VOICE RECOGNITION AND EMAIL BASED HOME AUTOMATION SYSTEM USING RASPBERRY PI

The project is aimed at creating a home automation system based on two modules, namely voice recognition and email based system. This means that we are exploring the functionality of the home automation system using these modules. The project is being implemented by the use of a device called Raspberry Pi which is a small credit card shaped mini-computer.

The project aims in designing a system which is capable of switching ON/OFF the electrical devices based on the speech (command). This system creates a new era in the automation system. This system integrates human-machine interface. This project consists of voice recognition based light control system that transmits the wireless signals according to the input being selected based on speech commands given by the user through Raspberry Pi using microphone. This will be more useful when the user is present at home.

When the user is not present at his home, he/she can control the lights or fans by just sending an email. This project presents a basic application of Raspberry Pi in home automation control through internet (E-mail) where subject of the received e-mail is read by the developed algorithm fed into Raspberry Pi and the system responds to the corresponding instructions. The presented system is interactive, efficient and flexible according to the consumer needs. It immediately replies the status of work done by Raspberry Pi to the consumer. The proposed system can be tested practically using LEDs as switching signal indicators, which can be seen in the presented results. The project can be extended for more applications apart from switching of home devices like surveillance, power monitoring, fault monitoring, power control, security etc.

As far as the progress of the project goes, we have been doing pretty fine. Last semester, the hardware implementation and the setting up of the device have been completed. We have installed Linux on the Raspberry Pi and have even installed Jasper on the Raspberry Pi. Jasper is an open source platform to develop voice controlled applications. All the programming is being done with the programming

language, Python which we have learnt in due course of the project and are coding with the help of the language. The major amount of time was channelized towards learning the programming language and setting up of the device.

As that has now been completed, we are anticipating the project to get over in a span of 2 months from now. Currently, we are working on setting up of the voice recognition system and are nearly done. Once this is finished, we will then proceed towards the email based system. Although, the home automation system is targeted to handle specifically 4 functionalities, there are ideas sprouting of a 5th functionality as well. If we complete these functionalities in due time we will start our work on the 5th functionality as well.

Keeping all our efforts towards the project and the way the project is turning out, we are having our eyes on finishing the project by March 2nd week.

PROJECT GUIDE

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