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Chapter 1

Introduction:

If any person want to visit the place secured by this system, will need to provide the correct code to be pressed by a keypad mounted on or near the door or through the authorization of the person managing this system. After providing the correct information the door will be unlocked as the person enter the room he will cut the IR sensor placed on sides of the door due to interruption in rays controller make decision that someone is entered in the room and decrement the number of visitor by 1, specified in the controller and display the decremented value on the 7 segment display and after the person is entered, the door will be locked by controller. Any person inside can leave that place anytime without providing password by cutting the IR sensor installed inside and controller increment the number of visitors specified. There are two passwords.

- 1) master password:
- 2) user password:

These passwords can be changed by entering master password using the keypad and LCD display.

If the number of visitor allowed are 10, as the person will enter in the room after fulfilling the security requirements value will be decremented to 9 and so on. In between if anyone leaves the room the value will be again incremented. If counter value is 00 mean visitors allowed are entered, it will restrict the further entries although it fulfils the security requirements but even then authorized person can allow anyone to enter the room by unlocking the door through GSM and there will be no increment or decrement in the visitor counter.

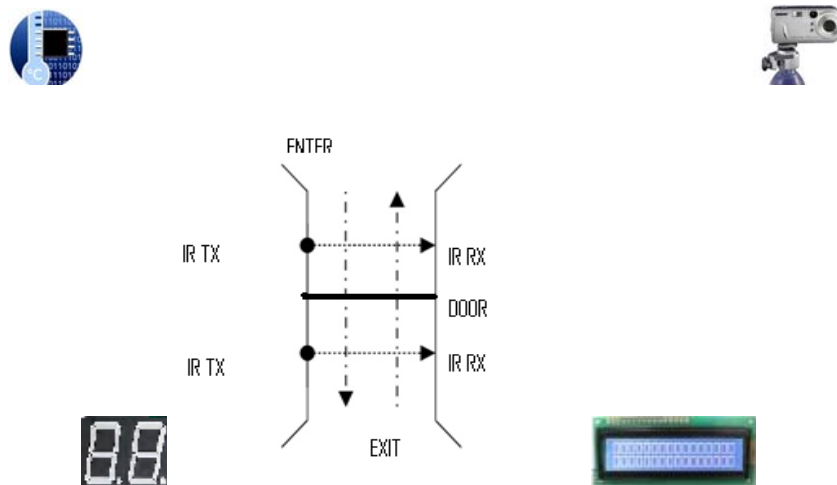


Figure 1.1 Adjustment of components

The counter value is fixing but we can change the value of counter from 00 to 99 and this process is done by DTMF mean by dialling call from a mobile and second mobile receives the call attached to DTMF and you can change the visitor's capacity. For example if you want to change capacity of counter to 68, just dial call and press *, this indicates to change in counter capacity. procedure is * 6 5 8 5 and after this counter capacity is change and new capacity is 68 mean now 68 persons can enter in the room by providing correct password and after 68 entries counter capacity become 00 and no one can enter in the room.

There is a temperature sensor device in the room that measure the temperature of the room and display that value on LCD display and this value can be retrieved by a person managing this system remotely by making a call and then by pressing key 9 and also it can send SMS after increasing the temperature from specific value define in hardware.

After reading the temperature we can control the temperature controlling devices according to our need by pressing the mobile button 4 and 6 during call. by pressing 4 the cooling system of the room is turned on and by pressing 6 we can switch to heating system and it is not necessary to turn on or off after taking temperature reading. We can on or off temperature controlling devices anytime.

To unlock the door through GSM from a remote place. There are three digit codes to open the door. Dial a call and press 3 digit code the door will be open, if the password is correct. Procedure for this is just press the # from mobile this indicates remote door unlocking. To enter 111, the password, press # 1 5 1 5 1 5 and door will be unlocked with providing no increment or decrement in the counter.

Software in microcontroller 80s51 allow user to change their 3 digit entry password from any ware by a call and then by pressing 0 during call from mobile keypad this indicates to password change. Initially it is 111 and suppose we want to change it with new value like 786 the procedure to change it is press 0 7 5 8 5 6 5 now new password is 786 old is removed. Now to unlock door press # 7 5 8 5 6 5 and door will b open and will automatically close

Due to security reasons, if any one press wrong code continuously three times from the keypad that is mounted near the door then the controller generate a message (wrong) and send it this to authorized person which indicates that someone is trying to break the lock.

Final part is to make a full proof security system for this purpose we use camera. We are using stepper motors to rotate camera in horizontal axis and in vertical axis. We can move camera 360 degree horizontally and 360 degree vertically and for this purpose we use the mobile button 1, 2, 3, 8 and 7. If you dial a call and then press 1 the camera in room will start to move left until you press 5, after pressing 5 cameras will stop there. By pressing 3 camera moves in right direction and to stop it procedure is same as for left. To move camera in upward direction press 2 and for downward direction press 8 and stop procedure is same And there is a dedicated button number 7 after pressing 7 the camera moves 360 degree right and after 360 degree only 3 degree moves upward and come back 360 degree left and then again