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Master's Dissertation 2017

Developing Educational Game Which Prevents Children from Video Game Addiction

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Graduate School of System Design and Management,
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Major in System Design and Management

SUMMARY OF MASTER'S DISSERTATION

Student Identification Number	81434605	Name	Shaikh Bassam Essam A
Title **Developing Educational Game Which Prevents Children from Video Game Addiction**			

Abstract

School children addicted by video games are increasing in Saudi Arabia. This study focuses on the addiction of video game mainly in Japan and Saudi Arabia, and how this addiction affects children performance at their schools. The purpose of this study is to identify the motivation of children to play video games, understand the video games culture in Saudi Arabia and develop an educational game. The educational game motivates children to their science subjects in the classroom to understand more about science in a different approach instead of using only papers and pencil.

In this paper, a Grounded Theory Approach is employed to find the causes of video game addiction in both countries and to generate new findings based on data collection. To understand the needs, stakeholder analysis is applied followed by requirements analysis in order to design the game. The tool used to design the game is MESH created by SONY. MESH consist of seven tags, each tag function different from the other one, and it can be used to create any idea by using the software which helps user to connect the tags via Bluetooth. Two versions of the game are created to help understand the different outcome between the two groups in the experiment. The game applies different STEM concept in each stage. At the first stage of the game, children need to solve mathematical equations to obtain four-digit number to unlock the iPad in order to access the software, and proceeding further steps to continue the game by creating recipes on the software

Experimental results show that parents and educators in Saudi Arabia are seeking an educational game for their children at their school to help improve their STEM level in a different way than the normal approach. The interview, suggests that children prefer interactive educational game rather than classic games, and most of them want to become an engineer especially after experiencing the MESH game. Interview was conducted on children to understand their experience and opinion before playing the game and after.

One of the the questions which was asked to students is “do you enjoy solving puzzle and math equations”, For the students who played mesh game, the mean has been higher than the ones who played classic game. Thus, it can be concluded that the mesh game helps students more in math equations solving and puzzles.

Key Word (5 words)

Video game addiction, Video game culture, STEM, MESH, Educational Game