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ABSTRACT SUBMISSION FOR CADE 2018

Participatory Design Fiction and the Wearable HAT: The Story So Far

Purpose

Design Fiction for Wearables is a longitudinal study that is using participatory design fiction, combined with the privacy and interoperability of the Hub-of-all-Things (HAT), in an effort to reduce obstacles to acceptance of wearable IoT technology.

This study focuses on wearables for independent adults in everyday situations, as opposed to devices for minors or patients; or for medical, specialist, safety-critical or occupational use.

The most popular forms of wearable IoT device are the fitness band and smartwatch, which are multifunctional and visually unremarkable. Adopting more imaginative form factors might require reducing a device to a single function, raising one of the identified obstacles to adoption: the need to integrate devices into an IoT ecosystem. The HAT has been selected as the software infrastructure for this project because it provides an ecosystem for multiple devices; and because it prioritizes privacy, another identified obstacle.

Thus, within the HAT's ecosystem the choice of forms and functions for wearable IoT devices is potentially more varied. The first question this study aims to answer is the question of what to make. Can participatory Design Fiction help us to understand what wearers want to wear? This presentation will focus on progress made so far in answering this first question.

Methodology/Approach

The longitudinal study started with a workshop in which each participant told a story of a wearable device they wished they could have, according to a prompt adapted from the "Five Steps" of Johnson's Science Fiction Prototyping [2011].

Pilot studies were conducted in the form of four storytelling workshops in October 2017. The first two were public engagement events within the Cambridge Festival of Ideas. The second two were with students of the Design Informatics Programme at the University of Edinburgh.

In January 2018, an Inaugural Workshop was held in Cambridge, attended by members of the public, with the goal of introducing, and recruiting for, the two-year longitudinal study in which participants continuously develop their design

fictions informed by lessons learned while co-designing, and wearing in-the-wild, a device inspired by one of the design fictions.

Findings

During the pilot studies, 11 stories were told by 18 participants. During the Inaugural Workshop, seven stories were told by seven participants. Six volunteers were sought, and eight were recruited.

From the start, recurring themes, ideas and contrasts were apparent in the stories, with rich potential for actionable insights. Co-design of a wearable device based on one of the stories will begin later in 2018.

Originality/Value

This is the first study in which design fictions are elicited directly from participants in order to inspire the co-design of wearable IoT technology in everyday situations, and the form and function of the wearable is not known at the outset. The goal is produce a set of design fictions informed by the users' experience of wearing devices that they co-designed, and to create innovative forms of wearable IoT technology that enhance their everyday lives.