

**DESIGN AND DEVELOPMENT OF A SINGLE PAGE AND
WEB-BASED RESPONSIVE E-LEARNING SYSTEM FOR
HIGHER EDUCATION INSTITUTIONS**

May 2019

THESIS

Submitted to fulfil some of the requirements
For obtaining a Magister Pendidikan Degree



Submitted by

Muhammad Lookman Hossain Khan

NIM. 1708158

**TECHNOLOGY AND VOCATIONAL EDUCATION STUDY PROGRAM
SCHOOL OF POSTGRADUATE STUDIES
UNIVERSITAS PENDIDIKAN INDONESIA**

2019

COPYRIGHT PAGE

DESIGN AND DEVELOPMENT OF A SINGLE PAGE AND WEB-BASED RESPONSIVE E-LEARNING SYSTEM FOR HIGHER EDUCATION INSTITUTIONS

By

Muhammad Lookman Hossain Khan

NIM: 1708158

Sebuah Tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar
Magister Pendidikan (M.Pd.) pada Program Studi Pendidikan Teknologi dan
Kejuruan SPs UPI

© Muhammad Lookman Hossain Khan 2019

Universitas Pendidikan Indonesia

April 2019

The copyright is protected by law.

This thesis is not allowed to reproduce in whole or in part, by reprinting,
photocopying, or in other meaning without permission from the author.

APPROVAL SHEET

Muhammad Lookman Hossian Khan

NIM: 1708158

DESIGN AND DEVELOPMENT OF A SINGLE PAGE AND WEB-BASED RESPONSIVE E-LEARNING SYSTEM FOR HIGHER EDUCATION INSTITUTIONS

Approved and Authorized by the Advisor:

Advisor I

Advisor II

Dr Eng. Agus Setiawan, M.Si.

NIP. 196902111993031001

Iwan Kustiawan, Ph.D.

NIP. 197709082003121002

Certified By

Head of Technology and Vocational Education Study Program

Dr Ade Gafar Abdullah, M.Si.

NIP. 19721113 19903 1 001

STATEMENT

I hereby declare that Thesis entitled:

"DESIGN AND DEVELOPMENT OF A SINGLE PAGE AND WEB-BASED RESPONSIVE SYSTEM FOR HIGHER EDUCATION INSTITUTIONS"

And all the contents in this thesis are really my own work. I do not copy or quote in ways that are not in accordance with the ethics of science applicable in a scientific society.

In this statement, I am ready to bear the risk/sanction if, in the future, it is found that there is a violation of scientific ethics or there are claims from other parties to the authenticity of my work.

Thus, this statement is made in truth.

Bandung, May 2019

Muhammad Lookman Hossain Khan

NIM. 1708158

ACKNOWLEDGEMENT

All praises to Allah SWT the master of the day of judgment for giving the wisdom, strength, support and knowledge in exploring things, for the guidance in helping surpass all the trials that we encountered and for giving determination to pursue our study, and to make this study possible at the School of Postgraduate Studies, Universitas Pendidikan Indonesia.

Completing this thesis has been certainly not just my own attempt and prayer, I would like to thank the various parties for their support, encouragement, and guidance, both directly and indirectly so that this thesis can be resolved in time. It is an honour for me to be able to express his deepest gratitude and appreciation to:

- My beloved family who has given a lot of prayers, sacrifice, moral and material support to the author in completing this thesis.
- My beloved wife **Mahmuda Rumi, who** has given me a lot of support and prayers in completing this thesis.
- **Dr Eng. Agus Setiawan, M.Sc** as the first supervisor who has given me continuous support to my thesis, patience, motivation, enthusiasm, and immense knowledge. His guidance helps me all the time of research and writing of this thesis. I could not have imagined having a better advisor and mentor for my thesis.
- **Iwan Kustiawan, PhD** as the second supervisor who has spent a lot of time with great care and patience in guiding me to complete this thesis. Thanks a lot of his time, suggestion and encouragement. Allowing me to get the necessary information we need to make this thesis possible.
- **Dr Ade Gafar Abdullah, M.Sc** as head of the Technology and Vocational Education Study Program, School of Postgraduate Studies, Universitas Pendidikan Indonesia. I would like to give him a special thanks for his suggestions and encouragement since beginning my study at this university.
- **All the Lecturers** of Technology and Vocational Education Study Programs at the School of Postgraduate Studies, Universitas Pendidikan Indonesia for their knowledge, insight, and motivation during the study at this University.

- **KNB Scholarship Authority**, Republic of Indonesia, for the scholarship, which makes me completing this research possible.
- **Office of International Education and Relations (OIER)** for their excellent support and cooperations during my staying here in Indonesia.
- All parties who have contributed to assisting in the completion of this thesis.

Hopefully, this thesis will be useful for the readers, especially for the students of PTK, School of Postgraduate Studies, Universitas Pendidikan Indonesia. This thesis is still far from perfectness, so the criticism, comments and suggestions are highly recommended to improve the study and to make this thesis be better.

Bandung, May 2019
Researcher

Muhammad Lookman Hossain Khan

DEDICATION

This humble piece of work is lovingly dedicated to researcher's parents who serve as their inspiration, to my friends, to my family, and all our classmates who always make us happy and inspired all throughout this writing.

To ALMIGHTY Allah who serves as guidance and the source of strength and knowledge for without his guidance, everything is futile.

MOTTO

“If you want to ‘shine’ like a Sun,
First ‘burn’ like a Sun!”.

“Dream is not that which you see while sleeping...
It is something that does not let you sleep!”.

“Confidence and Hard-work is the best medicine to kill the disease called failure.
It will make you a successful person in your life.”

- A P J Abdul Kalam -

ABBREVIATIONS

AR – ActiveRecord

CRUD – Create, Read, Update, Delete

CSS – Cascading Style Sheets

DHTML- Dynamic HyperText Markup Language

DOM - Document Object Model

ER - Entity Relationship

ERD – Entity Relationship Diagram

Gii – Generator It Is

HTTP – HyperText Transfer Protocol

ICT - Information and Communication Technology

IP - Internet Protocol

JS – Javascript

LAN – Local Area Network

LMS – Learning Management System

MIT - Massachusetts Institute of Technology

MVC – Model View Controller

MySQL – My Structured Query Language

NIM – Nomor Induk Mahasiswa

OCW – OpenCourseWare

PC – Personal Computer

PDF – Portable Document Format

PHP – Hypertext Preprocessor or Personal Home Page

QoE - Quality of Experience

QoS - Quality of Service

RAM – Random Access Memory

SPSS - Statistical Package for Social Sciences

SIAK - System Informasi Administrasi Kependudukan

UML- Unified Modelling Language

UNESCO - United Nations Educational, Scientific and Cultural Organization

UPI – Universitas Pendidikan Indonesia

URL – Universal Resource Locator

USE - Usefulness, Satisfaction, and Ease

UX – User Experience

Yii – Yes It Is