

Universiti Teknologi MARA

**Smart Student Attendance System
(SSAS) via Mobile Near Field
Communication (NFC) Technology
Using Cryptography**

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**Thesis submitted in fulfillment of the requirements
for Bachelor of Computer Sciences (Hons.) Faculty
of Computer and Mathematical Sciences**

July 2016

STUDENT 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 acknowledge in accordance with the standard referring practices of the discipline.

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July 23, 2016

ACKNOWLEDGEMENT

Alhamdulillah, praises and thanks to Allah because of His Almighty and His utmost blessings, I was able to finish this research within the time duration given. Firstly, my special thanks goes to my supervisor, Zuhri Arafah Binti Zulkifli that has given me many directions and knowledges about this work. Special appreciation also goes to my beloved mother that always praying for the very best for me. Last but not least, I would like to give my gratitude to my dearest friends especially my housemates that always give supports and teach me anything that I do not know to finish this work.

ABSTRACT

SSAS is a mobile application that implement Near Field Communication (NFC) Technology to take the student attendance by using the mobile phone. It takes attendance automatically by simply tap the phone on the NFC tags and the records of the attendance will store into the database. SSAS is proposed because of traditional attendance consume more time to take the attendance if the number of class is large and the use of paper sheet also give impact to the environmental factor. Besides, student forgot to set their phone in silent mode will lead to a disturbance of environment during learning process. SSAS will change the phone mode to silent mode after the attendance is taken. By using the NFC tags, the data inside of the tags can be read by anyone who has NFC built in function inside their phone. To curb this problem, SSAS implement cryptography to encrypt the data of the tags and only the authorized user can retrieve the data by decrypting it. The development methodology of SSAS is based on the Agile methodology because it provide modification of the system during development. The objective of this project are to design SSAS, to develop SSAS and to test the functionality of the NFC tags during development of system. Lastly, SSAS was tested by the student and lecturer of the Universiti Teknologi Mara (UiTM) Jasin and the result was successful which met all the requirements needed.

For the future enhancement of this project, the manufacturer of smart phone need to install the NFC hardware for each phone they had produced and SSAS need to be run on many platform. So that, all kinds of smart phone can use SSAS to capture the attendance. Besides, web based system of SSAS need to be develop for management of UiTM. The system will help management to view and analyze based on the record of student attendance.

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