ECS Mini Project

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DCPE/FT/3B/21

Table of Contents

Overall System Description

The main purpose of this program is to simulate an actual lift. The lift resides in a 10 storey apartment and requires a user panel which allows the users to select the floor they wish to go to. As the lift moves, the floor number will be displayed. When the floor is reached, appropriate sounds and messages will inform the user that the destination is reached. The user panel will also have door close and open buttons. If there is no activity after a while (5 seconds in the simulated scenario) the lift will go back to the first floor.

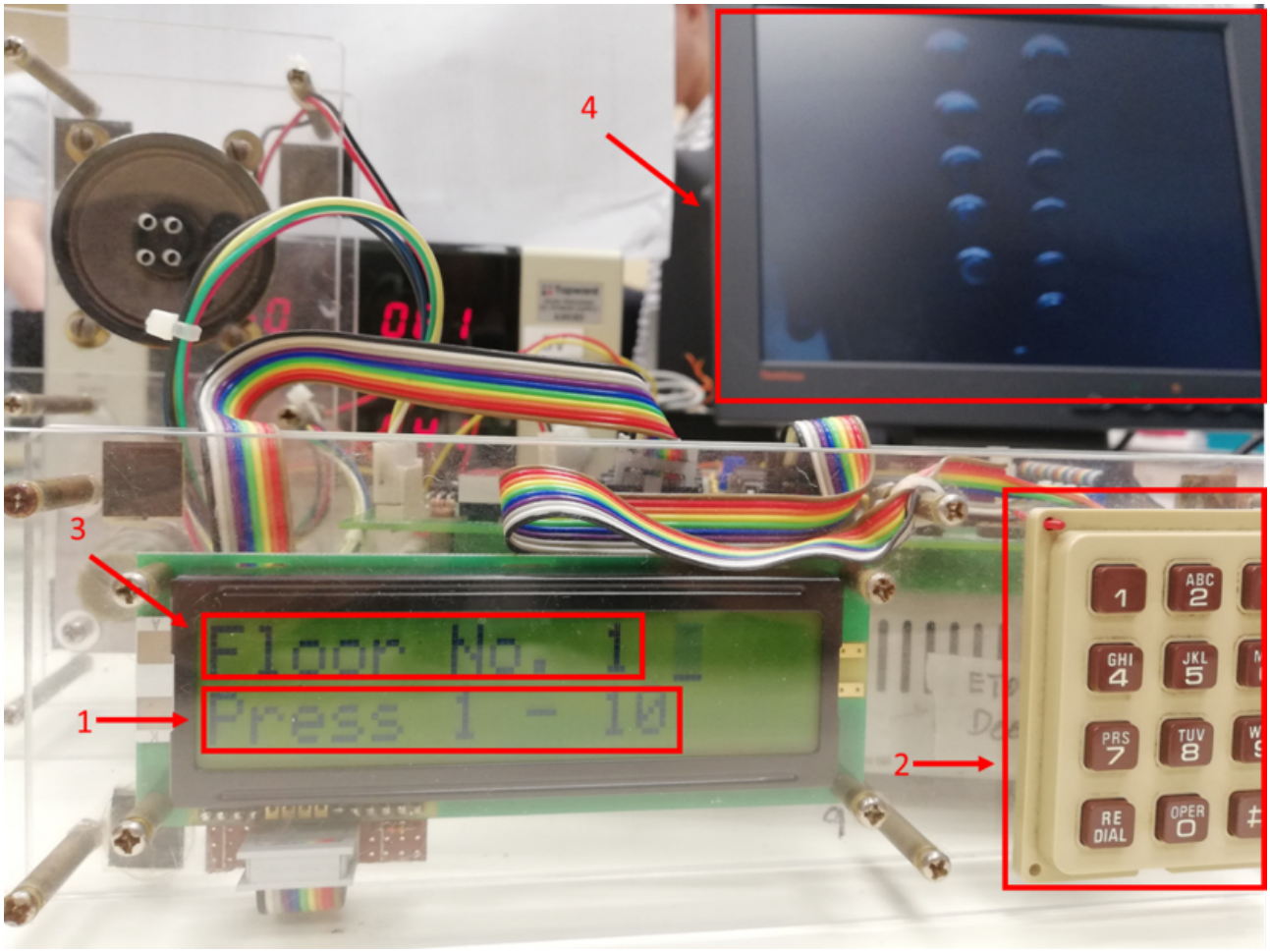
Goals

To make a realistic simulation of lift firmware and user controls.

