

“The Crowd Keeps Me in Shape”: Psychology and the Past, Present and Future of Health Social Machines

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ABSTRACT

Health social machines ...

1. INTRODUCTION

Health and well-being have long been used as visible indicators of human technological progress, as advances in healthcare and medicine are invariably reflected in quantifiable values such as increases in average lifespan, reduction of disease and suffering, and shortening of time needed to recover from illness and injury. As such, it is natural to ask how and whether the Internet and the Web, two of the most significant inventions in recent human history, have and may effect these measures.

In this position paper, we examine a specific type technology, Web and Internet-enabled system, the emerging class of *health social machines*, to see how they have, thus far, brought about advances and techniques by which they can improve health and wellbeing from the scale of the individual up through greater segments of society. For the purposes of this paper, we define a health social machine to be Web-, app- and sensor-based online community or site where people communicate and interact, mediated and facilitated through a digital moderation mechanism, to collectively solve health-related problems.

We first examine the emerging landscape of health-related social machines, and identify a set of classes of social machines based on their characteristics and goals. We then examine the goals of these classes, in detail the discussion with an examination of

2. A CLASSIFICATORY ANALYSIS OF EX-TANT HEALTH SOCIAL MACHINES

We identified three main objectives of extant, health-related social machines: *behavioural intervention*, *disease management*, and *disease understanding/medical science*.

The first which we refer to as “behavioural intervention social machines” are systems that seek to help individuals

achieve health goals by changing their behaviour. Looking purely at Web and device startups, the majority of systems in this space seem to be “fitness social machines”, *preventative wellness* systems that seek to help individuals increase their fitness by either increasing their general activity levels, or by setting specific strength and fitness goals. But other systems include *disease management*, to help seeking to increase people’s levels of physical activity, for example, in order to increase reduce likelihood of the later onset of conditions associated

Preventative wellness
Disease management
Alzconnected (Alzheimer’s patients)

Table 1: Consolidated constructs of social machines.

2.1 Social pressure and Motivation: Gym Memberships and Personal Trainers

2.2 Present: Channel factors, access, convenience

2.3 Present: Salience and reminders

2.4 Futures: Personalised Activity Diaries

2.5 Futures: Citizen-medicine

3. ACKNOWLEDGMENTS

This work is supported under SOCIAM: The Theory and Practice of Social Machines. The SOCIAM Project is funded by the UK Engineering and Physical Sciences Research Council (EPSRC) under grant number EP/J017728/1 and comprises the Universities of Southampton, Oxford and Edinburgh.

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Workshop on the theory and practice of social machines @ WWW2013 2013, Rio de Janeiro, Brazil

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