

Mobile Devices as Props in Daily Role Playing

GEORG STROM, PH.D.

*L. M. Ericsson A/S
Sluseholmen 8
DK-1790 Copenhagen V.*

Georg.strom@ericsson.dk
Tel.: +45 33 88 40 17
Fax: +45 33 88 31 34

Abstract: A mobile device can be used as a prop, to facilitate the interaction between the user and people in the proximity and to actively convey a specific impression to them. Based on field studies and interviews three aspects of mobile devices used as props are described: warm versus cold devices, how they convey a specific impression by association to similar devices and specific situations of use, and how the characteristics of a mobile device influence the body language of the user.

Collaboration, digital camera, emotional usability, information appliance, mobile phone, Palm Pilot, PDA (Personal Digital Assistant)

Introduction

An actor on a stage uses props to show more clearly what he or she is doing. One of the classic examples is the cane and straw hat used by a dancer in an old musical. In a broader sense we all use props when acting or playing a role in our daily life. One well-known example is the use of a camera at a party, where the interaction between the photographer and the people being photographed may be more important than the result of their combined effort.

However, mobile devices are in general not designed to facilitate a positive relation between the user and people in the vicinity of him or her. The interaction and industrial design aims at optimizing the relation between a solitary user and the device.

Method

This paper is based on observations of how mobile devices are used in the public space (on streets, in malls and in means of transportation), in an office environment and in social situations where I participated. In addition, I have interviewed 7 users, 4 in the beginning twenties and 3 in the mid thirties (3 male, 4 female). The interviews have been semi-open addressing the use of mobile phones, walkman/Discman, camera and Palm Pilot/PDA (Personal Digital Assistant).

Warm and cold devices

When a human being uses a mobile device, he or she tells people in the vicinity something their relationship. A warm device invites the expression and sharing of feelings, making it possible for the user to express that he or she wants a closer relationship.

The following example shows how the camera functions as a warm device. At a family reunion I took out my digital camera and said that I wanted to take a group picture. The others lined up, the grandmother struck a pose as a fashion model, people laughed and I took a picture. Afterwards the family took turns looking on the picture on the camera's built in screen. My interviews indicate this is a typical use of a camera. When a picture is taken, the camera is used to strengthen the relation between the user and the people being photographed, and the relation is further strengthened by looking on the pictures, either immediately, on a digital camera, or later, when using a chemical camera.

In contrast to the camera, the warmness of current mobile phones and laptops depends to a much larger extent on the situation of use. A phone conversation, or an SMS message may arouse as strong feelings as a picture, and the act of holding the phone close to the ear stimulates a feeling of intimacy over a distance (2). That feeling of intimacy is even stronger when two people stick their heads together and partake simultaneously in a phone call (in contrast to handing the phone back and forth during a call). In a similar manner, simultaneous use of a laptop may, depending on the situation, strengthen an existing intimacy or be perceived by one of the users as an intrusion in his or hers private space. A mobile phone or a laptop can be a warm device for people who already have a close relationship, but it cannot draw people closer over a distance. That fits well with some of the reported aspects of teenagers using mobile phones as a collective activity (5).

Warm devices facilitate feelings, whereas cold devices facilitate control and withdrawal. A Walkman or a Discman is a cold device. In most cases, a media-based experience is colder than the experience of someone the user knows personally, and a Walkman or Discman is as much a barrier against people around the user as it is a means of hearing music. (The Walkman or Discman may be contrasted to a so-called ghetto blaster, which in some situations may generate emotionally strong contacts between the user and people around him.)

Dictaphones are particularly interesting, because there appear to be two vastly different types. The cold type used by doctors and lawyers for note taking is small and unobtrusive, whereas the warm type, which journalists most often stick in the face of their victims, is large and immediately visible (a closer relationship is not necessarily a more pleasant one for all parties involved).

Palm Pilots and similar PDA's are probably the coldest types of devices. My interviews showed that a PDA is used by a single person to keep track of appointments and phone numbers. The user of a PDA focus on it and withdraws his attention from the environment while operating it, and it is only suitable for capturing a small range of human thoughts and emotions.

Cold devices are not bad in themselves, they serve different purposes than warm devices – extraverted users want warm devices, whereas users who will withdraw or focus on a task may need a cold device.

Creating the proper impression

A mobile device should convey an impression, which fits the situation and the particular person. As an example, a policewoman should during the day show authority, whereas during the night she might want to express that she is aware of fashion, relaxed and wants to enjoy herself. The mobile phone she uses during the night would seem out of place when she is on patrol and in uniform. People might even get the impression that she is using it for private gossip.

