

Voice operated intelligent Lift/Elevator

The main aim of this project is to design and construct a voice operated lift/elevator control system. This system acts as human-machine communication system. Speech recognition is the process of recognizing the spoken words to take the necessary actions accordingly. User can also control the electrical devices like fan, door etc with the help of voice recognition system. This device is very helpful for paralysis, short height people and physically challenged persons.

The speech recognition system provides the communication mechanism between the user and the microcontroller based lift control mechanism. This project makes use of a DC motor for moving the lift/elevator based on the voice/speech commands given by the user and voice recognition chip is used for recognition of the voice commands. Microcontroller is programmed, with the help of embedded C instructions. The microcontroller is capable of communicating with all input and output modules. The voice recognition system which is the input module to the microcontroller takes the voice instructions given by the user as input and the controller judges whether the instruction is to lift upwards or to the downwards, and according to the users voice the switching mechanism controls the lift. The similar voice based commands also used to turn on/off the fan inside the lift. Also, LCD display is available for visual information of operations being performed.

The main objectives of the project are:

1. Operation of lift through Voice based commands.
2. Also, operation of electrical device in lift through voice commands.
3. Audible information about task being performed.

Advantages:

1. Speech recognition system based user-friendly interfacing.
2. Low power consumption.
3. Long life.
4. Highly sensitive.
5. Low cost.
6. No complex wiring required for push buttons.

This project provides us with the learning's on the following aspects:

1. Characteristics of speech recognition system
2. Voice circuit interfacing with the controller.
3. Embedded C programming.
4. PCB Design concepts.
5. Motor interfacing with Microcontroller.
6. Voice module interfacing.

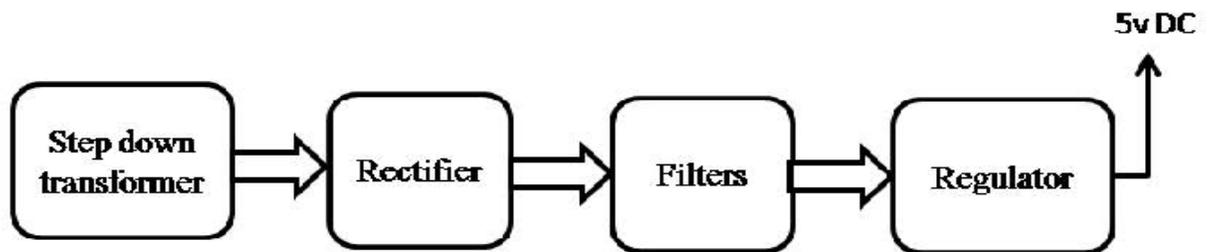
The major building blocks of this project are:

1. Regulated Power Supply.
2. Microcontroller.
3. Speech recognition module.
4. DC motors.
5. Motor driver system.
6. LCD display.
7. LED indicators.
8. Voice circuit.
9. Fan for within lift use.

Software's used:

1. PIC-C compiler for Embedded C programming.
2. PIC kit 2 programmer for dumping code into Micro controller.
3. Express SCH for Circuit design.
4. Proteus for hardware simulation.

Regulated Power Supply:



Block diagram:

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