

# Five things I believe about the aesthetics of interaction design

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Position paper for Dagstuhl seminar on »The study of visual aesthetics in human-computer interaction«

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The seminar invitation stated the following aim for the seminar:

Given the evidence and potential for aesthetics' overarching effect on human-computer interaction, it would seem timely to explore the themes summarized above in more depth. While a lively debate is to be expected in this workshop, the overriding goal is to define and formulate a possible HCI research agenda on these topics. To achieve this, the seminar will bring together seasoned researchers who share a deep interest in aesthetics; prominent designers who are grappling with the concept theoretically and in practice; and graduate students who are likely to provide fresh perspectives.

Whether I am a seasoned researcher or a prominent designer is a little hard to say. At least I know that I am not a graduate student. I also know that I have a deep interest in aesthetics and that I am grappling with the concept of aesthetics on a daily basis, in words as well as in drawings, movies, prototypes and other artifacts of interaction design practice.

In order to contribute to the ambitious goal of defining and formulating a possible research agenda, I would like to use the following pages to lay out a few personal beliefs about aesthetics in interaction design. My hope is that they will contribute to productive discussions.

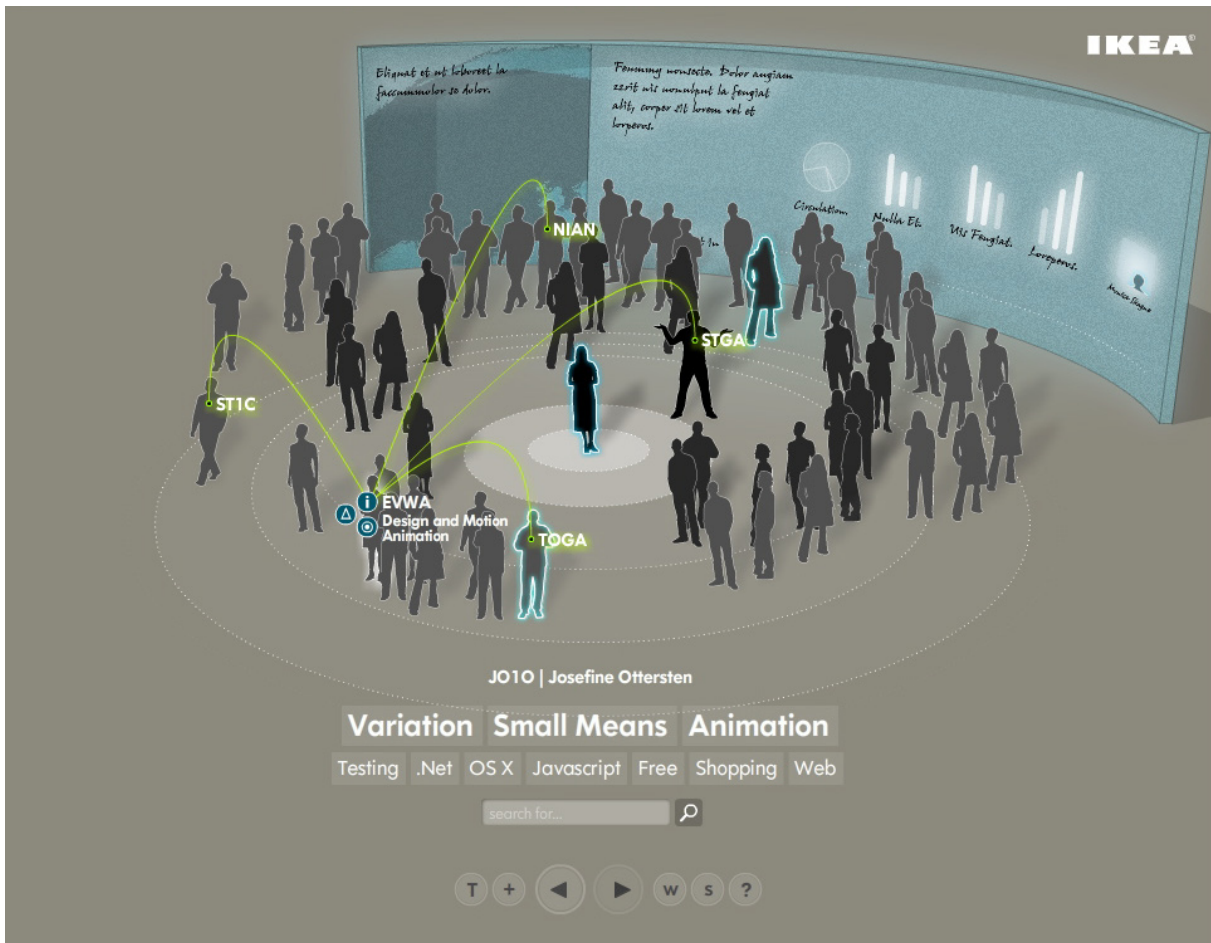


FIGURE 1. Pinpoint, a visualization of people in a large organization based on their topical and communicative distance. Work in progress, with Thomas Lundin and Gunnar Forsén.

1. IT MAKES LITTLE SENSE TO TALK ABOUT »VISUAL AESTHETICS« AS AN ISOLATED MODALITY.

In interaction design, we are not doing visual art. The user's aesthetic experience lies in the interaction, the way in which the system behaves and responds over time in interplay with the user. To put it simply, when we talk about aesthetics we need to talk about look *and* feel, not merely about look.

The illustration above is a snapshot from the Pinpoint visualization, which I am currently working on together with Thomas Lundin and Gunnar Forsén of IKEA. It is about finding people in a large organization, based on topical distance and communicative distance. Topical distance refers to the degree of similarity between people's interests, knowledge, and skills as manifest in the documents they write, the intranet pages they frequent, the projects they participate in, and the tags they select to describe themselves. Communicative distance is computed based on people's email and IM communication patterns.

