. You have to remember which program imported them in order to find them again – which seems like a distraction. I mean, how do you organize projects on Android? Is Google Drive suitable for that?

Comment by **Danja Vasiliev** on 2013-12-23: it's probably related to how many abstractions shall UI or software be based up on. My vote is for less abstractions and more actual understanding of inner workings of the systems we use.

have full control over the computing that my computer does.

suggested by **The Unquux** on 2013-12-31

agree 8 disagree 0

In particular, this means ALL alterable software in it must be free.

have all data saved in clear text files

suggested by **despens** on 2013-10-12

agree 10 disagree 2

Software is increasingly storing data in formats which are only machine-readable, for example databases. This makes it difficult for users to manage their own data. For example, chatlogs, browsing history, emails and calendar entries that are stored in databases or other binary formats can only be handled with either the software that created it or with lots of effort. Everything that can be saved as text should be saved as text, so that users can manipulate the files if the software doesn't meet their needs. They could delete their history not with a "delete history" button, but by deleting the history.txt file. They could sync all kinds of files without the need for special syncing protocols. They could treat all file types equally, instead of having them arbitrarily divided into "pictures, photos, images, songs, audio" etc. Everything, like in Unix philosophy, should be a file, but not only for developers. Developers should think what parts of their software they need to expose as files to their users.

Comment by **Davidm** on 2013-12-16: I disagree, I think this presents a simplistic approach to the user. I agree that the data should be easy to access, but making it into a .txt file does not nothing to add to that. Instead, if companies truly care about openness, they should make a simple interface, so the user can choose what to delete, without looking at some monstrosity of a text file autogenerated from a SQL database.

Comment by **Brendan Howell** on 2013-12-18: I agree in principle but I would expand this to include any documented standard (or well-accepted and free non-standard (like sqlite or whatever) document/DB format. And +1 to an export function. Data locked in dead applications is sad.

Comment by **despens** on 2014-01-04: @davidm: Putting stuff into text files exactly frees the users from the tyranny of one single interface and dramatically eases migration and the flexibility of software. While this might not be very apparent with SQL dumps indeed, it is great for address books, software settings, chat logs, playlists, email messages, etc.

Comment by **aBe** on 2015-07-03: I see the good side of this, but what about privacy? Wouldn't it be better that files are encrypted in case someone accesses your computer while you're away?

Comment by **Despens** on 2015-07-03: @aBe: Encryption needs to be handled separate from files. There is for example full disk encryption or per-directory encryption.

install applications outside of "App Stores"

suggested by **NewMedians** on 2013-12-23

agree 7 disagree 0

On many OSs it becomes more and more difficult to install software outside AppStore/iTunes/ Play – such practices cripple software ecosphere, create even more of proprietary partitioned user-communities ("walled-gardens") and completely centralize software distribution. On GNU/Linux, however, "package repository" (which is a distribution-centric collection of software packages and like that similar to AppStore) is a historic practice dating well back into the 90ies. Though being very popular amongst Linux users, DEB, PRM, OPKG and etc distribution models never restricted users from compiling/installing side-loaded software; on the contrary users are often encouraged to create their own packages and contribute them to package repositories.

be the (prime) beneficiary of whatever is created from our "cognitive surplus"

suggested by **Flo Parallel** on 2013-11-13

agree 7 disagree 0

This is an extension to the 'Right to get Revenue' as it was suggested above. The core point here is, that if something is the fruit of aggregated user-labour, it should be of use for those very users and ideally for everybody else – something that is not always the case in crowd-sourcing. Work done by 'the many' for free should not be used by or be useful just for 'the few'. If a product that is being 'harvested from the hive' is not useful for those in 'the hive' or 'the crowd' or the community of users, it is all the more important that the direct or indirect labor by the users is compensated with a fair share of revenue; given that revenue is being made. Where there is no revenue, usefulness becomes all the more important! This of course leads to another point: It should be transparent to us users who is making profit with our contributions and to what extent. By the way, this issue has been discussed at length and very much in

favour of the user in Jaron Lanier's latest book 'Who Owns the Future', and he in turn point back to Ted Nelson's seminal vapour-ware Project Xanadu.

