

# 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<sup>1</sup>

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.<sup>2</sup> 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-

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,<sup>3</sup> 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 you would be using desktop software.

As Tim O’Reilly stated in September 2005 in the blog post “What is Web 2.0”<sup>4</sup>: “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.”<sup>5</sup>

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.

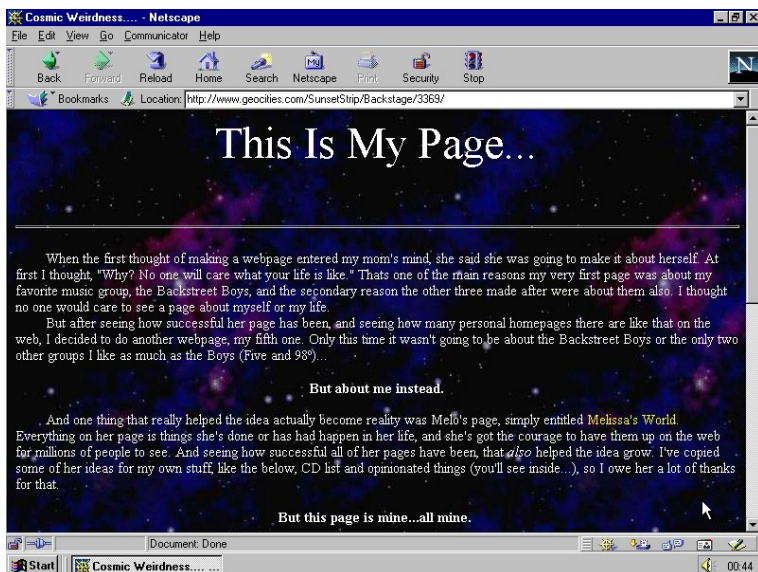


Fig. 2: Dragan Espenschied & Ollia Lialina, Screenshot of restored GeoCities page from the One Terabyte of KiloByte Age archive.

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.<sup>6</sup> 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*,<sup>7</sup> 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 Aaron 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.

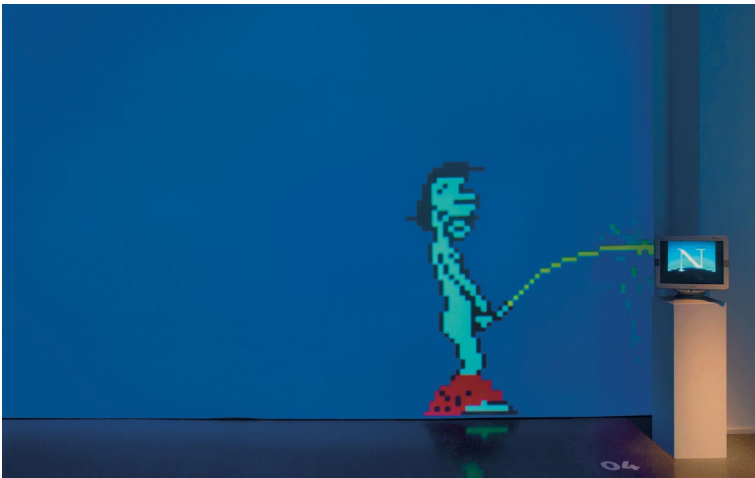


Fig. 3: “What did Peeman Pee On” installation at Digitale Folklore exhibition at HMKV Hardware Medien-KunstVerein, Dortmunder U, Dortmund, Germany. Photo: Yoko Dupuis.

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.

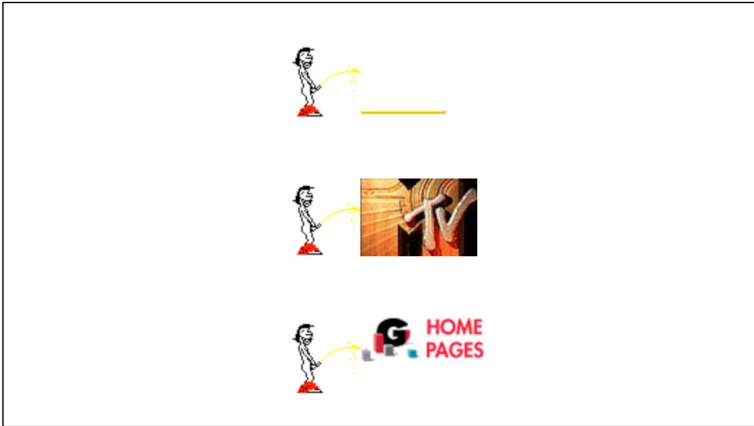


Fig. 4: Peeman.gif in combination with various icons.