The snapshot can be assessed as a static image, of course, and as such it may appear moderately interesting with a pleasant color palette and an attractive contrast between, on the one hand, the organic shapes of people and the background info-wall, and on the other, the modernistic typography and button idiom determined by IKEA's corporate style.

But that would be an inadequate understanding of the aesthetic qualities we seek to capture in our design work. We focus on the detailed behavior of mouseovers and clicks, as well as on elaborate animations of major state changes, in order to make you experience two related but somewhat opposed sensations while using the visualization. One is the sense that *there are many interesting people in the organization*, most of which you have never met, and the other is that *you are empowered to find and contact those people*.

In other words, we are trying to strike a dialectic balance between suggesting large quantities of relevant information, and providing powerful instruments for identifying the most promising people to contact.

Animations of people appearing, disappearing and moving into place on the floor of the visualization are the main vehicles for expressing the idea of quantity. Mouseover behaviors, detailed and actionable information when clicking a person, and rapid-feedback tag filters are the main interactive techniques intended to serve as powerful location instruments.

None of these features are discernible from the static snapshot, and none of them belong strictly in the category of »visual aesthetics.« Still, they are the main determinants of the aesthetic qualities of Pinpoint.

## 2. THE GENRE DETERMINES THE AESTHETIC QUALITIES.

What is aesthetically appropriate depends on what the user expects from the interaction experience, which is in turn colored by her initial appraisal of the product, its purpose, its use potentials – in short, its genre.

For instance, when you visit a dating site on the Web, you know from previous experience or from friends' recommendations to expect a certain amount of innocent flirtation and friendly banter with somewhat sexual overtones – but nothing too overt or pornographic. The designer of such a site will most likely aim at directing the aesthetic qualities of your interaction experience towards a playful and whimsical mood.