The impression is to a large extent created through associations to similar devices and specific situations of use. One example is the microphone headset. Some years ago a Danish mobile phone operator (Sonofon) ran a series of television advertising showing a smiling girl in a call center using a headset. When a similar headset became available for a mobile phone, a girl using it would often be told that she looked like a "Sonofon-girl" - similar to the smiling model in the advertising. In the last few years singers and actors have started to use similar headsets. We can expect that such headsets become fashionable among those who want to emulate singers and actors.

A special issue is the size of the device. A large mobile phone may give people the impression that the user is old-fashioned, but it may also express the importance of the user. Some years ago, I attended a meeting where a building engineer came in, slammed his brick-sized mobile phone (large even at that time) down and told that he was engineer on duty on a large building project. In a similar manner, a large camera may express that the user is professional or at least a serious amateur (a male photographer with a Nikon SLR may persuade a strange girl to pose for him, whereas he would be laughed at if sporting a compact camera).

In general a mobile device should be so big that others can see clearly what the user is doing. That is similar to the use of a prop on a stage, and it is necessary if the user should use the prop for creating a specific impression. However, there are some exceptions; my interviews indicate that most users of mobile phones take care and want to make phone calls in an unobtrusive manner. In such cases the phone should be barely visible; a completely invisible phone call often leads to socially embarrassing situations.

Finally, if a mobile device is not working, the user may be perceived as ridiculous or people around him may feel cheated. That is the case when someone pretends to take pictures without any film in the camera, or when the device for some reason does not behave as expected when the user wants to demonstrate it. Lack of reliability is often not only a practical problem; it may humiliate the user.

Body language

A smooth, effortless and lively body language is normally perceived as attractive, and a seemingly purposeful reaction is normally considered more positive than a hesitant or uncertain reaction.

A mobile device can make the user more attractive by inviting him or her to act more openly and without hesitation. The device should invite the user to operate it in the appropriate manner (it should have a good perceived affordance (4)) and when necessary protect the user against possible damage (a gun is an example of a mobile device where the prevention of accidental activation is at least as important as ensuring a fast and reliable activation when required).

In contrast, current mobile phones often restrict the body language of the user, making the user appear less attractive. The user of a mobile phone may walk around with his head in a strange angle, resembling someone with a toothache, while shifting the phone back and forth, searching for a natural position where the small egg-shaped phone fits between his ear and mouth.

In airports and trains I have often witnessed businessmen with painful expressions who tried to fit a miniscule connector into their mobile phone. Even though they at last succeed, demonstrating that the connector is usable, they have by then demonstrated an apparent clumsiness to themselves and to people in the vicinity. If such connectors were designed better, they might slip into the phone seemingly without effort, making it possible for the user to demonstrate that he is in control of his own mobile device.

In contrast to mobile phone users, users of Palm Pilots and PDAs seem to embrace the inevitable. At the end of a meeting they take out their pen based devices and assume postures and movements similar to chickens picking up seeds, or perhaps humble worshippers of their pocket god.

Design of props

We need an extended type of interaction design which takes into consideration that each mobile device conveys a specific impression of the user and facilitates a specific relation between him and other people around him.

The first step is to regard the interaction between the user and people around him or her as a set of tasks which should be supported by the device. As an example, a digital camera is also used as a digital photo album, a mobile phone may be used for the same purpose in the future, and that function is vastly improved if the device includes a larger display.

The next step might be to study the use of devices similar to new ones planned, for instance to use methods as contextual design (1) to study how people use pictures stored in the wallet in order to find out how electronic stored pictures might be used.

When the first dummy prototypes are made, it is possible to investigate how people might interact with each other while using the equipment. It is in particular possible to let a group act out situations when the device is used, similar to the existing use of props and enactment (3) (even though the present use of props and enactment focus on a solitary user).

Conclusion

Most mobile devices are designed only to be practical appliances, not to be used as props: some of them may convey the right impression, whereas others make the user appear annoying or foolish. It is likely that we can develop devices which are more suitable as props, which are more suitable for conveying actively the impression the user wants to make, and such devices can contribute to better relations between their users and people around them.

References

- (1) Beyer, Hugh & Karen Holzblatt: Contextual Design, Morgan Kaufman Publishers, 1998
- (2) Jacobsen, Jan Krag: Interview – Kunsten at lytte og spørge, Hans Reitzels forlag, Copenhagen, 1993
- (3) Nielsen, Christina & Astrid Søndergaard: Designing for mobility – an integration approach supporting multiple technologies, presented at the Nordichi2000 conference, Stockholm October 23-25, 2000
- (4) Norman, Donald A.: Affordance, conventions and design in Interactions 6, 3, pg. 38-43, May 1999
- (5) Weilenmann, Alexandra and Catrine Larsson: Collaborative use of Mobile Telephones: A field study of Swedish teenagers, presented at the Nordichi2000 conference, Stockholm October 23-25, 2000