Easy to Design Microcontroller Projects to Make Our Lives Easier

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A microcontroller is used in most of our daily required electronic gadgets like Speakers, Microwave Ovens, LCD displays, Switches, Refrigerators, Telephones, Washing Machines and Automobile engine control systems. Microcontroller Projects are based upon an electronic integrated chip that forms the part of the embedded system. Here are some devices, which may make our life easier and secured at the cost of very little investment.

- Water Level Controller-Cum-Motor Protector

It happens often that we forget to switch off motor which results in overflowing of water in overhead tanks in our homes. As the tank is kept on the terrace so we feel lazy to go up to check the water level in the tank. Therefore, to solve this problem a microcontroller based water-level controller cum project has come up which controls on/off conditions of the motor depending upon the water level in tank. LCD module is provided to display water level in the tank. This Microcontroller Projects are designed in order to meet up the specifications like protection of the motor from high voltage, low voltage, fluctuations of main power and dry running. The main components of this device are PIC microcontroller, sensor, motor etc.

- Secured Room Access System

Access control systems are superb example of Microcontroller Projects that allow only authorized persons to access a restricted area. When someone unauthorized tries to enter the restricted area by entering invalid passwords continuously, the system locks itself and can be unlocked only by the master user. The system compromises a numeric keypad, a solenoid-operated lock and LCD display. The main electronic components are Atmega 8535 microcontroller, 7806 regulator and MCT2E opto-coupler.

Microcontroller projects designed as secure access systems comprise of memory card; an electronic device; at least one reader for detecting an activity of the secure access system. A controller is other important part of any access system. It is operable to interpret the detected activity and stores information relating to the detected activity in form of one or more log files in the memory, sends the one or more log files to the mobile device, selects the mobile device for the one or more log files and causes the one or more log files to be transmitted to the selected device. For example, if the activity related to access gained through a particular door, the door and potentially the person who gained access are stored in the control panel log. Also, if the activity related to a financial transaction, the information relating to the transaction including amount and who performed the transaction are sent to preset destinations and are stored at the control panel. Sometimes control panels associated with remote locations are not updated regularly. If a person's status changes from authorized to unauthorized, it is must to upgrade the control panel.

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