

Manifesto for a Post-Digital Interface Criticism

Six aspects of the interface that are important to address to critically reflect contemporary digital culture

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We are living in an interface culture: wherever we are, we find touch screens, microphones, sensors, cameras; and we are constantly reminded of interfaces through their sounds. Whether mobile, networked or embedded in architecture or artefacts, the number of interfaces constantly increases to meet the desires of technologies, users and markets.

Usually, an interface is understood as a technological artefact optimized for seamless interaction and functionality. However, the interface also draws upon cultural and artistic traditions, and plays an important role in our culture as art, entertainment, communication, work and businesses. It is a cultural form with which we understand, act, sense and create our world. In other words, it does not only mediate between man and computer, but also between culture and technological materiality (data, algorithms, and networks). With this, the mediation affects the way cultural activities are perceived and performed.

But, have we now reached the end of cultural computing? In Apple's 1984 advertisement video for the first Macintosh computer, an interface for conformity, absorbing the worker in a totalitarian state, was replaced by an interface for individual expression and do-it-yourself culture. Three decades later, the table is turning. According to a leaked NSA presentation it is now Apple who is Big Brother, and enthusiastic iPhone customers who are the zombies living in a surveillance state (Rosenbach et al 2013). The imagined free world of cultural computing has turned into a business of "controlled consumption" (Striphas 2010; Andersen and Pold 2014). To prevent piracy, software and hardware providers such as Apple, Amazon and Google have introduced a new cultural business model that involves a licensing system for cultural software and content. In short, cultural production becomes consumption – a matter of uploading content into the cloud, and selecting pre-configured filters. Although configurations are intrinsic to an interface culture, this has been taken to another level, and has turned into a 'war on general purpose computing,' as described by Cory Doctorow: the locking down of software into hardware turns the computer into an IT "appliance" (2011). Simultaneously, cultural consumption becomes production of data of what is read, looked at, listened to, etc., valuable in marketing as well as national defence. In this way, interface culture has been subsumed under a strictly monopolizing business model. The computer, which was originally developed as a military technology but redefined as emancipatory and revolutionary by Apple and others, is now back again where it began: as a military intelligence technology.

The above indicates that our interface culture has become 'post-digital': the digital expression holds less fascination, and digital culture is no longer the domain of DIY culture per se (see e.g., Cascone 2010, Cramer 2014, Cox 2014). Following this, and building on prior work on interface criticism (e.g., Andersen & Pold 2011), we propose six characteristics of the interface that we believe are important to address to critically reflect contemporary interface culture.

§1 The interface connects functionality with representation

The purpose of the interface is to connect functional acts with representations. These appear as icons, menus, command lines, signal sounds, speech control as well physically through buttons and other control units. Concordantly, the German computer semiotician and artist, Frieder Nake describes the computer as "an instrumental medium" (2000). We are simultaneously using it as a tool and communicating with it as a medium. This translation between signals (algorithms and executions) and signs (mediations and representations) positions the interface at the core of the computer, and furthermore defines its significance in our culture and society. With a representational dimension, technology becomes cultural – and reversely, representation becomes technological.

§2 The interface is displaced and repressed

Interfaces come from a tradition of engineering that paradoxically has tried to rid itself of it. The design guru Donald Norman says that the interface 'is an obstacle: it stands between a person and the system being used' (1990, 209). The dismissal of mediation is a driving force in much IT development, and has been framed as 'Virtual Reality', 'Augmented Reality', 'Bodily Interaction', 'Calm Computing' as well as design parameters such as minimalism, user friendliness, seamless interaction, etc. This repression is also part of a larger attempt to re-appropriate presence and immediacy by a differentiation of representation (see e.g., Jacques Derrida's criticism of writing as a 'dangerous supplement' from 1967). Although, the interface designer seeks to bypass language and displace the semiotic processes of the interface, interaction will never be seamless and will always enforce a particular way of communicating with the computer (e.g., a particular way of (non-linear) reading), or as disconnections in the form of load or error messages, entering of passwords etc. With this, the user is reminded of an interaction that is not purely functional.

