JogCall: Persuasive System for Couples to Jog Together

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Abstract. Due to wide adoption of smartphones and computers, many co-located couples rarely engage in a collaborative physical activity. We present a cooperative and aesthetic system that persuades the couple to jog together, which is not only good for their physical exercise, but also for their emotional health. The system consists of i) a series of sensors deployed in home, which sense the position of the partner getting ready for the morning jog, and cause pleasing alarms to wake up the snoozing partner, and ii) a wooden bird nest containing two movable 3D printed birds, which move close together as the couple progress.

Contribution Statement. Using persuasive design principles to develop a reflective system for couples in proximity for healthy collaboration. According to the Fogg Behavior Model, our system provides *triggers* to enable the behavior using a series of subtle pleasing notices, and *motivation* to sustain the behavior by abstracting the user's progress in an artistic and reflective physical artifact.

Keywords. persuasion, couple, collaboration, design and prototyping, HCI

1   Introduction

Before the advent of computers and mobile phones, the main channel for couples to interact with each other was through collaborative physical activity, *e.g.,* walking, gardening, cooking etc. Today, social network and mobile phones have replaced a significant amount of physical collaboration between couples. This has led to reduced fitness and emotional dissatisfaction [1].

In this project, we leverage the human beings' natural drive to cooperate, and to empathize with other living beings, to design a system which promotes healthy and natural interaction between couples. The cooperative, aesthetic and reflective system, namely *JogCall*, motivates the co-located couple to jog together, in the hope of enhancing their physical exercise and emotional health.

Psychological research suggests that couples who run together not only increase the efficiency of their workouts due to mere presence of someone else [2–4], but also their emotional bond due to joint participation in a physical activity [5–7]. Some systems that encourage collaboration between couples are Lover's Box [8] and Diary Built for Two [9], but they do not require spatial presence, nor demand physical activity.

JogCall is a series of artistic technical deployments at home that persuade the couple to wake up and leave from home at the same time in the morning, and jog together. It

does so in two stages. First, it enables the behavior by providing subtle pleasing notices to the partner snoozing on bed that the one who is up is getting ready to jog. Second, it helps to maintain the behavior by reflecting the couple's progress in an artistic artifact.

2   The JogCall System

JogCall consists of three modules (Fig 1): i) a bird nest artifact containing two birds, ii) a set of sensors installed in the house, and iii) a mobile application:

We motivate the couple to jog together in the morning regularly. Since morning marks the presence of birds, the main artistic prototype of the system is a bird nest, laser cut out of wood, containing two beautiful 3D printed birds (Fig 1a). The birds metaphorically represent the couple; one bird represents one partner. They are positioned on sliding tracks and can move close or far away from each other. The nest also contains a bird chirp alarm. It is kept on the bedside table as a showpiece.

As described in the introduction, the system works in two stages:

Stage 1: The first stage motivates the couple to wake up and leave home together in the morning to jog. If one partner wakes up and is getting ready for the jog, the system signals the other to wake up too, using a controlled bedside alarm. The nest contains a pleasing bird chirp alarm. This chirp creates an emotional persuasive impression that your partner bird is calling you to come out and join her.

In order to trigger these alarms effectively, a series of unobtrusive sensors are installed in the home to sense the position of the partner who is getting ready to jog. These sensors are skillfully instrumented in devices that are part of the ordinary routine like toothbrush, doors, shoes etc. They are completely oblivious to the user, and are triggered when the user operates the devices they are attached to. For example, the door sensor is a bend sensor attached to the door hinge (Fig 1b) and gets activated when the door is opened. These sensors wirelessly communicate with the bird nest and cause the birds to chirp. Thus, if one partner is brushing teeth, or wearing running shoes, the system persuades the other to wake up too. Also, as the partner gets ready, the alarm subtly increases in volume to denote urgency.

Stage 2: The first stage persuades the couple to start the activity. However, in order to maintain the activity over longer periods, it is recommended to monitor and reflect upon the behavior at a later stage [10]. We wanted to represent the total jogging time of the couple in an abstract and reflective way. The birds should become happy if the couple make good progress. Hence, as the couple spend more time jogging, the birds slide and come close to each other. The couple set their desired weekly goal in the mobile app, which divides it into daily goals, and wirelessly signals the birds to move closer based on the proportional daily progress. If the couple complete their goal for the week, the birds would come close enough to kiss. This close movement of the birds signifies increasing happiness and acts as a reward for the couple. If the daily goal is not completed, the birds remain where they are. They move far apart at the beginning of each week.

The system also uses a mobile application installed in phones of both the partners. It displays a compelling user interface and contains various features. For instance, it

automatically detects whether the couple are in close proximity and are running, and updates the interaction time accordingly. It also stores all the past logs and displays it in an aesthetic data-time visualization graph. Further, it has options to modify/delete the logs and maintains wireless connections with the bird nest and the sensors.

There are several other carefully designed features of the system which makes it compelling for the behavior change. These are not explained due to space limitations.
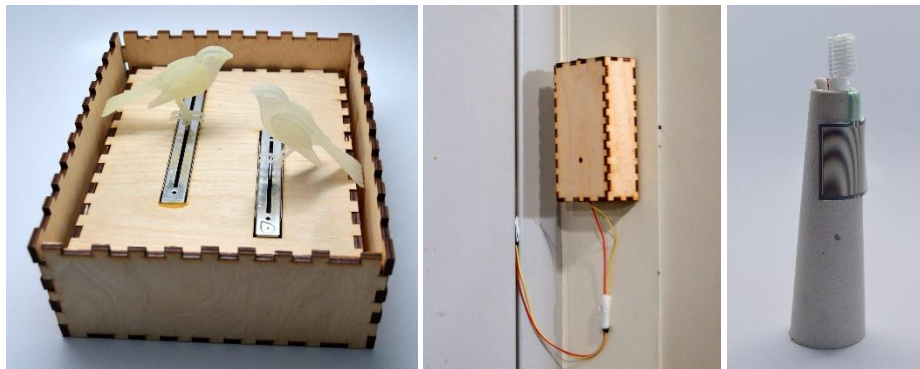

Fig. 1. Components of JogCall system: (a) wooden bird nest (image 1), (b) set of sensors in home, for *e.g.,* in door hinge (image 2), toothbrush (image 3), and (c) mobile app (not shown).

3 References

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