TOUCH SCREEN BASED HOME AUTOMATION SYSTEM

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Abstract - *In recent years, the home environment has project focuses on assisting the users to control as well as to know the exact status of electric appliances in their home at that instant by using GSM and Zig-Bee which is wireless communication. Previously home automation are very complicated based on hardware. Thus it is difficult to maintain Factors like security, reliability, usefulness, robustness and price. Now a days it consist of touchscreen which easy to use. Now that human and computer interaction has been developed into a more wide and sophisticated field., designing and operating of intelligence system has been more user friendly than ever. Home automation is a system that helps a user to operate switching various appliances and lighting devices from a single input. The touch screen used as input is much simpler to operate. Touch screen has been widely accepted as the most comfortable input to be provided to the user. Not only they are easy to operate but they also give a sense of personal involvement which the user always appreciate.*

***Key Words*: Touch screen, GSM, Zig-Bee, Microcontroller, Sensors**

1. INTRODUCTION

Now a days, as rapid growth of technologies to reduce the human efforts. Home automation is one of the technology which is used to controlling as well as monitoring household appliances. There are different technologies to controlling by home automation using Wi-Fi, Zigbee, Android, Raspberry pi etc.As Technology is advancing so houses getting smarter. In our system ,as in automation GSM used for reducing complexity of automation.GSM and Zig-Bee used as wireless communication in Homes to control all Home appliances in home.control access used command for better access[2].Next paper is on the home automation using Zigbee, in that they mainly focused on:

1. Wi-fi based home automation:

The component of the system will always be connected.

A. Wi-Fi:
1. Each User must have a User ID and password
2. There is only one Administrator. Server must always run under windows system. There should be Internet connection available.
3. Efficient use of Hardware and Software is user friendly.

B. Bluetooth: Low cost but range problem so they use ARM 9.

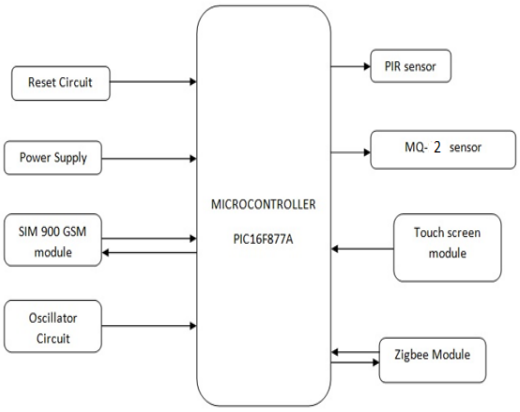
C. Zigbee: This system has attractive features such as SMS-Email notifications. In this perspective,ZigBee is emerging network technology as a wireless communication standard that is capable to satisfy such requirements.

2. LITERATURE SURVEY

Sr. No	Paper Title	Objectives
1	Wi-Fi based home automation	This paper is focus on Wireless home automation having unique ID and Password. They used ARM 9
2	Bluetooth based home automation	for better performance. Wireless home
3	Zigbee based home automation	automation for integrated system home appliances This paper focused on
4	Android based home automation	Multiple layered password are implemented for whole system paper.

2. SYSTEM ARCHITECTURE

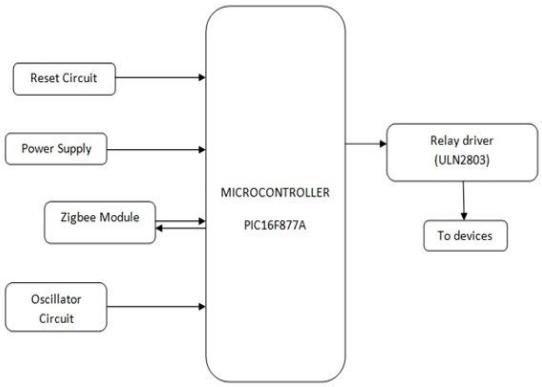
A. TRANSMITTER :



Transmitter Algorithm

1. Start
2. Initialize 16*2 Alphanumeric LCD, Zigbee S2
3. Initialize ADC and UART registers of PIC16F877A
4. Read the ports where touch sensor is interfaced
5. If (Touch key 1 == `1')
   Then transmit data `1' serially through Zigbee
   Else If (Touch key 2 == `1')
   Then transmit data `2' serially through Zigbee
   Else If (Touch key 3 == `1')
   Then transmit data `3' serially through Zigbee
   Else If (Touch key 4 == `1')
   Then transmit data `4' serially through Zigbee
   Else If (PIR == 1)
   Send message
   Else If (LPG > = 150)
6. Go to step 4
7. Stop

B. RECEIVER :



Receiver Algorithm:

1. Start
2. Initialize Zigbee S2 module and ports where relay is interfaced
3. Initialize UART registers of PIC16F877A
4. Receive byte serially through Zigbee S2
5. If (Received byte == ` 1 ')
   Then drive device 1 through relay
   Else If (Received byte == ` 2 ')
   Then drive device 2 through relay
   Else If (Received byte == ` 3 ')
   Then drive device 3 through relay
   Else If (Received byte == ` 4 ')
   Then drive device 4 through relay
6. Go to step 4
7. Stop

3. CONCLUSIONS

In this project work, we have studied and implemented working model by using a PIC Microcontroller .This work include the study of GSM modem using sensors as well as Zigbee protocol . GSM network operators have roaming facilities and mainly for security. As the system is based on touch screen the main benefit of this system is for handicapped people.

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