BINARY WARS: A MOBILE GAME DEVELOPMENT ABOUT BINARY AND DECIMAL CONVERSION

THESIS

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ABSTRACT

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The development of an android MOBILE GAME DEVELOPMENT ABOUT BINARY AND DECIMAL CONVERSION Application for ICT students was conducted to provide a game application that can enhance the logical thinking skills of the students and can educate them while being entertained.

The system is consist of four (4) modules: Mode difficulty module, Game Setting module, Game logic module, Score computed module, and Time Management module. Mode difficulty module will implement the gameplay of the game. The game will also implement Multiplayer Game. The game has its modes including Normal mode, Zen mode, and Time rush; Game setting module will hold the settings of the app including background music and sound effects that can be adjust by the user; Game logic module will handle the levels, counters, and logic of the game; Score computed module will perform the scoring algorithm of the game; and Time management module will implement the time on each level or game.

The system was developed using different software tools such as Windows 7 as the Operating system, Unity as the programming language, NDK and SDK for developing the application, Adobe Photoshop CC 2018 for editing the images and icon used for the application and Microsoft Office Word 2016 for the documentation.

The methodology used by the researchers was the Iterative development cycle method. It consists of five phases: Planninga phase, Requirement phase, Analysis and design phase,

Implementation / Coding phase and Evaluation phase. One hundred thirty-two (132) respondents participated in the evaluation of the system. The respondents are one hundred twenty-two (122) students from Tanza National Trade School and ten (10) IT Experts from Cavite State University Main Campus and Accenture. They evaluated the software based on its accuracy, reliability, usability, and user-friendliness. The results were tabulated, analyzed, and statistically treated using mean and standard deviation.

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INTRODUCTION

The Department of Education (DepEd) promotes Information Computer Technology (ICT) integration in teaching and learning through its DepEd Order No. 42, s2016 (DepEd, 2016). The advocacy of integrating ICT in education can only redound to the benefit of Filipino public school children, as it will make quality easily accessible to as many learners as possible, for instance, Using E-learning.

Teachers are facing new challenges and have to solve important issues related to the adaptation of the learning process towards students' needs, preferences and requirements. Teachers have to use different teaching methods and approaches that allow students to be active participants with strong motivation and engagement to their own learning. New way of teaching and trends in education, reinforced by the use of ICT, create prerequisites for use of new approaches and techniques in order to implement