remove or reassemble all parts of hardware

suggested by **klena** on 2013-10-12

agree 8 disagree 1

A Computer is a machine only, but often a personal one which I use very often and in very different ways. I want this thing as flexible and effective as possible, so I should be able to remove and assemble all parts of its hardware by my own.

knowledge of how the data is stored

suggested by **hugo** on 2014-03-01

agree 6 disagree 0

When the data is uploaded to a specific service provider, users should be able to know where that specific service provider stores the data, how long, in which jurisdiction the specific service provider operates, and which laws apply. A solution would be, that all users are free to choose to store their own data on devices (e.g. servers) in their vicinity and under their direct control. This way, users do not have to rely on centralized services. The use of peer-to-peer systems and unhosted apps are a means to that end.

Comment by **olia lialina** on 2014-03-03: see also the right to access the file system and organize my data

not be interrupted by a program

suggested by **hellekin** on 2013-12-05

agree 7 disagree 1

When a user is active on the computer (producing input e.g., via the keyboard), the system SHOULD NOT interrupt that activity unless absolutely required by the system to protect the user's privacy, her integrity, the integrity of her current action, or the integrity of the system.

Otherwise, the system MUST wait for the user to become idle, or to switch back to the attention-hungry application before popping up a window or otherwise stealing focus from the user.

have the possibility to make everything usable without internet connection

suggested by **yay** on 2013-12-03

agree 6 disagree 0

a web browser

suggested by **Flick Harrison** on 2013-10-11

agree 6 disagree 0

Moving from the open space of the web to the walled garden of the app store is a step backwards. The naive user will feel (falsely) comforted by the gatekeeper's security, but certain functionality and interweaving of cultural content will disappear. For instance, the Facebook app is not in the same universe as the Facebook website. Zooming is eliminated. As is, inexplicably, landscape mode. Browser functions like right-clicking for a contextual menu are eliminated, replaced with minimal "copy / define" options. http://xkcd.com/1174/ Links opened in the app take us elsewhere in the facebook app, framing them as subservices, and possibly introducing another gatekeeper. Worst of all: No adblock in the Appiverse.

Comment by **Danja Vasiliev** on 2013-12-23: look at Spotify client – essentially it is a mod of Chromium browser while being reworked into a completely locked-down and jailed piece of software.

peer-to-peer networks

suggested by **[no name]** on 2014-05-23

agree 5 disagree 0

have more privacy in social networks

suggested by **Saftiges Gnu** on 2014-04-29

agree 5 disagree 0

In social networks there is a little space for the privacy. Of course you can change your preferences so only friends could see your photos or posts but there are some gaps. For example, WhatsApp has a good solution when it comes to being able to delete my own time stamp at least. It's a matter of fact that on Facebook, I cannot decide whether I want my chat partner to know WHEN I read his messages or not. By seeing my time stamp (opening his message – whether I read it or not) he can conclude that I was online.

not have my system "made obsolete"

suggested by **davidm** on 2013-12-16

agree 6 disagree 1

Too often, Apple will simply stop updating their old operating systems and charge you for the upgrade. You often can't even download new versions of XCode (which you need to program on a OS X computer) unless you pay them for the upgrade. If a company choose to put an operating system out there and sell it for money, it should be either supported by the company or released to be freely supported by the community

switch off wireless and use a cable instead

suggested by **gordo** on 2013-10-13

agree 5 disagree 0

Wireless LAN, wireless USB, bluetooth, wireless HDMI, wireless PS2, wireless air-pop-drop, all good but there should be switch for turning all those things off and take an old-style cable

Comment by **olia lialina** on 2013-11-01: looks more like an appeal to protect packets' right to run through cables :)

Comment by **Danja Vasiliev** on 2013-12-23: i would convert this to "the right not to emit", see http://hackaday.com/2013/12/20/ambient-computer-noise-leaks-your-encryption-keys/

hiding my gender

suggested by **Msriss** on 2014-11-07

agree 4 disagree 0

edit app permissions in android settings.

