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Voice Operated Elevator with Emergency Indicator

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Abstract— ***elevator is the main part in day to day life .it become transport devices that we are using every day .elevator is useful to move goods and persons. In this project,we are using the microcontroller AT89S52 .on this microcontroller the elevator controller is constructed to simulate as elevator in the real elevator. This project dissertation documents the results of a research on a microcontroller based elevator control system. It provides useful data to those who want to carry out a elevator Control system research . This System is operated on the Voice of any person which will help the handicap person to Travel form one place to another without any help of other. Microcontroller is become main part of each application now a days. application in each and every automation control like Hand-held communication devices Remote controllers,, automatic and automobiles, security system, telephone printing machines, indicating ,measuring instruments and products of day to day life. The project described here being also a microcontroller based, used for security purpose and in emergency condition. The use of microcontroller in this project is to store the data which is using in the programming for purpose of moving the elevator, process data that will be according to the user wishes.***

Keywords—Microcontroller, Voice Module, RF Module.

I. INTRODUCTION

elevator is become the main part of our day to day life.elevator is become a transport device that is very common to us now a days. We use it every day to move goods or peoples vertically in a high building such as shopping center, working office, hotel and many more things. Elevator is a very useful device that moves people in the shortest time to desired floor .Lift is the vital part of everyone's life living in large buildings, and moreover it is the necessary thing in large buildings or any big construction having number of floors to move from one floor to another. Now a day it is becoming prestigious thing for the malls, shopping markets ,colleges ,hospitals ,hotels. which are having two or three floors or more than that. So we are trying to make it more automatic through our project.

Speech recognition model is the method by which the elevator can be controlled .and by Speech recognition model we will get input to controlling the elevator. Whenever we are dealing with voice control, the first term come in our mind is Speech Recognition i.e. system should know or understand human voice as input to the speech recognition model. Speech recognition is a technology in which the system will understand the words but not its meaning of the words given by the speech of any person to speech recognition module. Speech is an best and ideal method to controlling the elevaor.In this project we are also going to give indication to the security in emergency situation. In emergency situation means in case of lift failure .it may be the fault because of power failure or may more reasons of power failure .in emergency condition it will indicate to the security person and that time buzzer will ringing on.

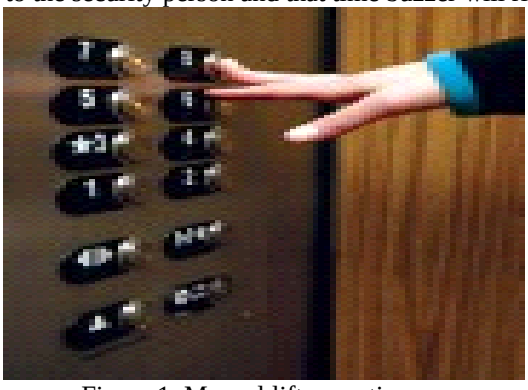

Figure 1. Manual lift operation

II. OBJECTIVES OF PROJECT

- Operation of lift through Voice based commands.
- To highlight key provisions on the use of voice operated lifts for handicap (blind) person.
- It is operated on the voice of any person.
- Provision of indication to security of building in case of lift failure.

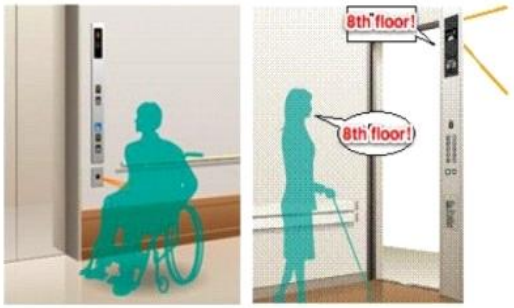

Figure 2. voice operated lift for blind and handicap person

III. PROPOSED SYSTEM

The speech recognition system is main part of this project.speech recognition system provides the communication mechanism between the user and the microcontroller based control mechanism of elevator. 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 which will given by the user .Microcontroller is programmed, with the help of embedded C programming. The microcontroller is capable of communicating with all input and output modules of elevator. 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 elevator. The similar voice based commands also used to turn on/off the fan inside the elevator. Also, LCD display is available for visual information of operations being performed for the person in the elevator. and the same indication given to the person on LCD display who will be present in the security cabin.

