
Gameful Systems: Play in the digital age for young and old.

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Abstract

Games have been used as a tool to introduce older people to digital technology. Here we are developing a gameful system to facilitate the social interactions between older people and young adults in a community run club.

We discuss opportunities for gamification as it relates to our current study using a local running group as platform for supporting older people in gaining confidence in integrating digital technologies in their everyday life. We discuss the overarching issue of older people, digital technology usage and participatory design. This provides the background for addressing points of using gameful system to foster empowerment and connection in the intergenerational running group.

Author Keywords

Game design; vulnerable individuals; methods.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Human Factors

Introduction

A 2009 United Nations report states that by 2050 there will be more people over 60 than under 15 years of age in developed countries [17]. Despite the increase of older people in the population, they are still overlooked in the development of digital technologies.

While the growing older population is diverse and can no longer be divided into 'silver surfers' [4] or 'digitally disenfranchised' [16], studies have shown that on the average the 'grey generation' is a small portion of digital users [11]. Older people have ambivalent attitudes toward new technologies due to limited experience of the technology's usefulness in their everyday life [15].

The central theme of our research project is to bolster older people's confidence in engaging with digital technologies through a meaningful integration into their lives. We are working with a local London, UK running club whose members regularly visit isolated older people in their neighborhoods: checking on their well-being, encouraging social interaction, delivering newspapers and doing other helpful jobs. Our research work supports the relationship between the runners and the older people (coaches).

The relationship between the running group's member and the older people (coaches) provides a platform for building a gaming experience within the community. The challenge is that the coaches in general do not use digital technology (internet, smartphones,). This limitation provides an opportunity for developing a gameful system that both supports the runner/coach relationship and assists integrating digital technology in an older person's lifestyle in a meaningful way.

Background

There is a body of research that points toward the potential benefits of integrating non-medical digital technology into the lives of older people [1][4][9]. Despite the potential of these digital technologies in supporting health and social engagement, it has been found that older people are not likely to adopt new technologies [4]. Older people's lack of adoption has been attributed to the perceived barriers of the complexity of digital devices (mobiles and laptops), previous 'bad' experiences and lack of motivation [1].

For older people, the technology they are familiar with is being phased out. This cycle of transitioning technology is not new. What makes the digital age different is the pace of the change. In the digital life, the evolution from relevant to obsolete is marked by months not years [3].

Typically the government and organizations provide digital literacy support for older people predominately through technology classes at local libraries or day centers which has at best limited reach in the community [8] While these initiatives are based on good intentions, they are short sighted since the scheme does not consider barriers of mobility, motivation and perceived usefulness [15].

There have been research projects using games as tools for memory and physical coordination therapy in the home and at care homes [2][7]. This approach follows Huizinga's definition of play as a separate occupation from everyday life [6]. Today gameplay is integrating into our daily lives, through schools [12], and social networks [10].

Selwyn proposes that successful digital literacy support of older people will be through trusted sources that are deeply involved in the local community [15]. Our project tests Selwyn's theory through a real world implementation by engaging a local running club in East London, UK as the platform for developing a gameful system to integrate digital technology into the community.

GoodGym Gameplay

GoodGym is a 3-year-old, non-profit organization that fosters the mutually beneficial pairing of runners, who need be motivated to exercise, with older people (coaches), who would benefit from a weekly visit.

The participatory design research approach [14] is being used in our work with GoodGym. We conducted two exploratory studies. One focused on understanding GoodGym's administrative operations. The other was to gain an understanding the various coach and runner relationships.

We chose GoodGym for our research as a community organization whose goal is not explicitly aimed at teaching older people how to use computers. The nature of coaching and running lends itself to gamification. The runners track their running times to their weekly visits their coaches. GoodGym is in early stages: we are developing the gameplay along with the development of the organization. This provides the opportunity to playtest ideas, implement the ones that work or discard the ones that are not successful. These factors made this community an attractive place to explore Swelgn's theory of bottom up digital literacy with our own twist of gamification.

Older People and Play

In the GoodGym community the lower hanging fruit is developing gameplay among the runners. They typically have smartphones and engaged in social networks. As runners, they have an interest in improving their running times and desire to compare their progress with the other GoodGym runners.

The coach (older person) and runner relationship is where we have opportunities for exploring integrating gameplay in older person's everyday life. The coaches typically do not use Internet and consider mobile phones as a device for emergencies only. We are starting with a game system that is tested through paper prototypes where the coaches can award badges and express their encouragement to their runner.

Our next iteration is to experiment with developing digital interventions that the coaches can use to communication with their runners, provide encouragement and the runners can share their progress. We hope that by working with the coaches, we will develop a simple, meaningful tools and a playful experience that supports an existing activity will encourage further adoption of digital technology.

Conclusion

We aim to expand the boundaries of the current implementation of lifestyle gamification. We hope that we will reveal new opportunities for gameful systems to lower the barrier to entry to new digital experiences across all age groups.

We have presented the challenge we have taken on to ease integration of digital tools through gameplay for older generations. Our research is about both the

meaningful integration of older people in the digital age and laying the groundwork for our future selves as older people. We hope to be able to learn and share strategies for game designer, researchers and participants in the development of our emerging gameplay based society.

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