

Universiti Teknologi MARA

**Learn Arithmetic for Primary School
Students via Mobile Game**

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**Thesis submitted in fulfillment of the requirements for
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SUPERVISOR'S APPROVAL

LEARN ARITHMETIC FOR PRIMARY SCHOOL STUDENTS VIA MOBILE GAME

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This thesis was prepared under the direction of thesis supervisor, Nor Liza Binti Saad. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfillment of the requirements for the degree of Bachelor of Computer Science (Hons.).

Approved by:

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Nor Liza Binti Saad
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JANUARY 29, 2019

DECLARATION

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

A handwritten signature in blue ink, consisting of stylized, cursive letters that appear to be 'M. Z. M.' followed by a horizontal line.

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ABSTRACT

Most students think that Mathematics is a very difficult subject to study. In fact, most countries have this same problem as well as Malaysia. Mathematics is recognized as a tough and crucial subject and lack of enjoyment in doing an arithmetic calculation. It is important to learn mathematics in school for good and rapid thinking to solve calculation numbers in the examination. The problem statements of this project are Mathematics is perceived by most students as difficult, boring, not very practical, and its learning process requires a special ability that is not always within everyone's target. Therefore, the purposes of this project are to study game genre best suited for primary school level and develop a mobile game for primary school students to learn mathematics. The selected game genre for this project is trivia known as quiz game. To fulfill the objectives of this project, this game is developing using Unity Software, Adobe Photoshop, and MonoDevelop. This project implemented Waterfall methodology as it provides a stable and faster development process which is suitable for developing the project. The evaluation of this project will use EGameFlow Model to evaluate the user's enjoyment in playing the mathematic trivia game. The findings suggested that the game focuses highly on goal clarity, which provides a lot of tasks and goals for the player to complete and achieve. Additionally, the game improves student's critical thinking skills with an enjoyable method through a mathematical game. Future work for this project can be applied by adding mini-games to improve a better enjoyment of the game and rewards for special achievements.