suggested by **Bernard** on 2014-04-29

agree 4 disagree 0

In a century of Smartphones and Tablets, we need an app for everything. We update them, give them rights to access our information and many other things. But how does it look like if we don't want to give them any specific rights anymore, without the need to completely delete the app. Why is it not possible to have the right, as the user, to independently change the rights for the app without the need to remove it. Why is it so hard to make an app, that would work with the information WE want to give them. https://www.eff.org/deeplinks/2013/12/google-re-moves-vital-privacy-features-android-shortly-after-adding-them

use my music as a ringtone

suggested by **tina** on 2014-04-28

agree 5 disagree 1

According to the iTunes terms of use, you are not allowed to use your music as a ringtone on your mobile phone. Anyway, you could use your mp3 as a ringtone for Android phones. iPhones only permit ringtones (m4r), so you need to convert your mp3 in m4r. (only 40 seconds long -.-)

install an operating system of my choice on a computer/phone/tablet/device

suggested by **lo** on 2014-04-02

agree 4 disagree 0

deep link

suggested by hugo on 2014-03-02

agree 4 disagree 0

Web publishers should make it easy to deep link to specific parts by using ids. https://github.com/NYTimes/Emphasis should be everywhere (including in PDF!)
More: http://scripting.com/2014/02/23/designChallengeParagraphlevel Permalinks.html

Comment by **olia lialina** on 2014-03-03: Made me think that the linking itself has to be protected. The Right to Hyperlink!

control over user data access

suggested by **hugo** on 2014-03-01

agree 4 disagree 0

Data explicitly and willingly uploaded by a user should always be under the ultimate control of the user. Users should be able to decide whom to grant (direct) access to their data and under which permissions such access should occur. Cryptography (e.g. a PKI) is necessary to enable this control. Data received, generated, collected and/or constructed from users' online activity while using the service (e.g. metadata or social graph data) should be made accessible to these users and put under their control. If this control can't be given, then this type of data should be anonymous and not stored for long periods.

be certain in what country the server I'm connecting to is

suggested by **NewMedians** on 2013-12-23

agree 4 disagree 0

It starts to make more and more sense to know (for sure) in what country (geopolitically) a particular server/service is located. Like with google.de or de-de.facebook.com the user might be tricked into believing they are connecting to a national service while in fact both are hosted in the US. http://www.geoipview.com/?q=google.de

make screen shots

suggested by **Aram Bartholl** on 2013-12-22

agree 4 disagree 0

I love them. They will try to get rid of them...

have a button labelled "take off from cloud"

suggested by **gordo** on 2013-10-13

agree 5 disagree 1

One simple click and your data gets downloaded to your "real" localhost and being deleted from the cloud-service. deleted meaning, seriously deleted!

Comment by **Despens** on 2013-10-31: The problem here is that usually users spend years feeding a service with their data -- the decision to retreat from a service is usually made much quicker. So that "button" would hardly work like a button, it would rather trigger a week-long download. So I think, the demand for an export function is more meaningful. (See the right to have an "export" function.)

Comment by **hellekin** on 2013-12-05: I think the export functionality is different from deletion. Deletion is an almost-impossible technical issue to solve, especially given the current technology. Therefore, it makes a lot of political sense to demand it. Others labeled it "the right to disappear" in other settings. Let's consider the technical and legal issues involved: 1. backups. In order to provide a reliable service, data is saved multiple times on various devices, including various supports, and in various places. Deleting all of them requires to keep track of all of them, which in turn can be used to monitor, steal, or make further copies of the data to be deleted. Deleting data has a cost, including the time required to find the contents to delete, load the various supports, and actually delete them. 2. data retention. In order to avoid fraud, prevent crime, monitor terrorist, deviants, citizens, computer users, nations vote laws to force ISPs to keep data, and government agencies illegal abuse those laws to keep data indefinitely in a dragnet surveillance; individual users also keep private copies of stuff you don't want to share with them, but they have obtained because it was shared once. How to handle that?

