

CS3514

Project 2017

Task: Build a Burglar Alarm

Groups: you may work in groups of 2 or 3

Expected outputs:

- Individual project report per group member
- Code
- Demonstration
- presentation by selected groups

Due dates: Demonstration - In Lab on 27/11/17

, presentation - In class on 30/11/17

Reports & Code - CS office 8/12/17

CS3514 Burglar Alarm Project

1) Time of day

Basic functionality

- Displayed by default on LCD
- Include functionality to set time

Enhanced functionality

- Display Date/Time
- ability to set Date

2) Alarm zones

Basic functionality

- 4 Zones with Programmable Zone types
- 4 Zone types
 - Entry / Exit
 - Alarm Digital

- Alarm Analogue
- Continuous monitoring

For Entry/Exit Zone type

- Set user password
- set exit/enter time
- require password to set/reset

For Alarm Digital Zone type

- set active High or active low

For Alarm Analogue Zone type

- set threshold value

For Continuous monitoring Zone type

- activate alarm on $H \rightarrow L$ transition
- Extended functionality
 - Require engineer password to change settings
 - set engineer password

3) When alarm condition occurs

- Basic functionality

- Record Zone, (Date) Time in the EEPROM Memory
- Activate alarm
 - Enhanced functionality
 - None

4) Saving the Settings

- When the settings for the zones are changed, they should be saved in the EEPROM

5) Use the remote Control

- Basic
 - for entering the enter / exist passwords
- enhanced
 - to navigate all menus