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DEPERSONIFIEDED PERSONAL AGENTS: A CHALLENGE TO WEB DESIGN AND THE PROJECT "LOGO.GIF"

In this speech I want to talk a little about my current perspective regarding the development of the Internet- a theme that a great number of people are constantly dedicating themselves to these days. Specifically, however, I want to talk about changes that are occuring right now, not changes that happen overnight, but rather shifts that will take some time to fully become apparent. These changes are caused by both technological as well as socio- economic developments. They are, in one way or another, portrayed by the media and by common perception as answers to the so- called "information overload" the Internet is facing today. I want to question this assumption a little, but more importantly, I want to point out how the combined impact of these changes is of special relevance to the World- Wide- Web designer, a field my partner Markus Weisbeck and I have been heavily involved in in the past year and a half.

First, I am going to talk about the unique position Web designers, whether they are professionals, hobbyists or anarchists or all three at once, are in today. Secondly, I want to get into some definitions in order to highlight what I refer to as the difference between the "interface" and the "information landscape." Thirdly, I will finally discuss the technological and socio- economic changes that are influencing the Internet "landscape" today Here, I will get into the so- called "agents" technology and developments imposed by social and market pressures, such as the rating system of the World- Wide- Web Consortium "Pics." Fourthly, I will speak about an aspect that in the media so far has almost exclusively been portrayed only as the "Battle of the Browsers," namely changes in the World-Wide- Web Interface. As if the future of the Web interface could only be defined by the dialectical battle between two corporations that happen to be at the exclusive top of market penetration right now. Here, I will present you with my favorite alternative Web browser- not Netscape, not Microsoft- but rather a character from the film Star Wars: R2'. My fifth point is my conclusion and a "fliegender Wechsel" as we call it in German to Markus Weisbeck, who will talk about his project "icon.gif."

1. The World As We Know It.

Web designers are in a unique position right now. Currently, everybody who builds a page on the World- Wide- Web is a Web design professional. There are no agencies that one could safely pronounce "established," more importantly, there are still no "rules of the game," no price structures, no fixed approaches, of course there arent any pre- determined career patterns. Everybody with some equipment and know- how can theoretically still create something that looks like a top-notch company CI on the Web This is good, this allows for the challenging infusion of a lot of creativity and spontaneity in the field. Moreover, it is a global game Best of all, this whole situation came about by chance, technologically at least. The original developers of the World- Wide- Web in the Swiss physics laboratories CERN never intended for the transfer of graphical layout.

Web design still focuses on their specific sites using an approach that is strongly remniscent to the handicrafts. The browser frame is the window through which the designer examines his or her work. There is- for the moment only- still not much necessity to look at the workings of the server software, of database technology, to look to the left right or behind the browser window. The simplicity and the intrinsic beauty of the Web design process as we know it has allowed the formation of whole "Internet suburbias" of private home pages. A little, proud home cottage industry

2. Definitions: "Interface" vs. "Information Landscape."

Much of what I am going to talk about today refers to the distinction between an "Interface" and the "Information Landscape." The navigational interface is the tool the user controls to access information found on the World- Wide- Web. It should be easy to use and multi- use: open for simple browsing, collaborative tasks such as teleconferencing/ chat and other interactive exchanges The standard Microsoft or Netscape browser is a navigational interface. There is, however, no reason why the interface should not be more adapted to individual user preferences. There is no reason why the browser should be rectangular and embedded in a computer screen. A Netscape affiliate and other companies are working on integrating Web navigation interfaces in a wide variety of household appliances.

The information landscape is what makes up the World- Wide-Web. It is that handicraft product I talked about earlier, the thing we read, browse, surf and interact in.

When I am tackling definitions I might as well also add that I am not going to really try to define "Agents technology" here. I use the term agents very loosely, referring to anything that supplies the user with individually selected information tidbits. Basically, the agents technology as I understand it is quite trivial, it ranges from the first simple UNIX email filtering systems to the database agent systems avaliable on the World-Wide- Web today. What is not trivial is the design challenge that accompanies the agents develeopment, this is what I will get into during my speech.

Right now, almost all the Agent technology readily avaliable to the non- hacker consumer is embedded in the information landscape of the Web, i.e. it is found on single Web pages and is linked to specific information sources. Soon, however, the agents approach will migrate from the information landscape into the user interface. Agents will not only help us in the task of information filtering, but also to carry out monetary transactions over the Internet and help like- minded people and employees with the same research interests find each other on the Internet or in the Intranets of multinational companies.

