

The LoveBomb: Encouraging the Communication of Emotions in Public Spaces

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ABSTRACT

We are exploring the use of persuasive computational technology as an instrument for the communication of human emotions. Our current focus is on encouraging such communication between strangers. We present the concept of *the LoveBomb* - a mobile and persuasive device that allows people to anonymously communicate feelings of love (happiness) and sadness. The device contains a radio transceiver that the user can employ to send out shock waves of love, affecting people in the proximity carrying a LoveBomb device. The device also lets its users cry for compassion, quietly signaling to others that they are sad. The LoveBomb is intended to encourage people to express themselves emotionally when situated amongst strangers in public spaces. Focus group studies have provided us with an initial understanding regarding the LoveBomb's potential social impact.

Keywords

Emotional Communication, Mobile Devices, Persuasive Technology

INTRODUCTION

In many societies emotional communication between strangers in a public space is rare, people tend to keep to themselves and seem afraid to contact others. Our ambition here has been to affect that behavior by using computational technology.

How to change people's behavior and feelings has been studied for years in the psychological field of persuasion [6], and more recently in direct relation to computer technology [3]. According to Fogg [3]: "a computer qualifies as a persuasive technology only when those who create, distribute, or adopt the technology do so with an intent to affect human attitudes or behaviors". Today several examples of such computers exist [5]. In this paper we present the concept of *the LoveBomb* - a personal device that allows people to anonymously express feelings of *love* (happiness), and *sadness*. The intention with the LoveBomb is to change people's behavior, making them express themselves emotionally when situated amongst strangers in public spaces. Our hope is that an increase in such emotional communication would have a positive effect on the aura of such places. We are investigating if the LoveBomb can succeed in encouraging emotional communication and if so what social implications it might lead to. Before proceeding with the implementation, it is important to thoroughly examine and clarify the concept. Therefore we are conducting focus group sessions which provide us with insights regarding the LoveBomb's potential social impact and possible use scenarios.



Figure 1: A LoveBomb mock-up.

THE LOVEBOMB

The current design of the LoveBomb is technologically plausible, but this paper presents and discusses the LoveBomb on a conceptual level and will not describe the technical details of its future implementation.

The LoveBomb is a persuasive mobile device which fits within the palm of the hand (Figure 1). It has two buttons, one with a heart and one with a tear pictured on it. When a button is pressed, an anonymous message will be sent to people (LoveBomb owners) who are positioned within a certain radius from the initiator of the message. The LoveBomb uses tactile cues - the heart message makes the device vibrate in a manner that resembles pulsating heartbeats, while the message of sorrow is characterized by irregular vibrations. If a LoveBomb receives several messages of the same kind within a specified time limit the conveyed cue increases in strength. The user of a LoveBomb does not need to express any emotions unless he or she actively chooses to do so and the device can be turned off to avoid receiving messages.

For a communication of emotions between strangers to arise, we argue that it needs to be structured in a way that assures people that persons unknown to them will not be able to violate their integrity. We have addressed this issue by making the communication between users anonymous and by not allowing messages to be directed to specific individuals.

To limit the risk of misuse, the LoveBomb does not allow the users to decide the content of the messages themselves. If the device would support, for instance, textual communication it might be used to send out messages containing advertisements, radical views, etc.

RELATED WORK

Computer systems handling emotions are studied within the field of Affective Computing [1], but have until this point mostly considered either a) computers sensitive to human emotions or b) computers showing emotions. We address neither of these approaches, since we are interested in using computational technology as a medium for interpersonal emotional communication.

The inTouch system [2] provides haptic interpersonal communication over distances using two hand-sized devices. The manipulation of one device is transmitted to the other device, thus providing a means for expression through touch. This involves only two people, while the communication supported by the LoveBomb involves constantly changing groups of people. When using the inTouch system you know that the expression you receive is intended solely for you, while the LoveBomb system does not allow directed communication.

The LoveGety is a mobile device, which signals the user's romantic availability to other LoveGety users and conveys notifications when matching profiles are found. An important distinction between the LoveGety and the LoveBomb is that the LoveGety is intended to help users in their search for a partner, whereas the LoveBomb is designed to encourage users to actively and anonymously express their feelings to strangers.

The Hummingbird [4] provides social awareness between users who frequent the same physical location. Unlike the LoveBomb, the Hummingbird requires no user action when turned on. While the Hummingbird provides social awareness, it does not support a communication of emotions.

FOCUS GROUPS

We have conducted two focus group sessions. The groups consisted of three and five students, respectively, and all of the participants were 20-30 years old. The groups discussed the concept based upon a short description of functionality and design examples in the shape of mock-ups. The ambition was to make the discussion feel as natural as possible and to let the participants understand that they could speak freely.

Focus Group Discussions

When the participants discussed how a device like the LoveBomb could affect the aura of public spaces, it was suggested that it might make these spaces more personal and interesting, enhancing the user's awareness of the people in the near surroundings. Both of the groups thought that people might experience a decreasing degree of loneliness and that the LoveBomb could be of help to socially impaired users, to whom it could function as a first step towards making contacts with other people.

Although the description of functionality clearly stated that the signals sent from the LoveBomb are anonymous and impossible to direct, much of the conversation revolved around how the device could be employed to establish connections with specific individuals in the proximity. It seemed that the participants perceived the purpose of the device as something resembling the one of the LoveGety, i.e. to serve as a mobile matchmaker.

All of the participants agreed on that teenagers are the group that most eagerly would embrace this new technology. However, the group that was believed to be in the

greatest need of the device was senior citizens, who were considered to often lead lonely lives.

The main part of the participants argued that the present design of the LoveBomb is somewhat limited and would have difficulties in finding lasting users, but that added functionality could remedy this.

DISCUSSION AND FUTURE WORK

We believe that emotional communication involving groups of people is a neglected area within HCI research. Such communication might enhance peoples' awareness of each other and increase the feelings of empathy and warmth in these groups.

A device like the LoveBomb is clearly provocative and controversial since it supplies an artificial means of communicating feelings. A user can simply push a button to express an emotion. Can this bring people further apart rather than closer? Is it ethically right to replace face-to-face communications with technological surrogates? These are important issues to address when continuing the development of the LoveBomb.

The focus group participants' difficulties in accepting the anonymous manner of communication used by the LoveBomb is interesting. This together with the suggestions of added functionality, might imply that the current design of the LoveBomb does not provide the user with enough feedback. This is something that needs to be explored further before continuing with the implementation of the device.

The next step in the development of the LoveBomb is the implementation of a prototype, using radio transceivers, vibrators, etc. Based on the feedback from already performed, as well as future, focus group sessions, the Love Bomb may function and look different when implemented. When a functioning prototype exists, we will conduct evaluations and continue to investigate its social impact.

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