Comment by **Danja Vasiliev** on 2013-12-23: I think "taking off the cloud" means letting user download the data locally and remove it from the remove service/server. How (and if) user decides to re-upload the data elsewhere is up to the user.

view the entire history of my online interaction

suggested by **Jack Fisher** on 2013-10-12

agree 5 disagree 1

The entire history of me/you/us.

Comment by **Paige** on 2013-12-13: why would you want this?

Comment by **davidm** on 2013-12-16: what does this even mean? this seem contrary to the entire goals of everyone else.

not to be interrupted by update suggestions

suggested by Charlotte on 2019-04-05

agree 3 disagree 0

chronological order

suggested by **olia lialina** on 2017-07-03

agree 3 disagree 0

...of posts, entries, files. Social networks gradually switch from Timeline to what they crafty call Algorithmic Timeline*, meaning it is not chronological, but... nobody knows what and can become something else any moment anyway. Chronological order is a universal convention that would give users control, protect from info bubbles; facilitate dialogs (make commenting possible and meaningful), make "export" function feasible.

http://www.independent.co.uk/life-style/gadgets-and-tech/instagram-algorithmic-timeline-we-are-angry-but-too-lazy-to-take-control-a6949026.html

http://www.slate.com/articles/technology/cover_story/2017/03/twitter_s_timeline_algorithm_and_its_effect_on_us_explained.html

be able to turn off the time stamp in Facebook

suggested by **Saftiges Gnu** on 2014-04-29

agree 3 disagree 0

The fact that each and every message on "Facebook" is connected with the specific day and time of sending or receiving is necessary on one hand to know exactly when somebody contacted me, but on the other hand also can put pressure on the recipient to answer immediately. Many people are very focused on the times their chat-partners open their messages and get easily disappointed not receiving a reply instantly. "Why does it take so long for him or her to get back to me ?" is what many people ask themselves. WhatsApp for example has a good solution when it comes to being able to delete my own time stamp at least. It's a matter of fact that on Facebook, I cannot decide whether I want my chat partner to know WHEN I read his

messages or not. By seeing my time stamp (opening his message – whether I read it or not) he can conclude that I was online. I would appreciate the option of being able to connect or disconnect the exact point of time of opening my personal messages on Facebook.

choose a platform

suggested by **hugo** on 2014-03-01

agree 3 disagree 0

Users should always be able to extract their data from the service at any time without experiencing any vendor lock-in. Open standards for formats and protocols, as well as access to the programs source code under a Free Software license are necessary to guarantee this.

my data not being converted

suggested by **[no name]** on 2013-12-23

agree 4 disagree 1

The user data uploaded to cloud/proprietary web services are often "converted" – GIF converted to JPEG, OGG to AAC, AVI to MP4, etc. While some of these conversions might have rational grounds many are aimed at "sterilization" of user content – removal of unwanted meta-data, filenames and disable users from steganographic practices.

pull

suggested by **olia lialina** on 2013-12-02

agree 3 disagree 0

This demand was inspired by J. Oliver's tweet :) "We don't 'visit web pages'. They visit us. Unless of course one actually drives all the way to the data center to say hi." https://twitter.com/julian0liver/status/404674363548381184
I have to think about better formulation and proper words to justify... but (leaving all the car driving metaphors aside) it's important that YOU visit pages, apps, updates, and not the other way around... See also the right not to update.

get revenue

suggested by **olia lialina** on 2013-10-21

agree 4 disagree 1

Some days ago I was reminded by Burak Arikan about the project he and Engin Erdogan started in 2008 -- User Labor Markup Language (ULML). Their idea was to create a transparent situation on code level where "user generated content": "Our aim is to construct criteria and context for determining the value of user labor, which is currently a monetized asset for the service provider but not for the user herself. We believe that universal, transparent, and self-controlled user labor metrics will ultimately lead to more sustainable social web." http://userlabor.org/. Another important quote: "While service providers may understand, calculate, and leverage user contribution to determine business plans and solicit advertisers, its value often remains opaque to the users. Activity logs are stored as the property of respective service providers and some providers allow access to parts of these records through their Application Programming Interfaces (API). Still, there is no means for interpreting this information universally across different services."

