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Time-Driven Access Control System

AIM:

The Time-Driven Access Control System is an embedded security solution that regulates access based on predefined time schedules.

OBJECTIVE:

1. Display RTC information (date, time and day) on an LCD.

2. Allow users to modify RTC information via a 4x4 matrix keypad.

3. Allow users to modify the system access time via 4x4 matrix keypad.

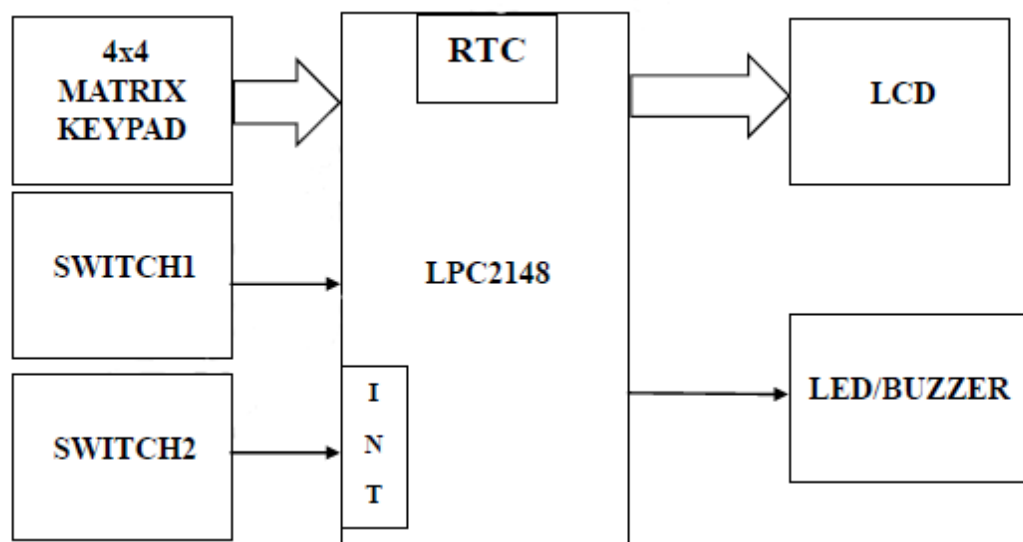4. Grant the access based on the correct password entry with in the scheduled time.

REQUIREMENTS:

HARDWRAE REQUIREMENTS:

- LPC2148
- 16X2 LCD
- 4X4 MATRIX KEYPAD
- BUZZER/LED
- SWITCH
- USB-UART CONVERTER

SOFTWARE REQUIREMENTS:

- EMBEDDED-C PROGRAMMING
- FLASH MAGIC

Software Flow:

1. Initialize system: RTC, LCD, Keypad, and Buzzer/Led.

2. Display current time, date and day on LCD.

3. Allow user to enter the password based on switch1 press.

4. After switch1 is pressed, user has to enter the password from the 4x4 matrix keypad. If the password is matched with the current/updated password, then check the scheduled time. If correct/updated password is entered with in the scheduled time, then give the access for the security system.

5. If user want to edit the RTC information and schedule time, then need to generate the interrupt by pressing switch2. Based on the interrupt request below mentioned menu will display.

       1. Edit RTC Info

       2. Edit Schedule Time

       3. Exit

6. Editing process need to follow as per the user requirement.

7. After editing, again application program will start running from step2.