"I hereby acknowledge that the scope and quality of this thesis is qualified for the award of the Bachelor Degree of Electrical Engineering (Electronics)"

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HOME AUTOMATION USING BLUETOOTH TECHNOLOGY

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This thesis is submitted as partial fulfillment of the requirements for the award of the Bachelor of Electrical Engineering (Electronics)

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To my beloved family and my dear Intan Syahira

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ABSTRACT

The world has witnessed significant advancement of technologies over the past decade. Those advance technologies existed to suit human's desire to make life easy and less complicated. Home automation is a system that is designed to enable user to "control" the house with only a few hits on the computer keyboard. Various "intelligent" appliances, i.e., microwave ovens, air-conditioners, washing machines and home theatres are set to realize the concept of a smart home. With home automation system it becomes possible to control home appliances, which can be interconnected and monitored using a single Microchip PIC16F877A microcontroller through a Personal Area Network (PAN) in home environment. This project focuses on the application of Bluetooth technology in home automation and networking environment. A network that is built in this project contains a master module and a slave module. The slave communicates with the master through a Bluetooth connection.

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LIST OF ABBREVIATIONS

AC	–	Alternating Current
BCD	–	Binary Coded Decimal
CEBus	–	Consumer Electronic Bus
DC	–	Direct Current
GSM	–	Global System for Mobile Communications
GUI	–	Graphic User Interface
HDI	–	Human Device Interface
I/O	–	Input/output
IC	–	Integrated Circuit
ISM	–	Industrial, Scientific and Medical
LAN	–	Local Area Network
LED	–	Light Emitting Diode
LSB	–	Least Significant Bit
OEM	–	Original Equipment Manufacturer
PAN	–	Personal Area Network
PC	–	Personal computer
PIC	–	Programmable Intelligent Computer
Rx	–	Receive
SPP	–	Serial Port Profile
Tx	–	Transmit
UART	–	Universal Asynchronous Receiver/Transmitter
USB	–	Universal Serial Bus

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