Comment by **olia lialina** on 2013-11-17: see also: The right to be the (prime) beneficiary of whatever is created from our "cognitive surplus" suggested by Flo Parallel.

Comment by **Danja Vasiliev** on 2013-11-26: is getting revenue refers to getting even with the systems (like FB) which use user-contributed data?

Comment by **Danja Vasiliev** on 2013-12-02: my question, probably, is: what 'revenue' is talked about? who would pay the user, for what and how? (not that i disagree, i just would like to extend the general question.)

Comment by **Danja Vasiliev** on 2013-12-02: ok, after reading the comments (and links) above i think i have my answers ;) there is also an interesting publication concerning these issues called "Digital Labor: The Internet as Playground and Factory" by Trebor Scholz.

view offline

suggested by **irgbit** on 2013-10-14

agree 3 disagree 0

disagree

suggested by **user** on 2013-10-12

agree 6 disagree 3

Comment by **Dan T.** on 2013-10-13: Clearly somebody disagrees with disagreeing. How disagreeable!

Comment by **Guergana Tzatchkova** on 2014-06-20: just to disagree!

contest the algorithm

suggested by **arctother** on 2013-10-11

agree 3 disagree 0

negotiate terms & conditions

suggested by **alex.rosado** on 2015-07-03

agree 2 disagree 0

As a user I want to disagree with terms and conditions and get the chance to negotiate when I install software or access to web services.

bequeath my social network account

suggested by **Maxi** on 2015-06-16

agree 2 disagree 0

I think it's important to be able to decide what happens after your death to your social media accounts: Twitter, Facebook, Youtube, Instagram. For example, it should be possible to choose somebody to manage your account after you pass away and the service provider should respect your decision.

add manually

suggested by **Simon Baer** on 2015-05-30

agree 2 disagree 0

Concerning the computer, everything becomes more and more automated these days: various wearables track and save our daily activities automatically, streaming services create new playlists on their own, photos are getting uploaded into the cloud right after taking them, smartphones create contacts for every person we're interacting with. The software on our computers and the apps on our smartphones manage themselves, creating data / data-points automatically, even without letting the user know. As easy, stressless and comfortable this might be – it must still be possible to access this data, modify it and (most important!) add data or data-points – that would otherwise be generated – manually.

rename browser tabs

suggested by **hcc** on 2014-04-29

agree 2 disagree 0

Use browser tabs as often as possible to avoid losing track of your overview while you are surfing on the internet. If any of the sites are important you can bookmark them afterwards you can delete the useless bookmarks from the reading list. Missing: Rename the browser tabs the way you want.

have every OS and mobile device compatible with each other

suggested by **elviapw** on 2013-10-28

agree 3 disagree 1

link

suggested by **olia lialina** on 2020-06-03

agree 1 disagree 0

Would never thought I'd write it. And as the list shows it didn't appear important or urgent to anyone in 2013, when most of demands were made. When in 2014 user "hugo" introduced the right to deep linking, I left the comment which looked as a joke because indeed it was not

meant serious enough. But todays tweet of bbbeeccaa as well as other sad observations: https://twitter.com/GIFmodel/status/1264189665806110726?s=20 "My student put documentation of his links based performance on Vimeo, but couldn't link to the actual project, because Vimeo turns URLs into links only for customers who upgraded to Plus."

https://twitter.com/GIFmodel/status/1255564459243909120?s=20 "all jokes aside, the very existence of this service shouts about absurdity of today's web, hypocrisy of social networks and misery of their users."

suggested that it is time to remind to social networks that hyperlinks are not just some features or style element, but as Hossein Derakhshan wonderfully said in 2015 "They are its [web's] eyes, a path to its soul." https://medium.com/matter/the-web-we-have-to-save-2eb1fe15a426

