# 'hugms' and '.dot.dot.dot': personalizing mobile technology

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## ABSTRACT

Mobile phones have rapidly become one of the most ubiquitous technologies to date. The strong demand of the consumer market has pushed the industry into a competition driven by form and features, promising to put more 'power in the pocket' of the affluent mobile user. In its journey towards becoming a 'super-appliance', the mobile phone has begun to obscure its original purpose for being – 'keeping in touch' with loved ones. 'hugms' and '.dot.dot.dot' are two devices that attempt to personalize mobile-mediated communication for close relationships, focusing on the emotional experience of 'keeping in touch'.

## Keywords

Mobile phones, bluetooth, ubiquitous computing, remote presence, Human Computer Interaction, cellular networks, mobile-mediated communication.

## INTRODUCTION

In his paper "Less is More (More or Less)" [1], Bill Buxton makes the argument that the wide variety of tasks the computer can accomplish has psychological ramifications. Each activity of the 'super appliance' traditionally asks to be performed in different spaces, for example playing video games in the den, doing taxes in the study, reading email in bed, etc. A similar phenomenon has begun to take place with mobile phones. What was once a simple device for communicating with friends and family while on the road, normally for safety reasons, has become a fully-featured mini computer. It can now be a calendar, camera, game console, calculator, map guide, and much more. All these extra functions has added tremendous value for those 'mobile warriors' dependent on the transient lifestyle, but amidst all this is the obscured function of calling home to say "everything is ok".

Increased accessibility is another situational factor that has affected this simple interaction, changing where and how these essential personal communications take place. That friendly call often comes at a bad time when one can't answer or give enough attention to person on the line. This partly has to do with the mobile shifting from an expressive tool to something more instrumental [2]. This can be illustrated when a simple expression like "just thinking about you" turns into a five minute task-driven conversation "oh, by the way, can you grab some milk. And call the plumber!"

## MOBJECTS

I have created several devices, called 'mobjects', as a response to these changes in mobile-mediated personal communication. Each device follows a basic set of design criteria:

*Simple Interactions.* The user shouldn't be overwhelmed with more functionality than their mobile phone already provides. It should allow for a user to perform the interaction effortlessly.

*Communicate Emotionally.* The interaction is driven by a desire to convey something emotional. The goal is to strengthen the mobile-mediated relationship.

*Design Smart.* Rather than just being another electronic gadget to own and/or carry around with you, these 'mobjects' should embody a fashionable appeal accessorizing the user (a wearable) or adding to the ambiance of a room (a luminescent or sound based object).

Working within these parameters, I then studied different types of relationships that were mediated through the mobile phone. Since emotion is the medium for communication, each type of relationship must be recognized for its level of intimacy. A group of high-school chums wouldn't use a device designed to support communication between couples.

## Technology

These devices utilize a similar system for communication. Each contains a Bluetooth module that creates a paired connection with the users mobile phone. When the user sends or receives an SMS the device is notified and handles the event accordingly. The devices are all custom designed, and run on rechargeable batteries.

## 01: 'hugms'

Have you ever been separated from a friend or loved one but wished that you could give them a hug? Generally, the answer is 'of course'. We've all felt the desire for some sort of physical contact at times when it wasn't possible because of geographic separation. The goal of 'hugms' is to explore possibilities of sending a hug using mobile telephony. This expression is a common one, desired between couples and within families. I felt that this was one of the relationships obscured by the 'task-driven' motivations of mobile phone use, so it was an important interaction to start with.

**Figure 1: hugms**

When the user first turns on the 'hugms', they will have to create a paired relationship between their phone and the device. This will keep 'hugms' personalized to their mobile phone. A simple menu is then published to the users phone, where they enter the phone number of the person they would like to send hugs to. Each time they squeeze 'hugms', the duration and strength of the squeeze will be mapped to the word 'hug' and sent as a text message to the entered number. For example, a long soft squeeze might look like this:

hhhhuuuuuuuuuuggggggg

Similarly, a longer squeeze that starts soft, then gets harder, then soft again would look like this:

hhhhuuUUUUUUUUUGGGggggg

This squeeze is also reflected in the color of the object. A harder squeeze would be more red, etc. When the person the hug is being sent to receives the message, they'll see that exact text on their mobile phone. The word will always convey the senders desire to hug the recipient, but the different formatting will express the nuance of that expression. If the recipient also has a 'hugms', then they'll see the message and the corresponding color change.

## 02: '.dot.dot.dot'

With 'dot.dot.dot.' I wanted to explore the social group that uses mobile phones most prevalently. Young people, from high school to college, use mobile phones to navigate their active social lives. Part of the goal was to create a device that would be fun and creative, allowing these tight social groups to collaborate for the sake of personalizing their group's communication. Using 'dot.dot.dot.', groups of friends can design animations for each other using their mobile phones. Those animations would be assigned to a friend's contact information (eg: phone number), so each animation would take some characteristic of the person whom it was assigned to. For example, if one friend is into photography then perhaps their animation would be a dancing camera. Every time that friend would call or send an SMS to the user, that animation would be displayed. Like 'hugms' I wanted to make sure that this experience didn't rely on having two devices that talked to each other, even though my ideal use would have a whole group of friends each having a device.
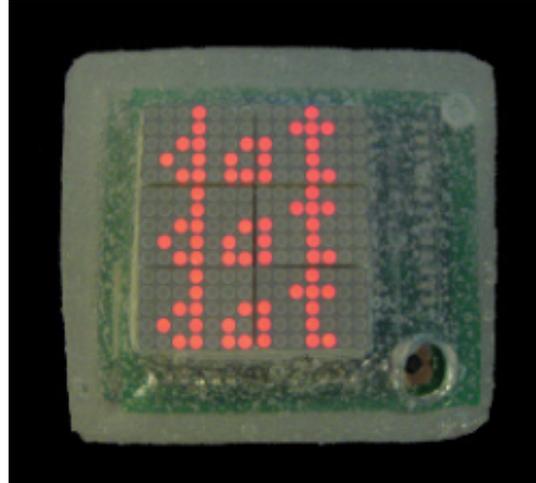


**Figure 2: .dot.dot.dot**

The system for '.dot.dot.dot' is a piece of software that exists on the users phone, and a physical device. One of the main goals of '.dot. dot.dot' is to make this interaction a visual and public one, so I designed the device as a piece of wearable technology. The user would find a place for the device, either around their neck as a necklace or attached to their backpack, that would be visible to the user and people around them. The display was comprised of six 5x7 led matrices combined together to create a 14x15 pixel display. When designing the device, I considered that many devices made for social groups lose their novelty fast. I wanted 'dot.dot.dot' to embody some flexibility of use, so that it could change it's function based on the users wants. I placed a five-way joystick under the display so that some of those uses could be completely explored on the device, without the aid of the mobile phone for input. The combination of display and joystick unlocks the potential for many other uses than just a graphic caller id.

## FUTURE WORK

Currently these devices are still being exposed to user feedback for revision. The next steps in the mobjects project is to produce several of each device and give them to test groups for research. Considering that the goal is to create an effect on a humanistic level, it is most important to get practical feedback on the devices abilities to properly communicate. Finally, 'hugms' and '.dot.dot.dot' are only the first two mobjects. Other types of relationships and interactions need to be explored to discover how mobile technology can be used in a more personalized and expressive way.

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