

Touch screen based wheel chair control system

The main aim of this project is to develop a most secure access control system to operate a wheel chair of a patient by using touch screen. As this project uses the touch screen technology, which consumes less power by the user to operate it so that even the patient can operate without any stress. Wheel chair movement can be controlled in Forward, Reverse, Left and Right direction.

Automation is the most frequently spelled term in the field of electronics. The hunger for automation brought many revolutions in the existing technologies. One among the technologies, which had greater developments, is the touch screen sensor. These had greater importance than any other technologies due its user-friendly nature. Touch screen based devices can be easily reachable to the common man due to its simpler operation, and at the same time it challenges the designers of the device.

This project makes use of a micro controller, which is programmed, with the help of embedded C instructions. This Microcontroller is capable of communicating with input and output modules. The touch screen based sensor provides the information to the Microcontroller (on board computer). The system makes use of a GLCD which displays images of directions. The controller is interfaced with two dc motors, which are fixed to the wheel chair to control the direction of the wheel chair.

Features:

1. Can be easily monitored.
2. Ease in understanding the working module.
3. Easy to operate.
4. Low power consumption.

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

1. Touch screen technology.
2. Interfacing Motors with Microcontroller.
3. Interfacing LCD with Microcontroller.
4. Embedded C programming.
5. PCB Design and development.

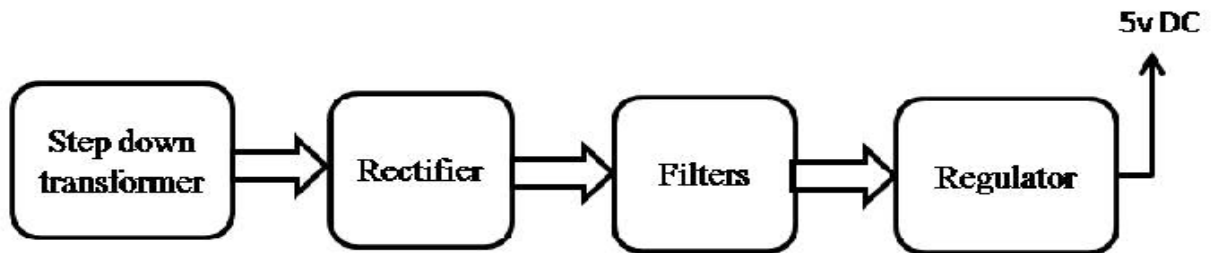
The major building blocks of this project are:

1. Regulated Power Supply.
2. Touch Screen Sensor.
3. Microcontroller.
4. Graphical LCD.
5. GLCD driver.
6. DC motor with driver.
7. Crystal oscillator.
8. LED indicators.
9. Reset

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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