Another pertinent genre to illustrate this point would be survival/horror games such as *Resident Evil 4*. Any reasonably experienced game designer will know that the appropriate aesthetic qualities to aim for in that genre are predominantly in the realm of *vulnerability* (Niedenthal, 2008). Some established design techniques for amplifying the sense of vulnerability are:

- to set up seemingly unbearable dilemmas where you either switch on your flashlight to see where you are going, but risk almost certain attack by powerful enemies, or move in the dark not knowing what is waiting for you a few steps ahead;
- to connect certain sound effects with threats attacking from outside your field of vision, conditioning you to twitch every time you hear the sound;
- to use specific illumination schemes to condition a sense of impending danger in similar ways (see Figure 2 on the next page);
- to devise a power balance where you are forced to proceed by stealth rather than by force.



FIGURE 2. Screenshot from *Resident Evil 4*, a survival/horror game typical for its genre, where the player's experience revolves around vulnerability. Cool blue moonlight normally means a chance to relax for a minute, but not indoors... Game by Capcom, 2005.

The Pinpoint example above, on the other hand, belongs squarely to the genre of interactive information visualizations, and as such it is designed for the user to experience a high degree of *pliability*: A sense of malleable, tightly coupled and highly involving interaction that facilitates exploration and serendipitous discovery of the information presented through the visualization (Löwgren, 2007). The dialectic pair of aesthetic qualities mentioned above (large quantity of relevant information versus powerful location instruments) is merely a refinement of the notion of pliability for the particular design situation at hand.

### 3. AESTHETIC IS NOT EQUAL TO GOOD, PLEASANT, PRETTY OR NICE.

Any statement expressing an appraisal or a taste judgment of a sensory impression is an aesthetic statement. To say that something looks good, feels stimulating or smells awful is an aesthetic statement; factual reports on sensory impressions – looks blue, feels uneven, smells acidic – are not aesthetic statements.

For interaction design, it is important to realize that aesthetic appraisals can be negative as well as positive. It is perhaps not too uncommon to hear an interaction experience described as »boring and monotonous«, and that is in fact an aesthetic appraisal of how the interaction with the Address Book utility of Mac OS X sometimes feels – in spite of its impeccable usability, undeniable efficiency and carefully style-compliant graphic design (see Figure 4 on the next page).

Why do I have to point this out? Because interaction designers need to understand the experience of entering people in your laptop address book as aesthetically boring and monotonous, *in order to consider more aesthetically appropriate alternatives*. Some examples of such alternatives may include making the nature of the data-entry operations vary according