Comment by **olia lialina** on 2020-06-06: "Free speech in hypertext implies the 'right to link', which is the very basic building unit for the whole Web" writes Tim Berners-Lee in 2000 in *Weaving the Web*. He adds "if the general write to link is not upheld for any reason, then fundamental principles of free speech are at stake, and something had better be changed." pp. 139, 141

show filetypes

suggested by **topada** on 2015-12-20

agree 1 disagree 0

In this easy-breasy world its necessary to know your files and how to modify them!

not synchronize

suggested by **Rachel Uwa** on 2015-07-05

agree 1 disagree 0

If I look up something on my laptop, I do not wish to see auto-complete when I look the same thing up on my mobile phone. In (my) perfect world, these two devices should not speak!

not be a user

suggested by **aBe** on 2015-07-03

agree 1 disagree 0

Many online services require you to create an account, and your e-mail to be validated, before the they can be used. I demand the right to use without creating accounts and becoming a registered user. Privacy is one reason. I want to be able to participate in an anonymous way. A second reason is that I believe it stops users from giving valuable feedback in forums, because they refuse to become users. There are services like http://bugmenot.com/ to share log in information, which helps to avoid creating an account. It is said that sites like Facebook create profiles of people who don't have an account. That means you become a user without being asked for it.

limit my content's virality

suggested by **JulieS** on 2015-07-03

agree 1 disagree 0

Or: creating a sense of neighborhood knowledge through digital rights policy. This is essentially a demand to have an easier way to manage group privacy, and potentially to start a framework for multiple people's interacting rights to unilateral deletion of what eventually becomes shared content. Right now privacy policy is largely opt-out, with the onus on the user to create blacklists. This intends to create a starting point that is opt-in, with a usable and understandable whitelist, and then ask permission whenever content virality exceeds those limitations. Some potential questions this hopes to address: 1. When does my UGC stop being my own and becomes part of a social domain, therefore limiting my own power over it? 2. Something I said/created was intended for a specific audience, and I don't want it to go any further. So I want to preemptively limit the spread of my content, either to n-degree of separation from my initial posting, or a geographic location.

login

suggested by **florian kuhlmann** on 2015-01-24

agree 1 disagree 0

Since the immersion is continuing every day and computer systems are becoming an essential part of our society and our life, everybody must have the right to login everywhere, every time, whenever he or she wants it or needs it. Access must be granted to everyone, just as logout must be possible every time.

exclude myself from experiments

suggested by **Brett O'Connor** on 2014-06-30

agree 1 disagree 0

Design experiments, a/b testing, etc. on social media and other websites may adversely affect the emotional health and function of its users under the guise of improving the website. Users should have the option to exclude themselves from such experiments.

have Ted Nelsons transclusion instead of copy&paste

suggested by **Milan** on 2014-06-16

agree 1 disagree 0

"Transclusion is a simple scheme which allows us to cite, paraphrase any bit of content from anywhere on the web without actually copying it. Tranclusion is such a concept which has long promised to revolutionize the way people share content on the world wide web. The quoted text will link back to its original source and the link address never changes. The web in a way is broken by severe content duplication. No wonder that Google has been tweaking its search algorithms so often – the series of changes starting with Hummingbird have been aimed at cleaning the 'cut-and-paste' mess. The idea of Transclusion can end this mess. Content need not be duplicated. As long as the originator of the content can assure that it never moves from its place (the link), people can link to the document while relevant portions showing up on their own pages." – by Prashanth Hebbar

see acceptable ads

suggested by **hulio** on 2014-04-29

agree 2 disagree 1

I don't want these annoying, flashing and loud advertisements on websites. They are evil.

customize colour schemes

suggested by **conny** on 2014-04-29

agree 1 disagree 0

A friend of mine is colour blind and is often not able to use certain apps, programs or websites. He needs a way to personalize/customize the color schemes. In some web browsers this is possible but most apps for example don't have this feature.

