DESIGN OF ELECTRONIC COMPASS FOR QIBLA DETERMINATION

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DESIGN OF ELECTRONIC COMPASS FOR QIBLA DETERMINATION

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by

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of the requirements for the degree
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APPROVAL AND DECLARATION SHEET

This project report titled Design of Electronic Compass for Qiblat Determination Aplication was prepared and submitted by Mohd Haffizul bin Zohri Jarir (Matrix Number: 081030469) and has been found satisfactory in terms of scope, quality and presentation as partial fulfilment of the requirement for the Bachelor of Engineering (Electronic Engineering) in Universiti Malaysia Perlis (UniMAP).

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I hereby declare that all parts of this thesis are the result and analysis of my own research and work excepted for the sources in the references section.

…….. ……

(MOHD HAFFIZUL B. ZOHRI ZARIR) DATE

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MEMBINA KOMPAS ELEKTRONIK UNTUK PENENTU QIBLAT

ABSTRAK

Manusia pada hari ini gemar mengembara tetapi mereka perlu membawa pelbagai kelengkapan semasa pengembaraan termasuk kompas dan peta. Bagi pengembara Muslim, mereka perlu membawa bersama penunjuk arah Kiblat kerana mereka mesti menghadap ke arah Kiblat ketika menunaikan sembahyang lima waktu sehari semalam walau di mana pun mereka berada. Oleh itu, alat yang mudah dan efektif dari segi kos adalah menjadi satu keperluan bagi memudahkan para pengembara. Alat yang berasaskan kompas ini mengesan arah Utara Magnet menggunakan pengesan (HMC6352). Pergerakan pengesan daripada keluaran akan dihantar ke PIC16F876A.

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ABSTRACT

People nowadays love to travel but they have to bring a lot of stuff during the travel including compass and maps. For Muslim travelers, they even have to bring Qibla pointer as they must be faced to Qibla while performing their five times prayer throughout the day and the night regardless of the location. Thus, there is a need for a simple and cost effective device to facilitate these travelers. This compass-based device finds the direction of Magnetic North through Sensor (HMC6352). Position Sensor from the output will be sent to PIC16F876A and is programmed using C language.

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LIST OF SYMBOLS, ABBREVIATIONS OR NUMENCLATURE

LCD	Liquid crystal display
PIC	Peripheral Interface Controller
N	North
S	South
W	West
E	East
°	Celsius/Degree
λ	Lamda
Φ	PHI
SIN	Sinus
COS	Cosine
TAN	Tangen
mm	Milimeter
MCU	Multipoint Control Unit
ICSPTM	in circuit serial programming
DC	Direct current
AC	Alternating current

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