

UNIVERSITI TEKNOLOGI MARA

**DATA VISUALIZATION ON SMART
CARD ATTENDANCE SYSTEM**

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Thesis submitted in fulfilment of the requirements for
BACHELOR OF COMPUTER SCIENCE (HONS)
**FACULTY OF COMPUTER SCIENCE AND
MATHEMATICS**

July 2012

ACKNOWLEDGEMENT

Alhamdulillah, praise and thank to Allah because of His Almighty and His utmost blessings, I was able to finish this research within the time duration given. Firstly, I would like to give my special thanks go to my supervisor, Dr. Fakhru Hazman Yusoff that help me a lot to complete my final year project. A lot of knowledge that I gained during under his supervises in completing my final year project. I would like to give my special thanks to Dr Sharifalillah Binti Nordin and Dr Noor Elaiza Binti Khalid as my coordinator that help and give support for me to finish final year project

I would like to give special thanks to my beloved parents Nasharuddin Bin Mansor and that always support me when I have difficulty in doing final year project. And also my beloved brother and sister ,Luqman Hakim and Asilah and my big family also that always gives me confidence and support from behind when I am in the hard times.

Last but not least ,I would like to give my gratitude to my dearest friend. Nadzirah Binti Abd Manan that always beside me when I do not know how to handle the problem especially when there is error occur. She always gives me support not to give up and always think positively.

Thank you.

ABSTRACT

A smart card can be defined as a plastic card with implanted microprocessor chip usually like small gold-colored metal that be able to store, process, calculate, manage, and encrypt large amount of the data in chip which can be either value or information or both of them. There are lot of applications used smart card in different sector for example banking and transportation. In visualization technique, usually graphs and charts are used for reviewing financial, statistical, mathematical, scientific, engineering and other area of application. Lines graphs, bar charts, pie charts, surface graphs, contour plots and other visualize in 2-dimensional, 3-dimensional or higher-dimensional spaces are the examples of data plots. This research is to develop the Data Visualization of Smart Card Attendance System. This system are used IRIS SCR21U as a smart card reader and MyKad(Identity Card) as smart card. The number of student attendance can be calculate and be plot out by using 2-Dimensional bar chart as a data visualization. This research methodology consists of seven stages which are project overview, knowledge acquisition, requirement analysis, system design, system implementation, system testing and documentation. Every stage in methodology are being used for better understanding of the system. The accuracy of this prototype is about 70 percent. The result showed that the accuracy of the system is 70%. In the future, this system will be added the security protection to make the system is safer to use by admin in order to modifying the student attendance in the system.

Keyword: Smart card, Data visualization, application

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CHAPTER 1

INTRODUCTION

1.1 Project Background

A smart card can be defined as a plastic card with implanted microprocessor chip usually like small gold-colored metal that be able to store, process, calculate, manage, and encrypt large amount of the data in chip which can be either value or information or both of them. Most of the smart cards are likely sized of the credit card (Hameed, Mazdak and Meysam, 2009).

Currently, smart cards are widely used in past few years around the world. In early year 2001, over three billion smart cards are already used in worldwide. Manufacturing are using this technology including telecommunication, banking, entertainment, healthcare and other applications. Smart cards can be able to secure identifications and authentication. They are useful for the citizens to bring around their important information like health and financial records by using smart cards. They allow the owners of smart card to perform large amount of various transaction when purchase goods and services of the amount of cash stored in smart card through electronic cash (AbdulRahman and Khloid, 2009).

In visualization technique, usually graphs and charts are used for reviewing financial, statistical, mathematical, scientific, engineering and other area of application. Lines graphs, bar charts, pie charts, surface graphs, contour plots and other visualize in 2-dimensional, 3-dimensional or higher-dimensional spaces are the examples of data plots. The function of three dimensional graphs and charts are to visualize additional parameter data.(Hearn and Baker, p 12).