3. Changes in the Landscape.

Change in the information landscape is basically coming from two directions. Both are related in that they are seen as neccessary cures to the so- called "Information Overload" of the Internet. The first is technological, the second socio- economic.

Instead of actively having to seek out information on the Web landscapes, we will increasingly find that the information will be brought to us, more or less specifically selected according to our own individual preferences. Already today, we see that most new Web development includes beginnings of this approach. The most famous example, "Firefly" by the Boston-based company Agents, Inc. allows the user to share through

a database/ agents system his or her music preferences. The thus has the ability to "learn" the tastes of the user, thereby making intelligent music suggestions for him. The same approach is applied successfully to journalism. Newspapers on the World- Wide- Web such as the Wall Street Journal, New York Times or Los Angeles Times present their readers with information categories they selected in advance. Point Cast and First Individual are even more innovative database information systems, mainly targeted at the business consumers.

We are hearing this argument over and over again: In order for the World- Wide- Web to be a legitimate commercial entity, it needs to change. Socio- economic pressures are having a great impact on Web development, altering its nature considerably. On the one hand, the geography of the Web is changing in that a distinct periphery and center are forming. The center is composed of very successful sites with easily recognizable brand names. These easily recognizable Web brands have an added value also because they can be used to sell advertising spaces. In a Hotwired editorial "Market Forces," David Kline pointed out that brands have even greater power in an electronic market place than in real- life markets. Kline quotes the consultant Carol Holding as saying:

> "There are only 30,000 items in the average supermarket compared to tens of millions of pages on the Web. Youve got to provide some mnemonic stimulus- youve got to have a pretty powerful brand identity with consumers- or you wont get noticed."

On the other hand, the geography of the Web landscape is changing because categorization is being added. Due to political pressure against perceived pornaography on the Internet the international World Wide Web consortium is suggesting to implement a way to categorize Web pages. This "PICS" initiative is first being implemtented by Microsoft. The important thing about this categorization initiative is that it can be used for other purposes as well, to build signification for educational sites, religious sites, trusted sites, politically incorrect sites etc.

The geography of the Web is thus changing in two ways: A distinct center and a periphery are forming and on top of that layers of categorization are being added. In addition, Web sites are technologically mutating from platforms for information presentation to fully- fledged programs and databases. What does this mean for the information landscape? Web sites will tend to become more uniform, more standardized and much more difficult to create. Most importantly, the information presented on them will be offered less as part of a whole site environment and more as information tidbits, small pieces of multimedia that can be passed on to readers with specific preferences. This brings us right to our next point, because these informational pieces are perfect mouthfulls for advanced agent technologies that are integrated right into your own user interface.

4) Personalized Personal Agent Interfaces: The Cheap Way to Go.

Currently, most agents still reside in the information landscape. They will however, migrate over to the interface soon because only here they can become really useful and powerful. Equipped with electronic cash technology, agents will be able to change how we interact with the Internet and how we go about many of our social and economic pursuits. Some of these developments may very well be negative, as became evident in the online debate on Hotwired between the founder of Agents, Inc. Pattie Maes and Jason Lanier. Lanier convincingly explained one of the dangers of the agents technology. Users will be prone to limit their spheres of interest in order to

match the limited Artifical Intelligence capabilites of the agents. The lowest common denominators will win, as elsewhere in the world of computers.

This does not mean, however, that I and just about everyone else on the Internet are not secretly thrilled by the coming of the agents technology. here, I am not going to try to question the implications of this development as a whole, I want to point out the challenge that Web designers are facing here. In a nutshell, what is happening is that the World- Wide- Web model itself is changing: The point of consumption of information is shifting from the remote server to the users own computer. Furthermore, the nature of this information is such that its size, its media and its relevance can constantly change. Information in the Web will be continually retrieved by the agent and brought back to the home machine. This is a great design challence: What could an agent interface look like? How does one deal with the problem of highly dynamic content?