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.<sup>8</sup> 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.<sup>9</sup>

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.

\* \* \*

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.<sup>10</sup>

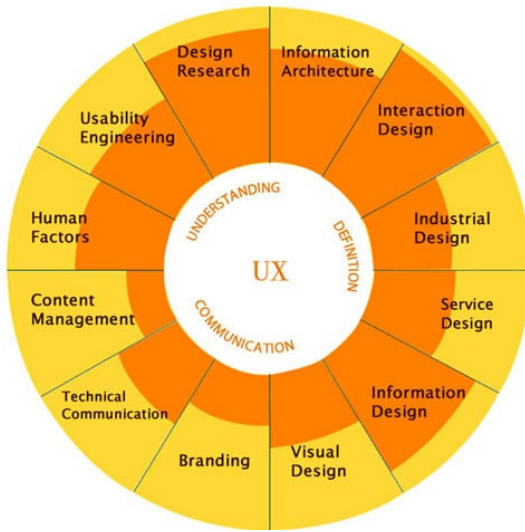


Fig. 5: “Fields of User Experience Design”; source: Elizabeth Bacon, Defining UX, Devise Consulting, January 28, 2014, <https://deviseconsulting.com/2014/01/27/defining-ux/>; access: October 29, 2020.

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.”<sup>11</sup>

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”,<sup>12</sup> 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.<sup>13</sup>

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<sup>14</sup> 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.

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.”<sup>15</sup> 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.”<sup>16</sup>

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”.

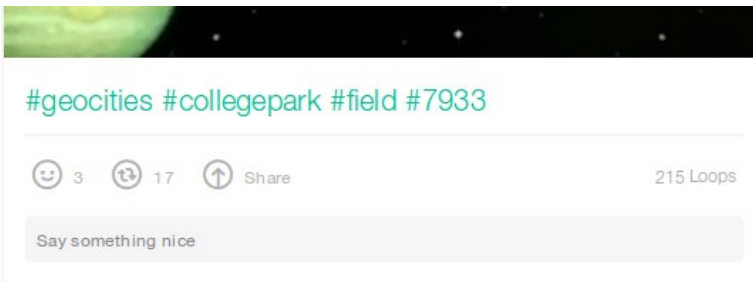


Fig. 7: Screenshot of vine.co, taken January 2, 2015.

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.

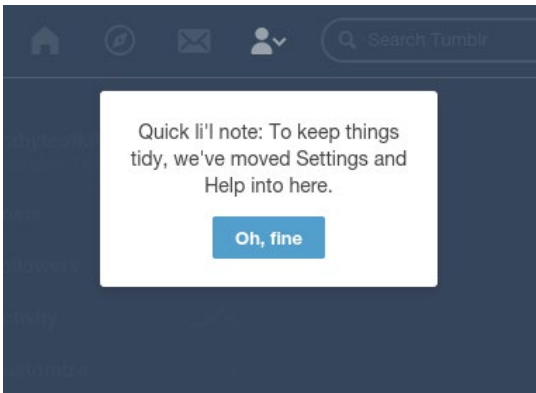


Fig. 8: Screenshot of tumblr.com, taken December 28, 2014.

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."<sup>17</sup>

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

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",<sup>18</sup> 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<sup>19</sup> 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,<sup>20</sup> and the naive user. The function was first mentioned in the IBM research report Behavioral issues in the use

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<sup>21</sup>: 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.

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.