eat kernels

suggested by **useless2112** on 2014-01-24

agree 1 disagree 0

not be spied upon by my device

suggested by **NewMedians** on 2013-12-23

agree 1 disagree 0

Our device/software should not secretly retain or transmit data eg: iPhone GPS caches, XBox One swearing detection, Facebook 'self-censorship' technique (when text input is send on every keystroke) and so on. User shall be aware of every instance of data leaving their computer/program, and as such – integration of locally installed software and its online counterpart shall never be seamless.

hardware inter-compatibility

suggested by **NewMedians** on 2013-12-23

agree 1 disagree 0

We'd like to be able to freely swap parts between different parts of our hardware and use different devices in combination of one and another. For example – use smartphone as a webcam with PC, use PC's internal HDD as storage for our mobile, use same battery across different types/makes of devices, use same cables.

DDOS!

suggested by **NewMedians** on 2013-12-23

agree 2 disagree 1

And consider online acts of protest equal to protests of streets!

Legalize DDoS attacks!

DDoS = Strike

reply-all

suggested by **Anthony Antonellis** on 2013-11-19

agree 2 disagree 1

Comment by **olia lialina** on 2013-11-19: https://twitter.com/a_antonellis/status/400982264064253952 I wouldn't want to live in a world without reply-all

not use

suggested by **Kein Kunstler** on 2020-05-07

agree 0 disagree 0

read the truth

suggested by **[no name]** on 2019-11-28

agree 0 disagree 0

disappear

suggested by **Niko Princen** on 2017-11-15

agree 0 disagree 0

be real

suggested by **Siri** on 2016-10-09

agree 0 disagree 0

Control+Alt+Delete

suggested by **#fbuser** on 2015-01-25

agree 0 disagree 0

Comment by **Dominik Podsiadly** on 2015-02-17: http://www.theverge.com/2013/9/26/4772680/bill-gates-admits-ctrl-alt-del-was-a-mistake

set my own level of error correction!

suggested by **FFD8** on 2014-11-05

agree 0 disagree 0

Too many tools are 'helping' by fixing errors, patching transmission packet loss, bad buffers, corrupt data. Let us decide just how perfect+safe <-> volatile our movie plays, our image displays, our text renders. Amazing creative surprises are being hidden from us with every update!

ruin Internet Explorer. Forever.

suggested by **Maggy** on 2014-04-28

agree 2 disagree 2

It would be really nice if IE would no longer exist, because it is the worst browser out there! Reasons:

- it's slowly

- crashes all the time

- many unnecessary Add-ons

- just 9.7% of people use it in March 2014. (statistics collected from W3School) – My biggest problem: IE is hard to make webpages compatible with it! > does not support latest web standards (as a programmer i really hate this). So ... we don't need it!

abuse

suggested by **Niko Princen** on 2014-01-15

agree 2 disagree 2

Comment by **despens** on 2014-01-19: Abusing a computer or a network is a very difficult concept, since both work best if they are imagined without a purpose. If to accept "abuse", it automatically means that there is a "purposeful" usage of a computer, hence giving in to the current state of controlled environments.

Comment by **Niko Princen** on 2017-11-15: There's as much purpose to computers as to life. To abuse the networked machine is a way a user can try to set itself free from the "controlled environment" the computer or network was built in without necessarily following the opposite

direction of its creation. Every user is controlled by what it uses. Rules of usage don't need a purpose. Abnormal use is outside the system. It's unseen, without balance, alone, impossible.

convert any data for any device

suggested by **poinck** on 2013-12-28

agree 1 disagree 1

I want to read webpages correctly formated on an eBook reader in an open format like EPUB. I demand, that either calibre can convert every article on a webpage or webpages are designed to be easily parsed by it to be converted into EPUB. For now, it is very difficult to read the article "Turing complete User" on a eReader.

Comment by **despens** on 2014-01-04: This is a very weird demand, at least when illustrated by this example. Web pages are usually HTML and can be converted quite easily. I don't think that there should be a right to already being served with all data in all kinds of possible specialized formats, because this is a very passive attitude. It is important get data in standardized formats.

plug off

suggested by **klena** on 2013-10-12

agree 1 disagree 1

Shut down, turn off and at least: plug off. People shouldn't trust in machines only and always be able to live their life without them. but we've already reached the point where we're unable to rule our world without computer power. No way, to plug it off…

idempotent requests without legal repercussions

suggested by **erlehmann** on 2013-10-07

agree 1 disagree 1

free weev!

