Game Design: Motivation for Mobile Gaming Created by New Technologies

Natascha J. Tiotuico[1], Olaf Kroll-Peters[1], Tino Stelter[1], Daniel Odry[2]

[1]Technische Universität Berlin
Sekretariat Tel 14, Ernst Reuter Platz 7
D-10587 Berlin, Germany
(natascha.tiotuico|olaf.kroll-peters|tino.stelter)
@dai-labor.de

[2]e-go-systems
Reinickendorfer Straße 6
D-38448 Wolfsburg, Germany
daniel.odry@gmail.com

Abstract: Humans can have many different motives, e.g. pleasure and challenge, to play games. Rapidly evolving technologies in mobile devices have opened a new category of mobile gaming, e.g. by directly integrating motion sensors into the mobile devices. We have examined a few new technologies and what kind of motivation can be created by them.

1 Introduction

Rapidly evolving technologies of mobile devices allow a wide range of experimenting in mobile gaming. It is important to see that these call for new concepts in gaming, e.g. using acceleration sensors. Motivating players for gaming is often dependent on instruments one has to use and how the motivation of playing is addressed by these. A few motives for players to play games are challenge, socializing, interaction with a game world which is dynamic and solitary, fantasize and explore in new worlds as other characters, making emotional experiences and proving one self [Ca01] [Cr84]. The designer of games must address the player's motivation and meet their expectations, for instance through continuous interaction with the game, a consistent world, certain guidance by the game. [Ro05]. The hardware for gaming must be reliable and stabile. In addition, mobile gaming should have a fast step-in and step-out time due to the player's environment the player must be able to react rapidly to happenings not within the game.

2 Technologies and Possible Concepts

We use following technologies as methods of learning computer science to motivate students at the Technische Universität Berlin and ease the effort of learning [KHT08].

In the course of developing the software for condition monitoring of the Life Cycle Unit (LCU), it was applied to a bicycle. Mobile games were designed to create ranking lists for stunts by means of cross acceleration and velocity or racing concepts considering different inclinations and velocities [OMS06]. A socializing port gives players the opportunity to interact and trigger their motivation in challenging worldwide.

In one of our student projects the AIBO functioned as, e.g. an entertainer [Ai08]. The dog follows the master and on demand tells jokes or checks emails. In this course a high motivation was seen not in only using the application, but also in programming them.

A further technology which offers possibilities for mobile gaming is the Java Sun SPOTS [Su08]. A platform with a third dimension for the gaming experience is offered and the program ability is expanded. Playing scenarios are imaginable, in which Sun SPOTS holders at any place can be informed by for instance a vibration alarm that other players are close by. The interaction with strangers is therefore technically supported. To examine these possibilities of the Sun SPOTS we implemented the classic game PONG and the testing students showed a lot of fun.

3 Experiences, Conclusions and Outlook

Our experiences with the technologies in the platforms AIBO, Life Cycle Unit (LCU) and the Sun SPOTS were that frustration with non-functionality was rather an exception, but within defined testing areas. The focus of designs are rather on using the mobile environment rather than taking the player into a fiction world. The games had short step-in and step-out times, so that the player had the freedom of stopping and starting the interaction quickly. The testers enjoyed themselves well when using the applications.

Many platforms can be used for gaming, but are not very often seen in public. Integrating existing and new technologies are a challenge for good game design, but also offer further dimensions of creativity and new challenges in good usability. In addition, when using platforms which carry sensitive data, e.g. addresses and telephone numbers, security becomes an important aspect. The player should be aware of possible dangers such as thief of sensitive data, so that they can prevent them.

Bibliography

[Ai08]   N.N: http://support.sony-europe.com/aibo/; Accessed: 21st of April 2008
[Ca01]   Caillois, R.: Man, Play and Games. Translated by Meyer Barash. Reprinted, Illinois: University of Illinois Press, 2001
[Cr84]   Crawford, C.: The Art of Computer Game Design. Osborne, McGraw-Hill, United States of America, 1984
[KHT08]   Kroll-Peters, O.; Hirsch, B.; Tiotuico, N. J.: Learning through enthusiasm - how more interaction and relation to real life lead to a better understanding and less learning effort, in proceedings of the INTED, March 2008
[OMS06]   Odry, D.; Mijajlović, M.; Seliger, G..: Monitoring and Power Management for Bicycles within the Selling Use Approach, Global Conference on Sustainable Manufacturing 2006, Sau Carlos, Brasil, October 2006
[Ro05]   Rouse, R.: Game Design – Theory & Practice. Wordware Publishing, Inc., Texas, United States of America, 2005.
[Su08]   N.N.: http://www.sunspotworld.com/; Accessed: 21st of April 2008