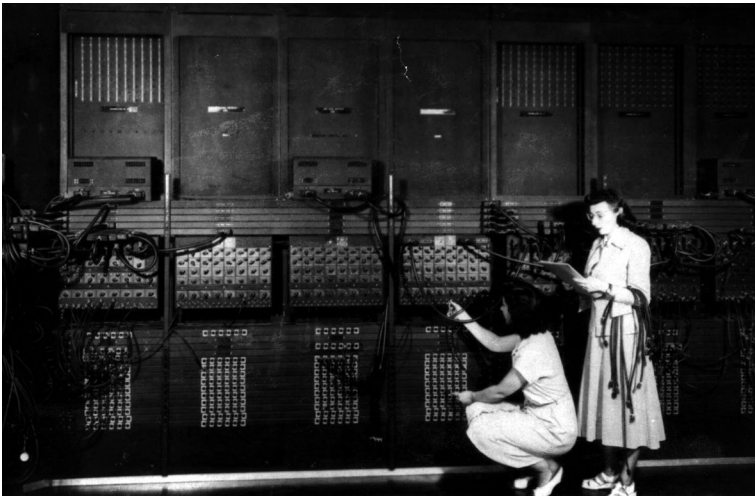


Fig. 10: Source: Frank da Cruz: Programming the ENIAC, 2003; <http://www.columbia.edu/cu/computing-history/eniac.html>; access: October 29, 2020.

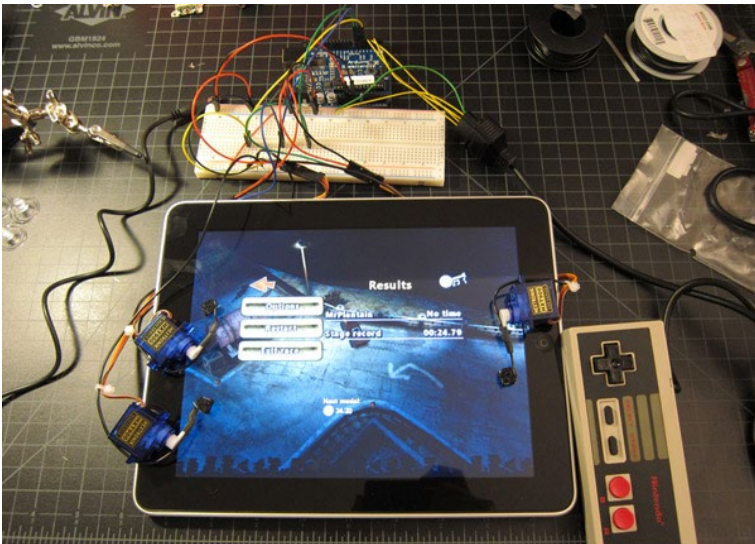


Fig. 11: Source: ProtoDojo: RoboTouch iPad Controller, 21 August, 2011; source: <https://youtu.be/c9u87WPhVK8>, access: January 21, 2021.



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<sup>22</sup> 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 joystick, 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”,<sup>23</sup> 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.

22 ProtoDojo: RoboTouch Controller Prototype, 2011, <https://www.youtube.com/watch?v=c9u87WPhVK8>, 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.<sup>24</sup>

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

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?*<sup>25</sup>

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.

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.<sup>26</sup>
- 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).

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.

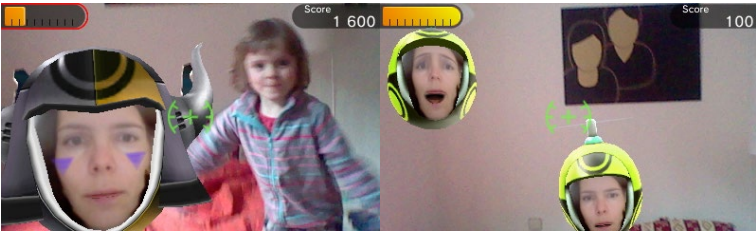


Fig. 14a: Since 2011, Nintendo's handheld video game systems series 3DS features a built-in game called "Face Raiders" that mixes live camera, user photos and 3D graphics.

