DESIGN AND IMPLEMENTATION ON PROTOTYPE OF WEB BASED HOME MONITORING AND LAMPS CONTROLLING BASED ON ARDUINO SYSTEM

FINAL PROJECT

Arranged as one of requirement to finish the educational (S1) at Department of Electrical Engineering Faculty of Engineering Universitas Muhammadiyah Surakarta

Submitted by:
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DEPARTMENT OF ELECTRICAL FACULTY ENGINEERING
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THE TITLE IS

DESIGN AND IMPLEMENTATION ON PROTOTYPE OF WEB BASED HOME MONITORING AND LAMPS CONTROLLING BASED ON ARDUINO SYSTEM

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Assalamu’alaikum Wr.Wb.

Alhamdulillahirabbil'alamin, praise is merely to the Almighty Allah SWT for the gracious mercy and tremendous blessing that enables me to accomplish this bachelor final project entitled: smart home for monitoring and controlling lamps switches based on arduino system.

This bachelor final project is presented to fulfill one of the requirements in accomplishing S-1 Degree in Departement of Electrical Engineering, Engineering Faculty, UniversitasMuhammadiyah Surakarta.

I would like to express my special appreciation for the people who are involved in the creation of this report either directly or indirectly, including to:

1. Allah SWT for His abundance of grace.
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3. Mr. Ir. Sri Sunarjono, MT, Ph.D., as Dean of the Faculty of Engineering, Universitas Muhammadiyah Surakarta.
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We realize that in the preparation of this Final Project report have many weaknesses and still far from the perfection. Finally, we hope this Final Project report can be useful for anyone who need it.

Wassalamu’alaikum Wr. Wb

Surakarta, July 2015

The author
MOTTO

“Verily, with the hardship, there is relief. So when you have finished (from your occupation), then stand up for Allah's worship. And to your Lord (Alone) turn (all your intentions and hopes and) your invocations”.

(QS. Al-Am Nasyar (94): 6-8)

“Our job is not to succeed, our job is just to try, because in trying we discover and learn to build a chance to succeed.”

(Mario Teguh)

“The destiny of every human being is predetermined since they were born, but with hard work we can beat destiny”

(Uzumaki Naruto)

Do what you want to do

(Anonim)

Nothing Is Impossible Beyond Determination

(Anonim)
DEDICATION

This creation dedicated for:

1. **Allah SWT**, for His abundance of grace.

2. **My father and my mother**, millions of endearments, sorry and thanks will not be able repay your sacrifice to me. I love you so much. Thanks God, protect them both.

3. **My sisters**, which always gives motivation and prayers.

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7. **My friend on PESMA UMS**

8. **Older brother or sister on electrical engineering**, who have shared the experience during college.
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Assalamu’alaikum Wr.Wb.

In completion of the final project entitled “DESIGN AND IMPLEMENTATION ON PROTOTYPE OF WEB BASED HOME MONITORING AND LAMPS CONTROLLING BASED ON ARDUINO SYSTEM”, I declare that:

1. The design of the circuit lines on the PCB using Diptrace v2.3.1.

2. Simulation and circuit figure using Proteus v7.10 SP3.

3. The program of smart home for monitoring and controlling lamps switches based on arduino system, I made myself on guidance many references from the Internet.

4. Preparation of the final project report do by myself at home and campus.

I created this contribution list honestly. I am responsible for the content and validity.

Wassalamu’alaikum Wr.Wb.

Surakarta, June 2015

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DECLARATION OF AUTHORSHIP

Assalamu’alaikum warahmatullahi wabarakaatuh

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Stated that the thesis that I submit this is really a work of his own. except citations and summaries that I mentioned sources in the discussion, if in future there is untruth in this statement then I am prepared to take responsibility.

Wassalamu’alaikum warahmatullahi wabarakaatuh

Surakarta, July 2015

Ilham Nur Zakaria
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ABSTRACTS

Smart Home is a technology that makes the house be smart and automatic. Typically, these technologies have automated systems for lighting, control, security and many other functions. Smart Home System is designed and made by utilizing WLAN network based on the Arduino microcontroller. Ethernet shield is able to connect Arduino to the network via TCP/IP communication. This system is capable of home monitoring and lamps controlling. There are three sensors used to monitor home includes two PIR and a LM35 temperature sensor. PIR sensors are used to detect of motion. A LM35 temperature sensor is used to monitor temperature in room. The home monitoring and lamps controlling are displayed on a web page by laptop and smartphone.

Key words: Arduino Uno, WLAN, Ethernet Shield, PIR sensors, LM35 temperature sensor