

ITSP-2015
ROOM AUTOMATION

Description:

By using voice recognition system in mobile, one can control lights, doors, fan etc.(i.e. he can open or close door, switch on light, fan etc.)

We have two possible stages of project.

We will be developing an android app with voice recognition system in mobile. Then by using Bluetooth we will be sending signal to the required source (explained in stages 1 and 2). This much part is common in both the stages.

Stage1:

We will be developing certain mechanisms(different and adjustable for switches and doors) with microcontroller(most probably Arduino) and Bluetooth module fixed in every part. As user give any command using the app, the Bluetooth signal will be received by these parts and will function accordingly(for eg. Part for switch will turn switch on or off).

Stage2:

Same as stage 1 we will be developing different parts for doors and switches each will be fixed with microcontroller. But instead of fitting Bluetooth module in each one of them we will be using a centralized Bluetooth module which can be fixed anywhere inside the room.It will have certain sockets and the switch parts will have sockets too. Then by using wires(which can fix into provided socket) one can connect the parts and the centralized Bluetooth module.

We have developed stage 2 keeping in mind the financial aspects. If we would be developing somewhat greater no. of switch parts and door part, we would be using stage 2 otherwise stage 1.

We are comfortable with either of the stage. Whatever you decide.

Working:

For developing app we will be using app studio. By using mobile's Bluetooth and the Bluetooth module we will be sending the signal to the parts or the centralized Bluetooth module. Then by using microcontroller (most probably Arduino) we will develop a mechanism which will close or open the door or turn off the switches etc. according to the command given to it.

The person can control switches and doors manually also (i.e. he can open and close door manually etc.)

Components required:

- 1.) Bluetooth module – 2 or 3 – round 500 each (only one required in stage two)
- 2.) Arduino mini – 2 to 3 – around 360 each
- 3.) servos- 5 or more -around 300 each
- 4.) motors- 5 or more - around 200 each
- 5.) raw material for building switch parts(plastic, metal etc.) – 1000 around (not so sure)
- 6.) other materials.

Total cost- Around 7000-9000 (but not so sure yet)

Timeline:

App development: It will take around two weeks to develop app.

Mechanism for opening closing door : 2 Days

Mechanism for Switch and Fan Dial : 1 Day

Arduino coding : around 1 week

The rest of the days can be used for debugging and improving the interface.

Team members:

Kshitiz Agarwal – 14D110012

Saurabh Sethia – 14D110011

Ashish Kumar.G – 140010019

Anmol Yadav - 140010018