

Overcoming the Barriers to Uptake: A Study of 6 Danish Health-Based Serious Games Projects

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ABSTRACT

Serious gaming for health benefits is moving out of the realm of being potentially interesting, and the authors are starting to see a growing maturity in the field. This study of six serious gaming projects based either wholly or partly in Denmark investigates the changes taking place in the healthcare area based on experiences with serious gaming projects, the likely development of the field, and the lessons which have been learned in the area of designing to overcome barriers which exist at various levels and throughout the delivery chain. This is done from the perspective of developers and service providers, primarily using interview and game analysis techniques. The results indicate a growing maturity amongst service providers in a number of key areas, such as understanding of the most appropriate uses of games, designing for usability, and a better understanding of the process of making a successful game for health. There is a clear expectation that games will continue to diversify and penetrate the health space, while at the same time many are looking to developments in the United States as a primary driver for uptake in Europe. There are high hopes for the mobile/app area, and a number of interesting cross-disciplinary initiatives are identified.

Keywords: Barriers to Uptake, Danish Health Games, Early Adopter Study, Games for Health, Health, Serious Games

INTRODUCTION

Over the past three years Serious Games Interactive has participated in a number of innovative health-focused serious games projects with varied end users and implementations, from haptic technologies to social gaming spaces. At the same time there have been a wealth of research projects in this field, including a growing number of EU funded health game development

projects. Typically, these projects have tended to be successful in terms of demonstration of concept and realisation of the technology, but many have struggled to penetrate the user groups or maintain a player-base beyond the pilot phase. In order to better understand these phenomena and gain insight into the health games field at a more strategic level we have studied Danish health gaming projects and pull together the reflections of a wide variety of stakeholders.

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The result is a number of observations about the emerging health gaming market place, and some recommendations for new projects to avoid the problems experienced in the past.

BROAD SCOPE OF HEALTH GAMING

Healthcare has long been seen as one of the most promising application areas for serious gaming. At the inaugural Serious Games Summit at GDC 2004 Health was accepted as one of seven application areas in the serious games sphere (Stapleton, 2002). Various high profile initiatives in the area, such as Games for Health, are active at the International level, and comparable national initiatives are relatively common, such as Games for Health Denmark. There is an acceptance that the Health-gaming field is very broad (Arnab, et al., 2012), and a growing understanding of the value propositions in the field (Sánchez, et al., 2011). Health gaming has seen a number of relatively high profile success stories in the past few years (Kato, 2008; Fernández-Aranda, et al., 2012). Furthermore, models are becoming more sophisticated as earlier experiences start to impact on later initiatives, accounting for both physiological processes as well as social and environmental effects (Rayner, 2007, Glass & McAtee, 2006). This is reflected in the findings of this survey of recent serious games development projects in the health area in Denmark, which cover a range spanning from educational material for school children and pre-teens, through treatment compliance and physical rehabilitation to psychological therapy. Furthermore, the range of implementation approaches is also extremely diverse, including classroom-based, teacher-mediated interaction, persistent online social gaming spaces, hospital-based treatment routines, and browser based gaming at home or on mobile platforms. Furthermore, the health area is one of the most well explored to date, with a significant number of health-focussed serious games already produced (Kato, 2010).

Despite this, however, the health serious gaming area still suffers from a number of issues which are endemic within the serious games field at the present time, in particular the unusual composition of development teams which remains relatively underexplored (Marfisi-Schottman, et al., 2009; Marfisi-Schottman, et al., 2010).

METHODOLOGY

The study pursued three main avenues of investigation. Serious Games Interactive operates a project post-mortem as part of its standard production procedure. The procedure results in standardised document in which the production team (project manager, developers, designer, and artists) reflect of the strong and weak points of the product. We revisited these post mortem templates for all health projects and reflected on the contents from the new perspective of more time having passed since the project ended.

A survey of users and service providers was designed and interviews conducted by telephone and Skype calls. The number of respondents was low enough that the few statistical oriented questions have been omitted from the results below. The remaining qualitative areas were retained. The questions were as follows:

- What is your view of the state of the market for health-focused serious games?
- Are there any particular challenges for health-based serious games as a result of the Danish healthcare system?
- What pre-requisites would need to be in place for you to start another serious game project?
- How important is evidence of efficacy?
- How were end users involved in the development of your serious game project?
- How do development teams need to evolve to improve production processes in future?
- Did you experience any particular positive or negative experiences during the serious game design and production?

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