Developing Personalized Mobile Game-Based Learning Application to Assist Standard 6 Students in Malaysia in Science Subject

by

Nabil Assila Binti Amran

A project dissertation submitted to the
Information & Communication Technology Programme
Universiti Teknologi PETRONAS
in partial fulfillment of the requirement for the
BACHELOR OF TECHNOLOGY (Hons)
(INFORMATION & COMMUNICATION TECHNOLOGY)

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CERTIFICATION OF APPROVAL

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Approved by,

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(Mr. Mohd Noor Ibrahim)

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CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

_____

NABIL ASSILA BINTI AMRAN

ABSTRACT

The need to change to modern education system, emerging technology of mobile phones and the rapid penetration rate of smart phones has given birth to Mobile Learning. This project intends to develop a personalized mobile game-based learning application for Standard 6 students in Malaysia on Science subject, aimed to enhance learning experience through the mobile game-based learning application, as well as to increase interest on subject matter through fun learning approach in pursuit of excellent academic performances. A mix of quantitative and qualitative method is used in data analysis process, following the Mobile Game-Based Learning (mGBL) Engineering Model. User acceptance testing was conducted to understand usefulness of the application to target user. Results show that the MGBL manages to capture student's interest in learning and that gaming approach does enhance learning experience by engaging the students in fun game play. Personalization feature that is adapted is a useful tool in promoting student-centered learning where student can take charge of their study, and be responsible for their study performance. It is hoped that this paper helped the society to understand the idea of mobile learning as the new way of learning for the benefit of the younger generation - Generation Y today.

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ABBREVIATIONS AND NOMENCLATURES

TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
ARCS	Attention, Relevance, Confidence, and Satisfaction
MGBL	Mobile Game-Based Learning