[A]System Architecture

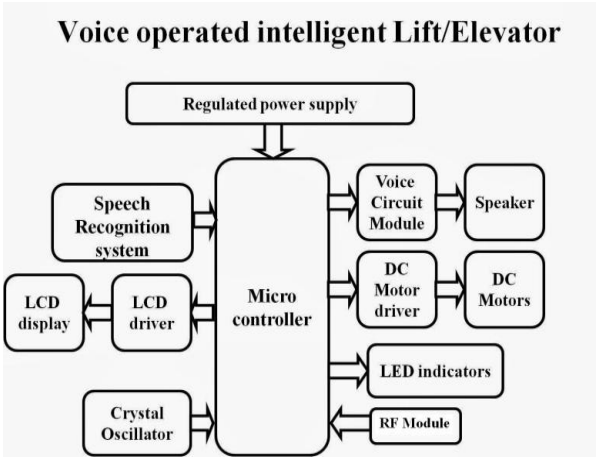

Figure 3. Block Diagram at Transmitters

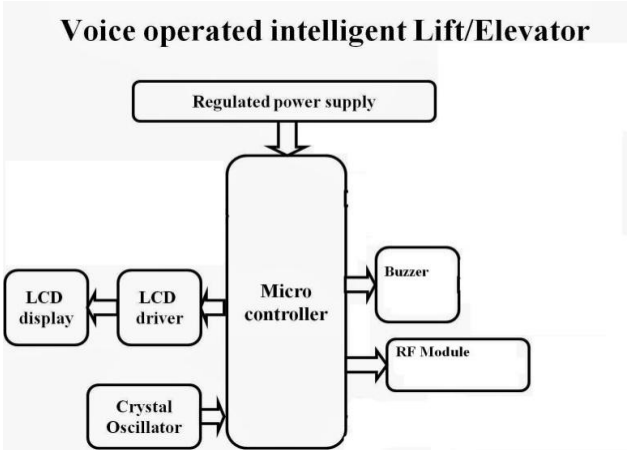

Figure 4. Block Diagram at Receiver

[B] Hardware description

Regulated power supply

Micro controller

Speech Recognition module
LCD Display
Stepper motor
buzzer

[C]Microcontroller

Microcontroller is the very important part of this project. The 89S52 contains a nonvolatile flash memory of 8k i.e. in both parallel programmable serial in system in application programmable. And in system programming it allows the user to download new code while the controller sits in the application. Application (IAP)it means that the controller will fetches a new program code and reprograms itself while in the system. The device is manufactured using Atmel's high-density nonvolatile memory technology and is compatible with the industry-standard 80C51 instruction set and pin out. The on-chip Flash allows the program memory to be reprogrammed in-system or by a conventional nonvolatile memory programmer. By combining a versatile 8-bit CPU with in-system programmable Flash on a monolithic chip, the Atmel AT89S52 is a powerful microcontroller which provides a highly flexible and consecutive solution to many embedded control applications. The AT89S52 provides the following standard features: 8Kbytes of Flash, 256 bytes of RAM, 32 I/O lines, Watchdog timer, two data pointers, three 16-bit timer/counters, a six-vector two-level interrupt architecture, a full duplex serial port, on-chip oscillator, and clock circuitry.The Idle Mode stops the CPU while allowing the RAM, timer/counters, serial port interrupt system to continue functioning. The Power-down mode saves the RAM contents but freezes the oscillator, disabling all other chip functions until the next interrupt or hardware reset.

[D]DC MOTOR

DC motor is also important in our project.it is usefull for rotating the elevator. In DC motor the wires which carries the current are placed in the region of the space of magnetic field, the wire carries he current and it also experiences a forceby which the elevator will be rotated. All the factor like the size of the force of motor,which will decide that how fast the motor will spins, depends on the amount of current in the wire. the length of the wires of Dc motor and the strength of the magnetic field and the direction of the force, that will decide in which direction motor is going to spins, depends on the direction of the current in the wire and the direction of the magnetic field.here The Right Hand Rule is also used to decide the direction of the force when the direction of the current and the direction of the magnetic field are known. Motors convert electrical energy (battery or voltage source) into mechanical energy for cause of rotation. Force = (wire length) x (current) x (magnetic field)

Figure 5. Diagram of DC motor

IV. CONCLUSIONS

In this paper of Voice operated elevator with emergency indicator, we have given the information which provides an emergency indication to the security while lift gets fail due to any problem like cut of power supply. This paper describes the voice operated elevator which is also easy in language and important for user. This voice operated elevator mainly useful for handicap person (blind). elevator operates on voice so maintenance cost for keypad which is used previously also reduced.

A voice recognition program and its connection with the controller can supply a sufficient amount of commands necessary for the elevator control on which the elevator will operate. The old elevators were having many drawbacks like there was key press problem and time required to press one key was also more. In this voice operated elevator we are taken prevention in emergency condition like lift failure and here indication given to the security person who will be inside security cabin . voice operated elevator is saving time but there was problem of security. This paper gives solution to all these problems.

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