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Supporting Self-Assembly: A Demo on Mobile Health Apps

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ABSTRACT
This is the demo version of our workshop paper (Supporting Self-Assembly: The IKEA Effect on Mobile Health Persuasive Technology). We describe our proposal and experimental plan in this demo.

Keywords
The IKEA Effect; Self-Assembly; Mobile Health; Persuasive Technology

1. DESCRIPTION
In this paper, we propose the idea of examining the effect of self-assembly on the success of mobile health persuasive technology. The IKEA effect [1] shows that individuals evaluate products assembled by themselves more positively than pre-assembled products. The IKEA effect has been proven in several domains, e.g., in human robot interaction [2], where participants who assembled the robot evaluated the robot and the interaction with the robot more favorably than participants who did not assemble the robot themselves. We propose that the IKEA effect exists in the context of mobile health persuasive technology and has high potential for improving users' engagement and long-term user experience of mobile health persuasive applications. In this paper, we describe the IKEA effect and its potential for mobile health applications. In addition, we propose an experimental design to analyze the effect of self-assembly on user engagement and satisfaction.

2. HYPOTHESES
The purpose of this work is to test if the IKEA effect exists on mobile health persuasive applications and how it affects user's engagement and adoption of the application. We have three hypotheses as listed below.

H1: Individuals will evaluate a mobile health application more positively when they set up the application by themselves.

H2: Individuals will have more engagement (e.g. add more functions or adjust the current function) with the application when they set up the application by themselves.

H3: Individuals will use the application for a longer time when they set up the application by themselves.

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We illustrate the hypotheses in Figure 1. In our experiment, we contrast the condition of self-assembly to a condition that gives the users the exact same functionality, but the assembly is done by the experimenter and they receive the application pre-assembled.

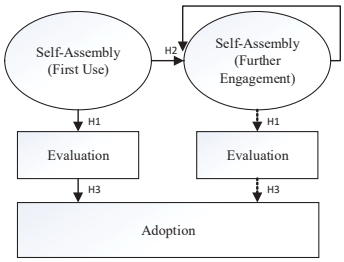

Figure 1. The hypothesized relationships.

3. METHOD
In order to test the proposed hypotheses, we plan to conduct a between-subjects (self-assembly group vs. control group) experiment. We utilize the IF[1] mobile application (see Figure 2) as our tool, which allows users to assemble the functions within the application.

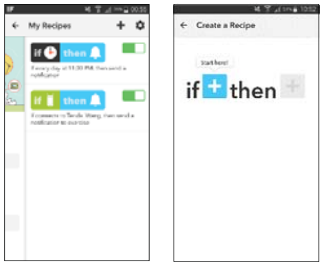

Figure 2. The interface of IF application

In the IF app, a recipe is used as a metaphor for a function, which can be described as "if THIS then THAT." "THIS" is an event, e.g., entering a specific area, connecting to a specific Wi-Fi, rain in a weather forecast and so on, while "THAT" refers to an expected feedback, e.g., notifications.

4. REFERENCES
[1] Norton, M. I., Mochon, D., and Ariely, D. 2012. The IKEA effect: When labor leads to love. *Journal of Consumer Psychology* 22, no. 3 (July 2012): 453–460.

[2] Sun, Y., and Sundar, S., S. 2016. Psychological Importance of Human Agency: How self-assembly affects user experience of robots. In *The Eleventh ACM/IEEE International Conference on Human Robot Interaction* (HRI '16). IEEE Press, Piscataway, NJ, USA, 189-

[1] https://ifttt.com/recipes