William Mitchell has written a popular but mostly disappointing book ("City of Bits," 1996, p. 14) about the virtual architectures of the future in which he gives us a simple solution to this design challenge:

> "While the Net disembodies human subjects, it can artificially embody these software go- betweens. It is a fairly straightforward matter of graphic interface design to represent an agent as an animated cartoon figure that appears at appropriate moments (like a well- trained waiter) to ask for instructions, reports back with a smile when it has successfully completed a mission, and appears with a frown when it has bad news. If its emotions seem appropriate, you will probably like it better or trust it more. And if cartoon characters do not appeal, you might almost as easily have digital movies of actors playing cute receptionists, slick stockbrokers, dignified butlers, responsive librarians, cunning secret agents, or whatever personifications tickle your fancy."

What a wonderful world! This quote shows how decision makers in the New Media tackle the design problem. Incredibly naive. How can it be even remotely desireable to install trust in certain bits of information through the appeal of the interface and not the nature of the information itself? What happens to the rich diversity and depth of multimedia information as it is processed and regurgitated by a personalized personal agent?

The nature of the agent technology seems to demand a personified interface, so a great many people seem to be thinking The dream of avatars and cyborgs go way back into the mechanical age. The Britain- based company Agentware has already adopted a dog as its agent mascott, the insect mataphor used in Firefly is a little better.

The process of personification, however, pulls with it a number of problems, the greatest being that the potential range and depth of our information sources is flattened. In fact, the clear distinction between information landscape and interface is distorted through the personification approach, a distinction that I believe is very useful in our task of gathering and evaluating information ojectively. For the designer, too, this is a shame because he or she looses control over the ability to embed multimedial information within unique landscapes that illustrate how different elements correspond to one another, thus conveying greater meaning structures

In his book about interface design "About Face" (1995, p. 53, 54) the software designer Alan Cooper describes the danger of using metaphors in general in software design. They are intitially easy to comprehend, but then the functionality of the program is reduced to the simple stupidity of the metaphor. Instead, Cooper argues for the use of an idiomatic approach, in which the user is given a simple, yet powerful new language of abstract symbols and tools One of Coopers credos: "All idioms need to be learned. Good idioms need to be learned only once."

> "Searching for that magic metaphor is one of the biggest mistakes you can make in user interface design. Searching for an elusive guiding metaphor is like searching for the correct steam engine to power your airplane, or searching for a good dinosaur on which to ride to work. Basing a user interface design on a metaphor is not only unhelpful, it can often be quite harmful. The idea that good user interface design relies on metaphors is one of the most insidious of the many myths that permeate the software community."

The human face shares all of the problems all conventional software design mataphors share. It is, in fact, one of the worst metaphors one could use. I also believe however, that its limits will not make it a viable alternative to idiomatic design approaches. Designers should be aware, however, of the attraction this metaphor has especially today, in the world of commercial bots and agents.

To conclude, an example from the film "Star Wars" comes to my mind. The robots R2' and C3P0 had completely different modes of passing on information. C3P0 was a full humanoid, and acted as a storytelling human. R2', however, much less human in form, had the ability to project 3D images of events and narratives he had witnessed. I remember that C3P0 used this method to project a very emotional speech of Princess Lea- what she said I have no idea, however. In this mode, C3P0 was nothing but a future browser, a navigation interface for information landscapes. Lets think of C3P0 when designing our interfaces in the future.

5) Conclusion: Let the Bot be a Bot

The development that is making the apparent flood of information on the Internet more manegeable, a technological, social and economic development, is at the same time threatening to dissolve the separation between interface and information landscape and thus the incredible diversity of meaning that was linked to this separation. The separation itself is one of the main characteristics of the World- Wide- Web, nested in the concept of hypertext and of servers and thin clients. Breaking it up may be a step back. Let us not accelerate this development by playing with the idea of personalized personal agents.

My partner Markus Weisbeck is a Frankfurt- based Web designer currently carrying out a fascinating project that shows how this grand information landscape of the World- Wide- Web functions today. In "logo.gif" he uses Bot technology to make the socio- economic structure of the Web more visible- it is a visual metaphor for the whole Net. It also makes evident the powerful possibilities of representation the Web offered to firms and private individuals alike. In "logo.gif" a Bot was programmed to collect all images on the World Wide Web with the title "logo gif"- a surprising number of people have equipped their insitutional, corporate or private pages with a visual symbol called "logo." "gif" is the abbreviation of a image compression standard on the Internet. More than 200.000 "logo.gif" probably exit on the Internet today, representing an extremely diverse set of intentions- all, however using exactly the same name and the same idea of a symbol