Lit to Quit: A Mobile Game for Health

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Proposal/Abstract

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Lit to Quit: A Mobile Game for Health

Presentation Description:

Designing engaging games using mobile technologies has significant implications for the health industry. This presentation describes mobile "smart" device features that can be harnessed to create games that have positive health outcomes. Funded by the Robert Wood Johnson Foundation, Lit is being designed specifically for mobile devices as a health intervention for smoking reduction. Breathing into a microphone to control gameplay, coupled with sound, graphics, challenges and feedback to mimic the stimulant and relaxant effects of smoking, provides a potential alternative to smoking with the goal of reducing or eliminating tobacco use in players' lives. Design process decisions will be presented.

Session Takeaway:

Attendees will learn about an innovative breath interface for mobile devices and design decisions incorporating this feature as a controller into gameplay, plus other mobile features that make Lit a potentially effective intervention for nicotine smokers to quit.

Extended abstract/Outline:

Introduction

This presentation focuses on mobile "smart" devices as a platform for mobile health games, with specific reference to Lit: A game intervention for nicotine smokers. Lit is being developed as a mobile game targeted at smokers who want to quit. The affordances provided by these mobile devices, coupled with the motivation and engagement of quality games, have positive implications for game designers and the health industry. Four features that make mobile "smart" devices ideal for designing health games, namely breath input, anywhere/anytime access, motion sensing, and multi-touch capability, are discussed below.

1. Use of microphone for breath input

Most mobile devices, such as "smart" phones or others that have microphone inputs, enable the use of breath as input, allowing designers to use breath as a game mechanic. Breath therapy is an effective coping strategy for smokers who want to quit (O'Connell, Hossein, Schwartz & Leibowitz, 2007) and Lit uses the mobile device's microphone to capture a player's breath input. Coupled with the device's graphics and sound capabilities to manipulate a player's breathing, Lit's design influences physiological responses through its modes of play ("Rush" and "Relax"), mimicking the stimulant and relaxant effects desired by smokers. This emulation of nicotine's effects through breathing and gameplay on mobile devices shows Lit's potential as a replacement therapy for smokers.

2. Anywhere, anytime access

Mobile games are portable and personal; players access their games anytime and anywhere. This is essential for games designed as health interventions, as players require ubiquitous access to address their needs as they occur. Research shows that an intervention delivered where the to-be-changed behavior normally occurs results in increased effectiveness (Godden & Baddeley, 1975).
To be an effective intervention for smokers, *Lit* must be accessible whenever the player has the urge to smoke. Since smoking occurs both socially and in isolation, *Lit* must be accessible in both settings. This is enabled by mobile devices. Players can play *Lit* in the context where they would ordinarily smoke: alone and/or socially, outside and/or during breaks in their schedule.

3. **Accelerometer for motion sensing**
Many mobile devices include a dual axis accelerometer that detects players’ motions. *Lit* players move the device to perform game-related actions. This mimics the physical action of smoking, which most ex-smokers report to miss, thus mitigating part of their craving.

4. **Multi-touch capability**
Multi-touch capability permits gestures (flick, tap, pinch and stretch) as inputs, allowing designers to create more intuitive interfaces and to enable haptic input and feedback for games. Including haptics has been shown to increase immersion considerably (Ramasamy et al, 2006), and immersion relates to engagement leading to intervention.

**Implications of the study**
*Lit's* research and development process has implications for game education special interest groups: specifically games for health, mobile game design, and serious games. The integration of technologies on modern mobile "smart" devices make them ideal mobile gaming platforms that can be useful for games facilitating health interventions. Of course, the design elements to be reported can be extended more broadly and applied to other games as well.