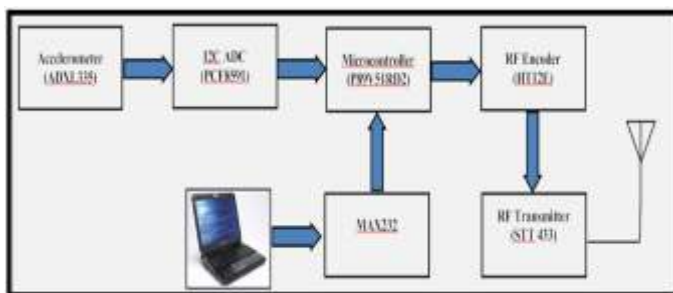


<b>GP1021</b>	<b>Domotics Control System using Hand Gesture</b>		
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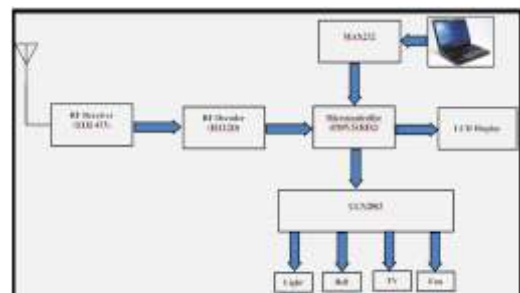
The growth of technology has opened up new avenues for automation of domestic and industrial appliances that makes life more comfortable and easier. Currently available automation systems rely on keypads to enter password or cameras with image processor based algorithm. In keypad based system, possibilities of password getting hacked is high and continuous use of keypad might result in damaging of the keypad unit. Camera based automation system requires proper lighting condition and position of user to capture and process the data accurately. High resolution cameras are needed for high quality image, which makes the system expensive.

In order to resolve the above mentioned problems, a hand gesture based home automation system has been proposed for automating the home appliances. The main component of the design is a compact accelerometer sensor which senses hand gestures made in free space. The hand held gesture remote controller consisting of an accelerometer interfaced with a microcontroller unit and RF transmitter. Training sequences of hand gesture patterns are stored in the microcontroller. Once the hand gesture is made, the system acquires it, processes and transmits it to the receiver of Domotics control unit. The received gesture pattern is matched with the stored gestures to activate the corresponding appliance. The appliance operations such as turning ON or OFF are controlled and a LCD displays the particular appliance name, which gets activated. Gesture based system automation, controls appliances wirelessly and is also useful for blinds and physically challenged people.

Domotics Control system is designed and a prototype is developed to control four home appliances such as light, bell, fan and TV. Prototype is divided into two parts, first unit i.e. transmitter unit comprises gesture remote with accelerometer, microcontroller and RF transmitter module and the other unit is the receiver or control unit consisting of microcontroller to control all the devices based on the received gesture through RF receiver module.



Block diagram of transmitter unit



Block diagram of control unit



Prototype model of hand gesture based domotics control system