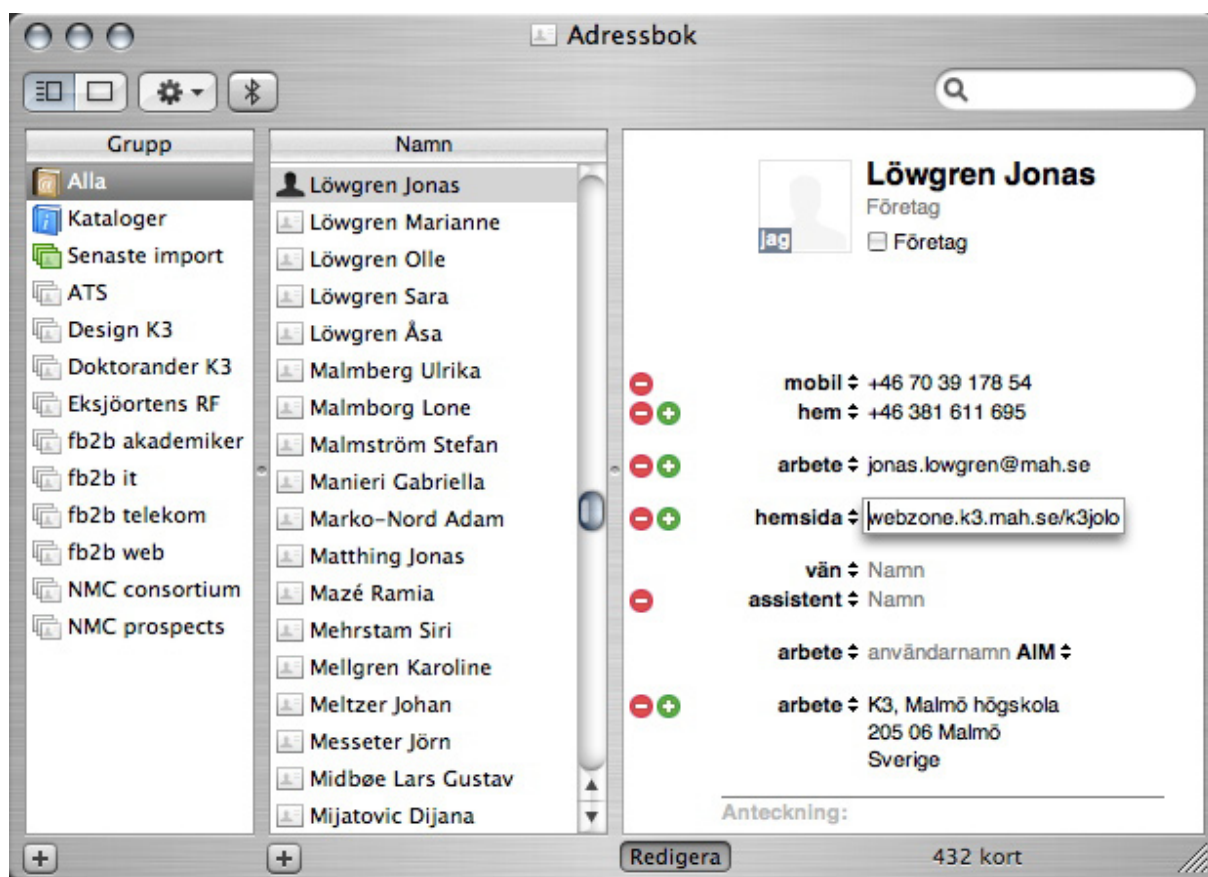


FIGURE 3. Entering contact information into the Address Book utility of Mac OS X.4 (Swedish version).

to the person being entered, or emphasizing the power and expressivity of the desktop environment by snapping contact information from web pages and other online contexts, or focusing on the personal and intimate qualities of online communication by building an »address book« around audiovisual representations of people, or making the operating system into a subservient butler by providing an agent for disambiguating contact information upon use, or a thousand other ideas waiting to be explored once the issue has been noticed. Considering how relatively elegantly the Address Book integrates with a suite of other productivity applications in Mac OS X, such as Mail, iChat and iCal, the most appropriate attempts to improve the interaction aesthetically may lie in the direction of the powerful, expressive desktop approach.

Even more importantly, *the valence of the aesthetic experience is not always correlated to its appeal* (and the economic success of the product). To return to the genre of survival/horror games, it is clear that the player's (aesthetic) experience of vulnerability is distinctly negative and unpleasant in a very direct psychophysiological sense. Yet many people find such experiences attractive and captivating enough to spend substantial amounts of money and time on them.

FIGURE 4. *SoMo3: The Musical Mobile. Parafunctionality in an everyday setting. From Social Mobiles by IDEO with Crispin Jones in 2002. Photo by Maura Shea, used with permission.*



4. AESTHETIC EXPERIENCE IS CONNECTED WITH INTELLECTUAL DELIBERATION AS MUCH AS WITH IMMEDIATE, »VISCERAL« RESPONSE.

As Hekkert (2006) points out, we experience »sensuous delight, meaningful interpretation and emotional involvement« as a unity. I would argue that trying to separate them may even be counterproductive, since the aesthetic experience involves all three levels in the use situation and one may wonder if it wouldn't be better for designers to treat it as a whole in gestation phases as well.

