

Home Automation System

Project Proposal



Submitted to:

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CS-807: Interactive Hardware

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University of Regina

Identify your team members.

Vivek Pujara

Gideon Eromosele

Mikhail Shchukin

Oluwatobi Adegbola

Identify a project (and provide the source)

Suggest a modification to the project.

Describe your motivation behind the project you've identified / the modifications you've decided upon.

The motivation behind choosing Home Automation System as a project for the group, is as a result of the current trend in the Internet of Things. Which plays a great role in devices connected to the internet, also aiding sensor deployment in various environment, one which is of interest to this project is Smart Building/Home. An automated home is a user-friendly home, which is a sensor controlled as to what is being sensed in its current surrounding. The ability for a TV or Light to know when it should come ON based on sensing the presences of the owner in the house or movement in the room, is called a smart home. A smart home allows the owner absolute control over it, some of the control is possible through the internet, where an alert can be sent to the owner if there is an intruder in the house. With smart home, property safety can be improved as home owners can communicate with their homes from anywhere.

A list of materials required.

The below table shows a list of components intended for the implementation of the Home Automation System. The components have been separated into two categories such as Sensor and Actuator. Where information is read or sensed by the Sensor and Actuator acts based on the information collected by the sensor.

|  |  |  |
| --- | --- | --- |
| Sensor | Actuator | Others |
| RFID reader and Tag | LEDs | Arduino Mega2560 |
| Keypad | Buzzer | Breadboards |
| Potentiometer | LCD screen | Jumper wires |
| Infrared sensor | Motion Sensor | Resistors |
| Photoresistor | Servo Motor | Capacitors |
| Motion Sensor | DC Motor |  |
| Temperature Sensor |  |  |
| Ultrasonic Sensor |  |  |
| Bluetooth module or Wi-Fi (NodeMCU) |  |  |

At least four (4) realistic milestones and corresponding dates and a fifth "reach" milestone. More is good. Less is bad.

Identify the role of each team member (if you're in a team).

Vivek Pujara: Programmer and Progress Manager

Gideon Eromosele: Programmer, Latex and Github Repo

Mikhail Shchukin: Testing, Documentation and Latex

Oluwatobi Adegbola: Requirement Review and Documentation

Provide a summary

Home automation provides homeowners the opportunity to monitor and control the activities in their home in near real-time (Pavithra et al, 2015). Homeowners can get intruder notifications which helps keep the home safe, and control appliances which help to manage energy among other things. This was why the group decided to embark on a home automation-based project to…... The system is based on the Arduino Microcontroller and is an upgrade to the project by (Kumar, 2019). As a differentiating factor, we added ...... to help the homeowner......The project went through diverse stages including ….(Milestones)

Provide any citations

Hendricks, D. (2014). The History of Smart Homes. Retrieved from https://www.iotevolutionworld.com/m2m/articles/376816-history-smart-homes.htm

Kumar, S. (2019). Home Automation Using Arduino and Bluetooth Control. Retrieved from https://create.arduino.cc/projecthub/Shubhamkumar97/home-automation-using-arduino-and-bluetooth-control-404e9c?ref=platform&ref\_id=424\_trending\_\_\_&offset=0

Pavithra, D., & Balakrishnan, R. (2015). IoT based monitoring and control system for home automation. *2015 Global Conference on Communication Technologies (GCCT)*, 169-173. doi: 10.1109/gcct.2015.7342646