§3 The interface is an ideological construct

All kinds of both disconnections and forms of seduction in the relation between sign and signal mark a power relation. Whether the interface mediates between man and computer, between computers or between humans it will always reflect a balance of submission and control. This balance is often conditioned by ideology. On some occasions the user is seduced to interact without negotiating this relation – often through “gamification” and the use of play and narrative. This happens both in social media and on tablet platforms that integrate hardware and software, where the users voluntarily give away data that reveal their personal profiles as a condition for participation. On other occasions, as within free software culture, the participants demand a negotiation of the conditions of the interface. Christopher Kelty has referred to these as a “recursive public” that is ‘concerned with the material and practical maintenance and modification of the technical, legal, practical, and conceptual means of its own existence as a public’ (2008, 3).

§ 4 The interface has traditions and genres

Historically, the interface builds on three traditions.

Firstly, early developments within computing took place within a military context. Already during WW2, the computer was used for ballistics as well as cryptology. After the war, cybernetic defence systems for ground-to-air control where computers were used to calculate and predict potential air strikes, and to automatize counter moves. Such systems, like the American SAGE, characterized by the need to reduce human participation to computation, and to control and anticipate a course of events.

Secondly, military technology design in the sixties also developed a number of human-computer interaction techniques, including graphic manipulation, the mouse, and other controllers. These designs were further developed into ideas of general-purpose tools for ordinary people (in the spirit of the sixties and seventies, and in opposition to military computing). At Xerox PARC, for instance, the notion of a “user” whose behaviour and needs could be studied led to new ways of processing text, multimedia, collaborative workspaces, and much more; including the desktop interface and the use of metaphors in the representation of computer processes (the “desktop”, “trashcan”, “folder”, etc.).

Thirdly, experimentation with computers in the fifties and sixties also led to new forms of expression (many of these relating to Max Bense's Stuttgart School and to Bell Labs and exhibited at the seminal *Cybernetic Serendipity* at the ICA in London, 1968). These include computer graphics (e.g., Frieder Nake, Vera Molnar, Manfred Mohr, Georg Nees), animation (e.g., John Whitney, Edward E. Zajac, Michael Noll), text (e.g., Theo Lutz, Christopher Strachey), and electro acoustic music (e.g., Erkki Kureniemi, Karl Heiz Stockhausen). Furthermore, we see the appearance of the computer game *Spacewar!* in 1963 as an early example of collaborative software development and the first widely used software program.

All of these traditions and the interplay between them still play a role in our interface culture as (automatized) monitoring, functional, and expressive.

§5 The interface is not (just) a surface

The interface is not restricted to the well-known “WIMP” (Windows, Icons, Menus, Pointers), known from the desktop interface. The interface includes several levels of contact surfaces and exchanges: between programs within the computer, between computers in a network, between human and computer, and between humans. Some interfaces are relatively mechanical (like the USB stick), but nevertheless also include standardised specifications on how interaction between devices must take place. Others (like the game-interface) are oriented towards human cognition and cultural traditions.

It is not possible to ‘unveil’ the computer interface, which always will appear in a ‘mise en abîme’ architecture where one translation between sign and signal will replace another: the code behind the interface is just another interface to deeper level. One level is not more essential than the other, but the interface can be critically reflected at all levels – as code, as platform, as sense-perception, etc. – each including references to technological, sociological, historical and political issues.

§ 6 The mechanisms of the interface constitutes the sensible

The interface is a multimedia that integrates sound, images, text and interaction in feedback-loops. It “sonifies”, “textifies” and visualises as it simultaneously listens, reads and sees through microphones, cameras, keyboards, sensors, GPS or data analysis. The cybernetic feedback-loop is a central part of the interaction between human and computer, and the interface is generated in a simultaneous reading of the computer and the user's system. However, this coinciding registering and representation takes place at all levels of the interface. The multimedia as a cybernetic mechanisms constitute the sensible (even beyond the human) – i.e. the way we sense, what we sense, and how we act upon this.

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