

Games for Health Game Jams – fast and social development projects for health promotion

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Abstract

Games for Health is a new, emerging field that promotes well-being, health and functional capacity. These games have desired health outcomes and are used to encourage citizens to take responsibility for their own self-care. There is a huge amount of applications, technology and games that can be used as such or tailored to inspire and motivate different user groups to achieve health benefits. With its pioneering role, Kuopio Innovation Ltd is leading Games for Health Finland and bringing together a unique combination of expertise, innovation and cross-cutting know-how for the benefit of people's well-being.

Finland is one of the eHealth pioneers in the world with a long history of digitised healthcare information [1]. Health technology has been a great success story for Finland. Products designed and manufactured in Finland are helping doctors all over the world to treat and save the lives of patients [2]. Finland also has one of the most active and rapidly expanding game industries in the world [3]. What could be the result when the best of both worlds, health technology and games, are combined in Games for Health?

Games for Health Game Jams bring together game designers, programmers, sound designers, graphic artists, health and wellness experts, students, professionals, complete beginners and people simply interested in the topic. During Game Jams, they are all working in teams to create games, prototypes or concepts.

Keywords: Telemedicine, video games, health promotion, biomedical technology, social participation

Introduction

Games for Health is a concept that adds games and game-like elements to promote changes in people's lifestyles. It brings new ways of thinking for tackling health issues like physical activity and nutrition. The concept is rapidly becoming an important tool for improving lifestyle habits, behaviour modification, self-management of illness and chronic conditions as well as supporting rehabilitation and physical activity. The concept empowers individuals to improve their health and establish personal health goals. The games are meant for everyone, since they are played by both genders over a wide age range.

The Games for Health Finland ecosystem builds up from state-of-the-art research, standardisation, safety, living labs (smart cities), user involvement and fast prototyping to promote entrepreneurship for global business.

Methods

Games for Health Finland uses a Game Jam approach – weekend game development projects – fostering new innovations, combining health and gaming technologies and community participation to boost health promotion. People from various backgrounds are encouraged to participate and test their ideas and skills, create, share experiences and express themselves in these social game development events.

Game jams are used globally to make video games in a short period of time, normally within 48 hours [4]. Due to the short time span, many of the games are unfinished, buggy and missing some key elements. Still the participants, the jammers, enjoy the experience and some of them even create games that they can be proud of.

The Games for Health Game Jams have been held four times between September 2013 and September 2014. There have been about 160 participants in total; about 40 participants per Game Jam. Normally, there are 4–6 members in a team. If one of the teams is missing some key elements of a production team (e.g. programmer,

graphic designer), another other team will assist. So, in each Game Jam there are shared team members. All four Game Jams have been arranged in collaboration with the Savonia University of Applied Sciences and local enterprises.

As in a normal game jam, Games for Health Game Jams have a certain limitation that encourages creative thinking, focused as they are on health. However, the theme changes from jam to jam. The themes of the four Game Jams have been: 1. Games with health benefits; 2. Games with health benefits fulfilling the Global Game Jam 2014 theme, "We don't see things as they are, we see them as we are"; 3. Use of biosignals in games (electromyography, electrocardiography) and physically activating games; 4. Nutrition. Even though the health topic and the theme are known beforehand, there is no need to plan in advance. The jammers can just take their computers and camping mattresses and go off to the Game Jam to have a fun weekend.

Results

At these Game Jams, 30 games, concepts and ideas have been created altogether. Even though a Game Jam event is not about competition, the best team at each Game Jam has been selected and one of the teams was awarded at the national Games for Health Finland event. However, the jammers don't think of a game jam as a contest; it's more like an environment where everyone wants to see others succeed.

The Games for Health Game Jams have created many prototypes and the best of them have ended up as actual products for companies and can really help people. Furthermore, the events have contributed to the creation of two new start-up companies, many new jobs and also provided networks for new business and other partnerships.

The Game Jam prototypes have also been tested in real-life environments, such as healthcare organisations and schools. Actual users, people, are essential to achieve the best results and user experience. For example, motion sensor-based games have been used with

complex regional pain syndrome (CRPS) patients at Kuopio University Hospital [5] and a touch-screen gaming table with stroke rehabilitation patients [6] to improve hand-eye coordination. Through the Games for Health methods, support can also be provided for the educational partnership between home and school. One promising approach to motivating children to engage in physical activity is the use of physically activating gaming applications in the digital world [7].

Discussion

Games for health is a new, emerging field that will provide innovative services and solutions for health promotion and help tackle public health challenges from local communities to global networks. Promotion of health, functionality, rehabilitation and treatment of diseases need new business models, and games and game-like methods can provide solutions to these challenges. The Games for Health concept challenges us to be open-minded and fosters cross-sectoral cooperation in the conventional healthcare field. The Games for Health Game Jam approach is also helping to build new friendships, to increase confidence and new opportunities within the community.

The Games for Health concept is directly connected with the megatrend of health and wellness and it empowers individuals to work on improving their health, establish personal health goals and tackle health inequities. Furthermore, using games and game-like elements not only brings health benefits but it can also have an effect on education, agriculture, commerce, governance and other social determinants of health.

A critical factor for creating a sustainable Games for Health ecosystem is committed multi-stakeholder collaboration involving mutual understanding between policy-makers, business, research, education and users. It is essential to build a network of ecosystems, not only nationally but also across Europe and the world. The City of Kuopio has proactively established official relations through Kuopio Innovation Ltd with the Games for Health Europe Foundation, which is partnered with the US-based Games for Health Project. Cities like Kuopio

have an important role in providing authentic development and testing environments for the ecosystem in collaboration with companies, the public sector and the end users.

The Games for Health Game Jams are an affordable way for health technology companies to find new opportunities for their products, and a way of doing fast prototyping and involving end users as well as customers in development.

In the Games for Health movement, it doesn't matter whether you are a student, professional, complete beginner or simply just interested in making games. Enthusiasm for games or the intention of having fun with others is enough for you to participate and learn from others. Remember, there aren't any winners or losers; you can only compete with yourself. After all, the whole idea is to be social, create and have fun!

Acknowledgements

The main funders of the Games for Health activities described in this paper are the European Regional Development Fund, the Finnish Ministry of Employment and Economy, the Regional Council of Northern Savo and the City of Kuopio.

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