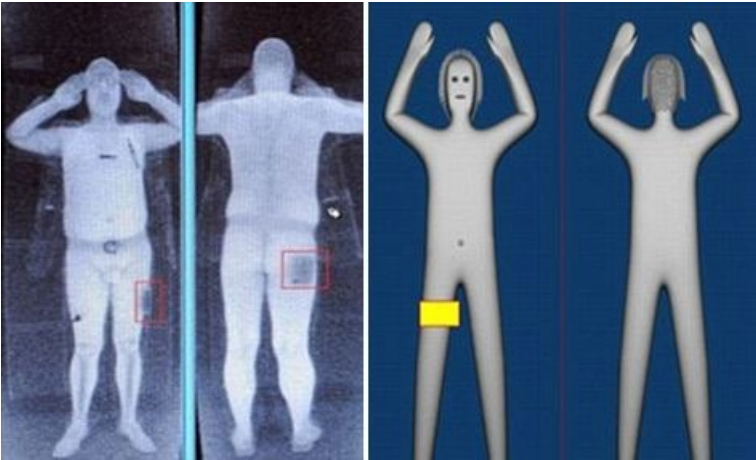


Fig. 14b, c: Tom McGhie, Boffins design "modest" naked airport scan. *This is Money*, last modified November 21, 2010, <http://www.thisismoney.co.uk/money/news/article-1708293/Boffins-design-modest-naked-airport-scan.html>; Manchester Airport press release on body scanners, n.d., <https://www.manchesterairport.co.uk/help/passenger-guides/security/>;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

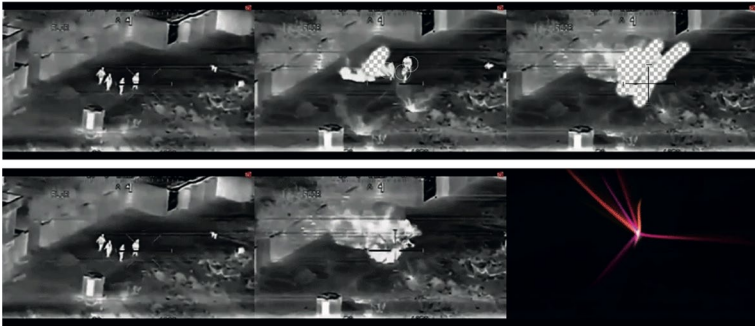


Fig. 15: Eraser Tool by Madeleine Sterr (source: <https://fckyeahnetart.tumblr.com/post/107250218006/eraser-tool-by-madeleine-sterr-we-created-these/>, access: January 21, 2021) and Screen Saver by Monique Baier (source: [http://casting-screens.hfbk.net/\\_dev/13/contributions/monique-baier/ruins-restored-siliconvalleyway3613](http://casting-screens.hfbk.net/_de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

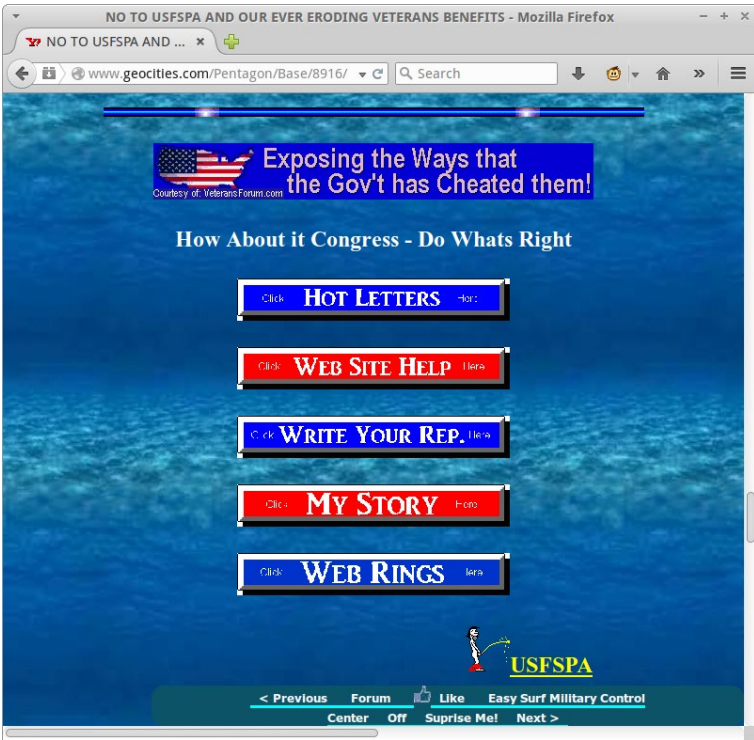


Fig. 16: Dragan Espenschied & Olia Lialina, Screenshot of restored GeoCities page from the One Terabyte of Kilobyte Age archive.