Skilled chess players are capable of forming and discussing highly sophisticated aesthetic appraisals of chess games, positions and sequences of moves. What is interesting is that it is not the color of the board or the texture of the pieces that matters, but rather the patterns of forces formed by the pieces and their movement and interplay. In other words, a more or less purely intellectual matter, rather than raw sensory input, forms the basis for undeniably aesthetic experiences.

The most powerful examples of this phenomenon in our field may be found among works in critical design, and particularly what Dunne (1999) calls *parafunctionality*: Designed artifacts clearly communicating an intended function, which only upon reflection reveals itself to be anomalous, paradoxical, inappropriate or in some other way critical of our tacit assumptions or genre expectations.

Parafunctional design is generally appreciated in three steps, starting with a simple recognition of the product and its intended function, followed by a brief period of frustration at the obvious inappropriateness of the intended function and only then a sudden insight (the »a-ha« moment) when you realize what the artist-designer wants to make you see.

The example in Figure 4, taken from a well-known interaction design concept project called Social Mobiles (Pullin, 2007), illustrates this appropriation process rather well.

– So, I’m supposed to dial a number of someone to call by playing notes on the trumpet-phone. Each note corresponds to one key or perhaps a chord of keys.

– How silly! I would never embarrass myself like that in public. Not to mention how much I would bother other people.

– Oh, er... I guess I am already embarrassing myself like that in public and bothering other people on a daily basis, simply by using my regular cell phone. If I had to dial by playing notes on a trumpet-phone, I would perhaps consider finding a more secluded place to make my call. *Touché.*

#### 5. WE NEED HOLISTIC, INTERPRETATIVE APPROACHES TO DEALING WITH AESTHETICS IN INTERACTION DESIGN.

The main task for scholars and researchers in interaction design is to contribute relevant and well-grounded knowledge to the field, for use by other scholars as well as by interaction designers. However, the argument in the previous point suggests that piecemeal experimentation and searching for the categories of experience may not be the most rewarding ways to construct actionable knowledge.

Designing digital products and services with appropriate aesthetic qualities requires a *repertoire of design exemplars* and an *ability to perform aesthetic assessment*. It is no coincidence that design schools have their students spend significant amounts of time studying the canon of the field, as well as on taking part in group crits where experts assess student work. These routine practices of design schools are intended to help the students develop their repertoires and their assessment abilities, always including aesthetic qualities. The interaction design community would do well to spend a little more time on identifying, analyzing and debating the outstanding examples of interaction design and their qualities.

Similarly, it is no coincidence that more mature design fields have professional critics executing the profession of criticism intertwined with the designers’ professional practice of design. The role of the critic is to assess and appraise designs brought forward by designers, and equally importantly to relate them to larger phenomena in society and culture – thereby placing them in a context of interpretation which in fortunate cases exceeds the context of gestation and thereby loads the designs with new meanings (Löwgren and Stolterman, 2004:95–96).

With the exception of computer games, where the dual infrastructure of design and criticism has been adequately fueled by the economic incentives of a rather mature consumer market, there are regrettably not many examples of interaction design criticism to this day. Johnson’s (1997)

early work remains a source of inspiration in its form and ambitions, even though the topical contents grow increasingly outdated. Gaver's recent notion of cultural commentators is certainly related to traditional criticism in its aims to connect interaction design artifacts with their wider cultural implications (Gaver, 2006). To me, it appears as though this is a scholarly field largely waiting to be developed in the interaction design community.



BY WAY OF A SUMMARY, these are the five beliefs about the aesthetics of interaction design that I would like to bring into the discussion.

1. It makes little sense to talk about »visual aesthetics« as an isolated modality.
2. The genre determines the aesthetic qualities.
3. Aesthetic is not equal to good, pleasant, pretty or nice.
4. Aesthetic experience is connected with intellectual deliberation as much as with immediate, »visceral« response.
5. We need holistic, interpretative approaches to dealing with aesthetics in interaction design.

I am looking forward to what may come out of the discussion.

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