

**Designing and Constructing a Smart Home Model and Monitoring System Using
Arduino Microcontroller and Android Based Smart Phone**

By

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SWISS GERMAN UNIVERSITY

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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The objective of this thesis work is to design and construct a smart home model that can be controlled by Arduino microcontroller and monitored by smart phone. The arduino is used to control sensors and wi-fi module is used to communicate android to arduino microcontroller. This android and arduino program system are designed for smart home maquette model. The average power will be displayed on smart phone through the current sensor. The graphical user interface by using MIT Application Inventor consisting of several control buttons that are used to control and check the status of each electronic devices. The security system is implemented to give information to the house's owner by sending short message that indicates there is any object motion detected by unauthorized human.

Keywords: Smart home model, MIT Application Inventor, Arduino Microcontroller, Android Operating System, smart phone, monitoring system, security system.

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DEDICATION

I dedicate this thesis to God, my beloved family, and all of my friends.



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