

SMART TOUCH PANEL FOR AUTOMATION

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Keywords

TFT display, sensors, automation.

Introduction

In the 21st century, the use of mechanical switches for switching on the appliance is outdated and is prone to shocks. Due to the movement of switches, it is prone to break easily due to wear and tear. It even degrades the beauty of the house. The TFT display will act as a substitute for the mechanical switches. TFT (Thin-Film Transistor) is a device which is used to display the information of the fan speed, the status of lights in the room etc.

In this fast-moving world, people usually tend to forget to switch off the lights and fans after use. On a long-term basis, this is a waste of a natural resource and a complete waste of money as well.

The aged and the specially abled usually find it difficult to use the switches and hence have to experience difficulty to just switch on the lights and fans. All these can be avoided by implementing our project.

Objective

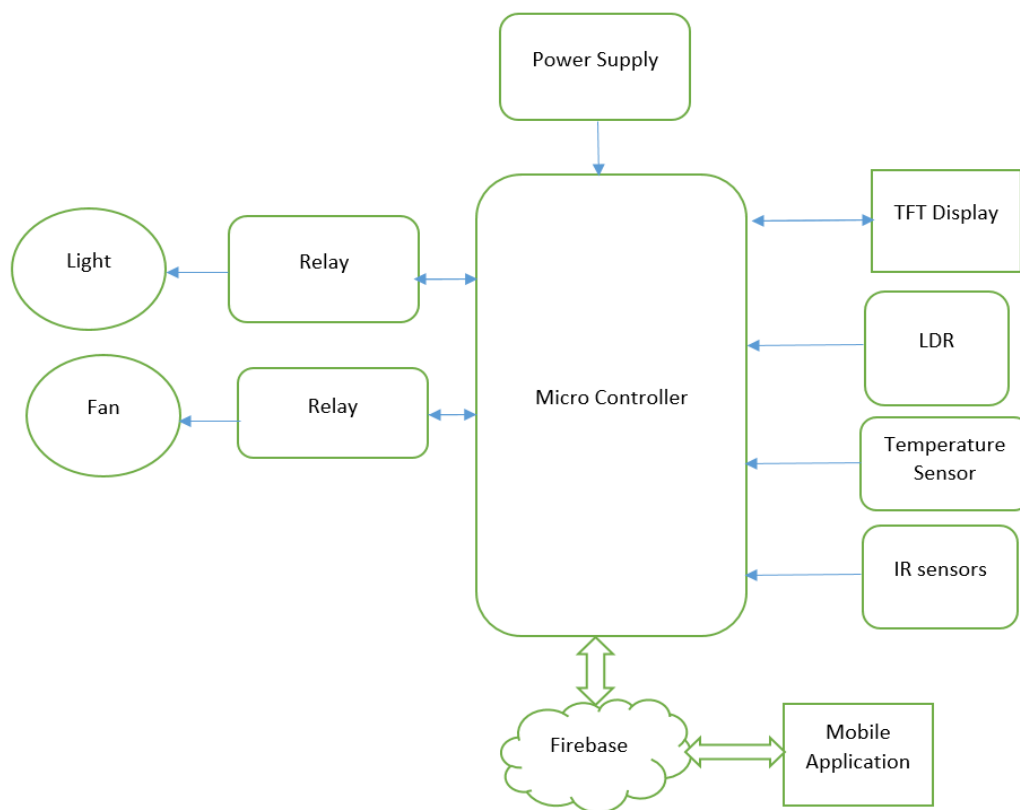
- (a) Will help the old aged people to access the switchboard at ease and not make them physically switch on the appliance.
- (b) The TFT touch display will enhance the beauty of the house as it replaces traditional switches which were completely made of plastics.
- (c) No requirement to change the switches as the TFT doesn't have any mechanical parts which will make it weak due to wear and tear.
- (d) Less probability of getting shocks.
- (e) Reduce the consumption of electricity

Methodology

This system contains a temperature sensor, IR sensor and light sensor. These sensors are used to get the specific data. This data is then used to control the appliance such as fans, lights etc.

The IR sensors are kept near the entrance. The IR sensors are used to count the number of people in the room. As the count becomes greater than one, the lights and fans switch on and work according to the data provided by the sensors. If the temperature is high, then the fan speed increases automatically without the need of any human intervention. Similarly, in the case of light's intensity. If a person forgets to switch off, the sensor detects the number of people and if it is zero, will automatically switch off the appliances irrespective of the data from the sensors.

There are two modes namely, manual and automatic. The above mentioned steps are for automatic mode. In manual mode, the sensors have no role to play. If the appliance is switched on, it will work on its full capacity and the data from the sensor is neglected. In manual mode, the TFT display is used in the place of traditional old switches. The TFT display enhances the beauty of the house. It is durable when compared with the old traditional switches as it doesn't have any mechanical moving parts thereby reducing wear and tear. All these are present in the form of a mobile application as well. The appliance can be controlled with the help of the internet from anywhere in the world.



Results and Conclusion

This project mainly helps the old and specially abled people to switch on the appliance at ease. This can either be done with the help of an application which is connected to the internet or through an automated mode of sensors. This project is to make life easier, simpler and automated. As the system is automated, the amount of electricity consumed has decreased. Since it has no mechanical moving parts, the system doesn't need to be changed and unlike the traditional switches, it won't become loose. This system will also enhance the beauty of the house as it is a replacement of the traditional plastic switches.