

Identifying Folk Methods Employed with Fitness Applications by Users with Chronic Mobility Issues to Improve Application Design

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1 Introduction

The use of wearable technology is increasing, with devices/applications seen as improving the quality of life and user fitness. The global fitness tracker market is a growing industry, but the majority of products are marketed to fit users aiming to get fitter. The market of users who employ devices like this to prevent overexertion is unknown and underused.

The principal research question is “How does design affect use of commercial hardware and applications by non-normative users to assess/manage their chronic mobility condition?” The objective is to assess a users’ interaction with devices designed to increase a persons fitness to instead reduce exertion and manage chronic fatigue. We hypothesize that these goals are achieved by users employing “Folk Methods”, adopting methods that manufacturers deem misuse in order to achieve these goals.

2 Related Work

The existing literature is similar to the existing market in that the majority focuses on users who are fit or who want to be fit as their normative users. Even [Car+15], assessing wheelchair users in relation to fitness devices, assesses wheelchair athletes interested in using the devices to further their fitness. The uncertainty surrounding use of devices and their reliability despite the importance of decisions they play a part in making is covered in [Kno+18], but this covers only healthy users. [MF16] assesses users with a range of fatigue impairments, but only with the goal of using these devices as intended to promote health through exercise.

This project will interview participants suffering from chronic fatigue (self-diagnosed or formally diagnosed) to uncover themes surrounding “Folk Methods” in relation to general fatigue and in relation to groups of conditions. The objective is to produce recommendations for manufacturers to improve future designs for this demographic of users left wanting.

3 Methodology

This Master of Philosophy project aims to advance the direction of research in regard to fitness devices being used to enable a person with chronic fatigue problems to manage their condition by limiting their exertion. This is in direct contrast to the aims of most commercially available devices and in contrast to the current direction of research. This project will focus on chronic fatigue, irrespective of cause.

This project will use interviews with around 20 participants as the core component, to extract themes around “Folk Methods” to inform future product design. Participants can also provide a sample of an “activity diary” if they keep one, and participants will answer the Chalder Fatigue Scale, Fatigue Severity Scale and Epworth Sleepiness Scale. This data will be thematically analysed across the entire set and across commonalities such as fatigue condition.

We hope to produce meaningful recommendations for device manufacturers to better inform design for use by those with fatigue conditions in addition to current users.

References

- [Car+15] Patrick Carrington et al. ““But, I don’t take steps”: Examining the inaccessibility of fitness trackers for wheelchair athletes”. In: (2015).
- [MF16] Meethu Malu and Leah Findlater. “Toward accessible health and fitness tracking for people with mobility impairments”. In: *Pervasive Health* 16 (2016), pp. 170–177.
- [Kno+18] Bran Knowles et al. *Uncertainty in current and future health wearables*. 2018.