

# Bouncers: a design exploration into sharing and triggering personal activity amongst friends

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**Abstract.** Sports clubs are loosing their social role leading to a decrease in sports participation. The exploration discussed in this paper attempts to create a virtual sports club to stimulate social connectedness. For this purpose Bouncers, a live wallpaper for android smartphones, was created. Bouncers allows a group of friends to get insight into each other's physical activity. This resulted in an increase in social activity through which persuasion within the group emerged.

**Keywords:** Social connections, persuasion in groups, design exploration

## 1 Introduction

Human beings desire to have social relationships. One of the ways to form social relationships and create a social status could be achieved by joining a sports club. However, in our current society the social role of sports clubs is disappearing, resulting in a lower participation level in sports [1]. For society this creates a challenge, as the lower participation in sports can lead to several health issues, like for instance obesity, diabetes, etc. The field of persuasive technology often focuses on such issues and tries to persuade people to become active again.

Next to the trend of declining sports participation we also see social media take over part of the social interaction, taking over the role of sustaining relationships. In this exploration we set out to create a virtual sports club for an active lifestyle to stimulate people to become more socially connected by means of physical activity.

Because people have the urge to fit in, their behavior is influenced by others around them [2]. The influence others have on a person differs by means of their relation to the person [3]. This opens the opportunity to create a virtual sports club through which people can motivate each other to be more active.

## 2 Bouncers

For this purpose we designed Bouncers, a live wallpaper for android smartphones. The wallpaper was designed to be non-obtrusive and provide a subtle way of displaying information during everyday use of your smartphone. Bouncers visualizes physical activity, using the accelerometer data of the android smartphone. An individual's activity is represented in the speed of one circle in the wallpaper. Other circles represent the physical activity of a selection of your friends. The information about one's physical activity is therefore shared in a small and close group of friends.

As illustrated in Fig. 1, Bouncers shows different circles, each with their own unique color. The large circle represents the owner of the phone and the smaller circles represent his/her selected friends. The speed of each circle corresponds to an individual's activity, measured and processed by the internal accelerometer, processed as a rolling average. Therefore the results are not immediate and can only be perceived over time. Thus the speed correlates with the general amount of physical activity of the individual.



Fig. 1. Bouncers and social interaction

## 3 Designing Bouncers

Smartphones have become everyday wearables just like clothing, shoes and jewelry. This made it possible to extend its communication purposes and integrate Bouncers as a part of everyday life. As an animated wallpaper, Bouncers can serve as a subtle peripheral trigger each time the user interacts with his/her phone.

Bouncers is designed to enable people to become self-aware by providing insight into their own physical activity and the physical activity of others in the group. The

process of self-awareness enables users to reflect on their own norms and values. While designing Bouncers the aim was set for an implicit way of norm activation, as it does not weaken over time which is the case when explicit messaging is used [4]. The implicit method of reflection represents itself in Bouncers as the abstract visualization of how group members compare to each other. The design choice to use abstract visualization enabled the information to be more meaningful for people with little knowledge about the subject. In addition, abstraction allowed privacy as no concrete meaning could be derived from the visualization.

#### **4 Involving users**

Bouncers was developed in close cooperation with users to increase acceptance by starting very early on with discussing the concept with them. Through their involvement numerous compatibility and usability issues could be tackled early in the process. This way a working prototype could be spread, allowing us to fully investigate the effect of Bouncers on possible behavior changes and new patterns in different groups of friends.

Bouncers was spread by word of mouth and promoted through email and social media (Twitter, Facebook). This led to a quick spread of the knowledge about the existence of Bouncers resulting in quite a number of people trying out the wallpaper. Over 30 people spread over 12 groups, used Bouncers for up to a maximum of 4 weeks. To evaluate the effect of Bouncers a selection of 7 participants was interviewed.

#### **5 Persuasion within groups**

By means of this abstract and subtle way of sharing one's physical activity in a close group of friends, a context was created in which people could learn about each other and get insight into their own lifestyle and those of their friends. Bouncers was able to trigger new emergent social interaction, see Fig. 1, on a level that was not subject to interaction before. This insight can lead to an increased feeling of connectedness amongst group members.

Bouncers enabled the group to create a context to stimulate intrinsic motivation by means of the persuasion within the group. This particular influence mutual friends can have on each other's behavior has been subject to studies in the past. Many different areas have already been studied such as the influence on alcohol use, drugs use, driving style and physical activity [5].

Bouncers itself was not the main persuasive element within this result. Conversely, the group itself became the main persuasive agent. Bouncers turned out to only be a tool to stimulate group persuasion. The case of Bouncers showed one possible way to strengthen interaction and provide a platform for increasing connectedness by creating a virtual sports club through which activity insight is shared.

## 6 Discussion

Stimulating group persuasion emerged as an important role of Bouncers. In itself it was not a strong persuasive technology, but Bouncers supported the group in serving as the persuasive factor. For this we needed to design a tool to stimulate persuasion within a group. Bouncers provided an open context for this, resulting in the effect within each group to be different. This very much depended on the nature of the relations within the group. However, an increase in connectivity such as starting a Whatsapp group or daily encounters between group members, did result in an increase in social activity.

The interaction between group members made at least one person change his view on the amount of daily physical activity. Unfortunately, for the others it was unclear whether such changes would also emerge. The long term effect of such an application cannot be predicted or simulated in short evaluations. To get insight into long-term effects a long-term study would be desired.

Sharing intimate information, such as your personal activity, can be seen as an invasion of privacy. However, none of the interviewed individuals indicated to be violated in relation to their privacy. They indicated that choosing with whom they share such information avoids privacy violation. Also the level of abstraction provided a cover against the feeling of being watched. This implies that with the right design considerations on what is shared, how it is shared, for what purpose it is shared and with whom it is shared, people are willing to share intimate information.

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