Comment by **despens** on 2014-01-04: What is this??

actively distinguish between contributing to the public record and engaging in heresay

suggested by **Kino** on 2013-10-23

agree 0 disagree 2

There should be certain markers that a creator of content can use to give legitimate truth value or a measure of authenticity to an online publication. By adding to the public record in this way the contributor opens themselves up to scrutiny and allows for an archiving into the public record. Such non-propaganda contribution to the public good should be rewarded higher in any sort of compensatory system explored above. Conversely a user of the net should have the freedom to banter, flirt, be at times hot headed and speak opinion and belief and not have such idle banter used as a way to incriminate themselves by such utterance. Instead of higher compensation and archiving, such contributions should be flagged with a level of privacy and respect and if used for analysis that analysis must use the highest ethical standards for how human subjects are used in sociological studies in a scientific setting. Such protections should include anonymity, a measure of time before such data can be accessed for such study, etc. Such utterance should also be protected from search and seizure. People exchanging idle banter should not be incriminating themselves by association or by utterance and should not bring suspicion on their communication partners. Two other kinds of utterances could be contributed towards some fair use/open source/artistic remix canon and conversely it should be possible to establish deep private connections to loved ones, family, etc.

Comment by **olia lialina** on 2013-10-23: hmm, a believe that privacy can be achieved by "semantic web"... have to think.

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Postscript
by the Editors

Olia Lialina's *Turing Complete User. Resisting Alienation in Human Computer Interaction* constitutes the first volume of the new Interface Critique book series. We are grateful to the author for her powerful position, pushing the boundaries of what predetermined User Experience paradigms ought to be – and what a self-determined actor using a computer could be.

Olia Lialina has been part of the Interface Critique project since her presentation on our constituting conference at Berlin University of the Arts in 2014. Since then the initiative has grown into a lively publication platform. This book series complements the open access journal *Interface Critique* by offering a publication framework for comprehensive single author positions, including various analytical perspectives such as artistic investigations, theoretical or historical groundwork, or exceptional qualification papers.

We are convinced that the complexities of our technological surroundings require a variety of perspectives. The concept of the interface cannot be limited to HCI paradigms but needs to include varieties of perspectives on thresholds that connect and disconnect technologies and their subjects.

This book series wants to bridge gaps between the HCI community and research in arts and humanities. It intends to initiate interdisciplinary dialogues on the historical, political, cultural, artistic, and aesthetic dimensions of the interface and encourages new perspectives to promote an understanding of technologies and techniques as dynamic cultural phenomena.

Around 2010, the field of human-computer interaction and the IT industry at large started to invest in reforming their terminology: banning some words and reversing the meanings of others to camouflage the widening gap between users and developers, to smooth the transition from personal computers to "dumb terminals", from servers to "buckets", from double-clicking to saying "OK, Google".

Computer users also learnt to talk, loud and clear, to be understood by Siri, Alexa, Google Glass, HoloLens, and other products that perform both listening and answering. Maybe it is exactly this amalgamation of input and output into a "conversation" that defines the past decade, and it will be the core of HCI research in the years to come. Who is scripting the conversations with these invisible ears and mouths? How can users control their lines?

When hardware and software dissolve into anthropomorphic forms and formless "experiences", words stop being mere names and metaphors. They do not only appeal to the imagination and give shape to invisible products. Words themselves become interfaces – and every change in vocabulary matters.

Olia Lialina was born 1971 in Moscow, graduated Moscow State University in 1993 as a journalist. She is a net artist, animated GIF model, and a pioneer of net.art; co-founder of the GeoCities Research Institute and keeper of the One Terabyte of Kilobyte Age Archive. Lialina writes on digital folklore, vernacular web and HCI. Since 1999 she is a professor for digital art and design at Merz Akademie in Stuttgart.