Constraints

Melodies played by the speaker have to be simple because two or more notes cannot be played simultaneously.

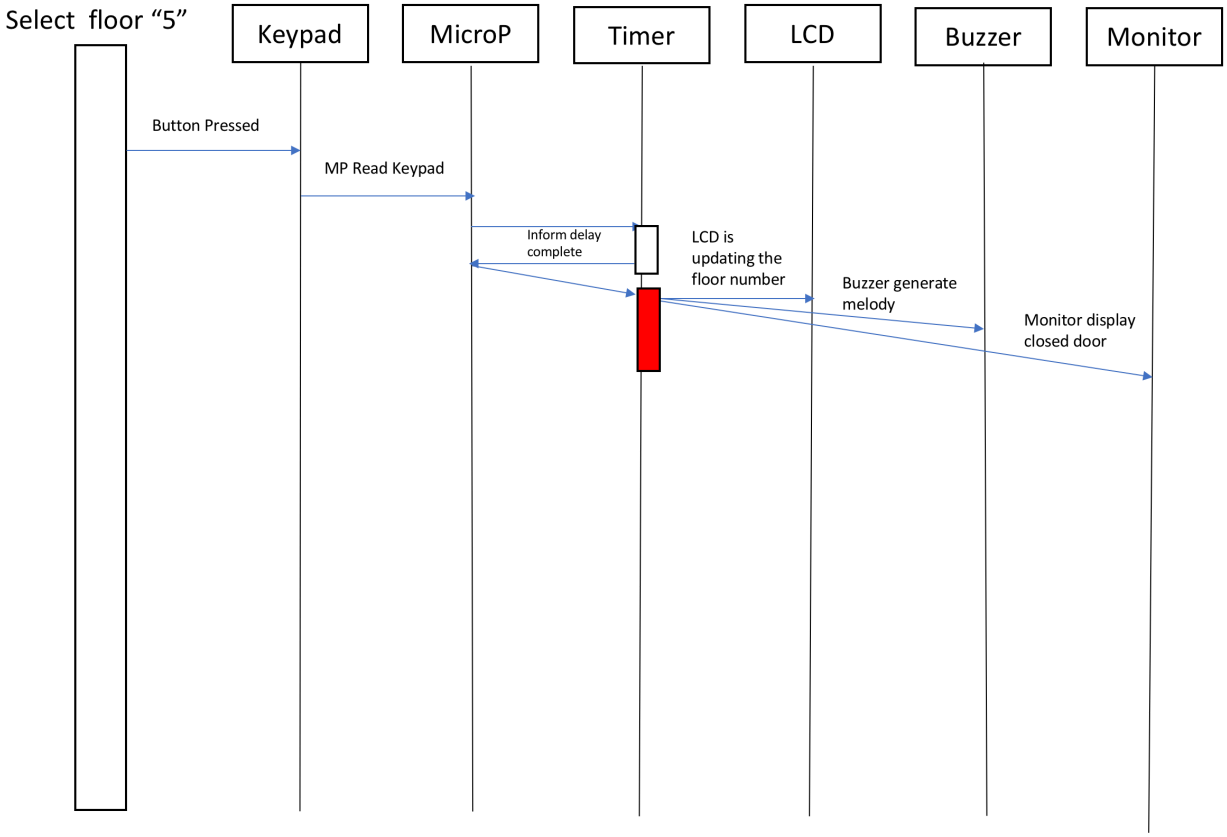
User Manual



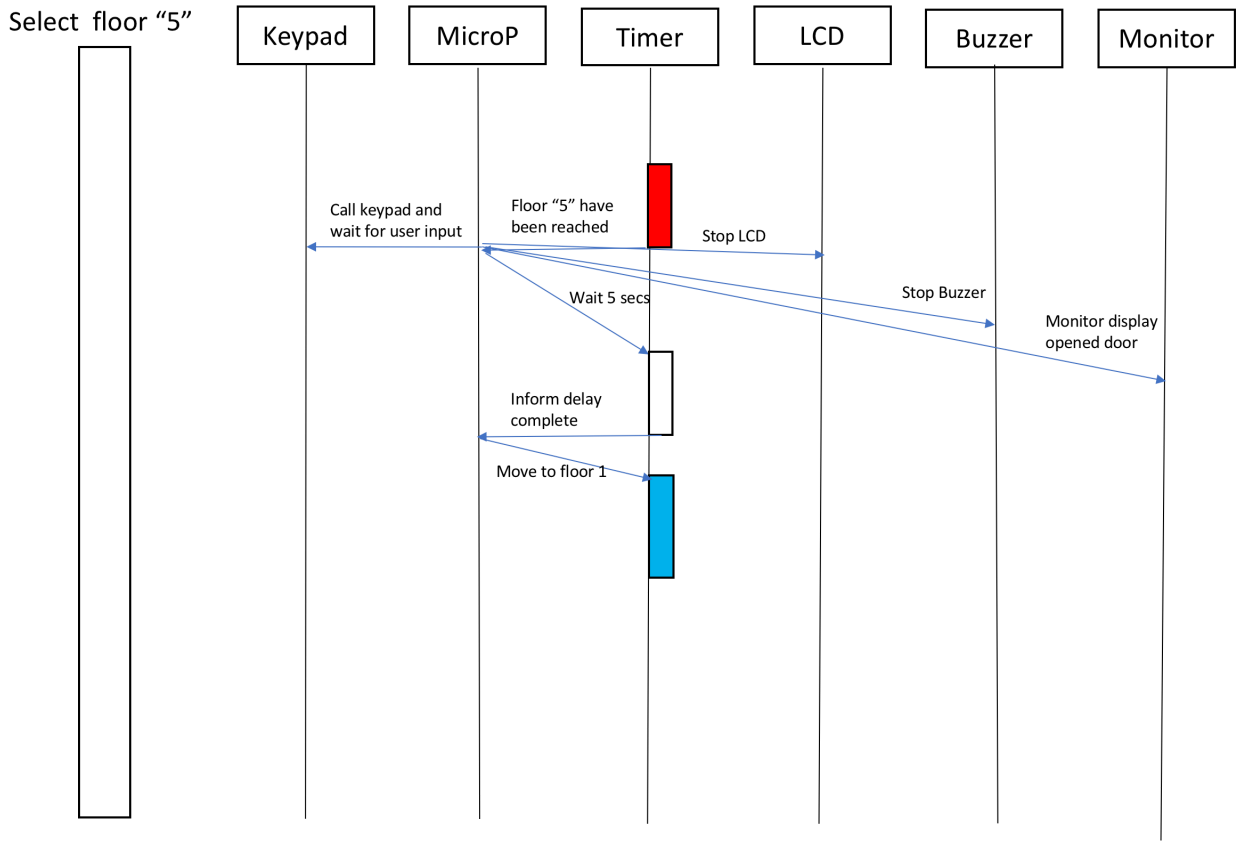
1. The message displayed in the second row is fixed until the floor is reached. Once the desired floor is reached a message will be displayed to inform the user that they have reached the destination.
2. Buttons for user to press. The number displayed on the button corresponds to the floor number except three special buttons: REDIAL (close the door), 0 (selects floor 10), # (open the door)
3. Floor number will either increase or decrease depending on user input. Once the floor is reached it will stop moving. It will automatically move down to the ground floor if no button is pressed for a while (5 seconds during simulation).
4. Screen display. Images of lift buttons will be displayed if no button is pressed. Images of door opening/closing will be displayed if the user enters an input at the keypad.

Interaction Sequence Diagram (Individual Component)

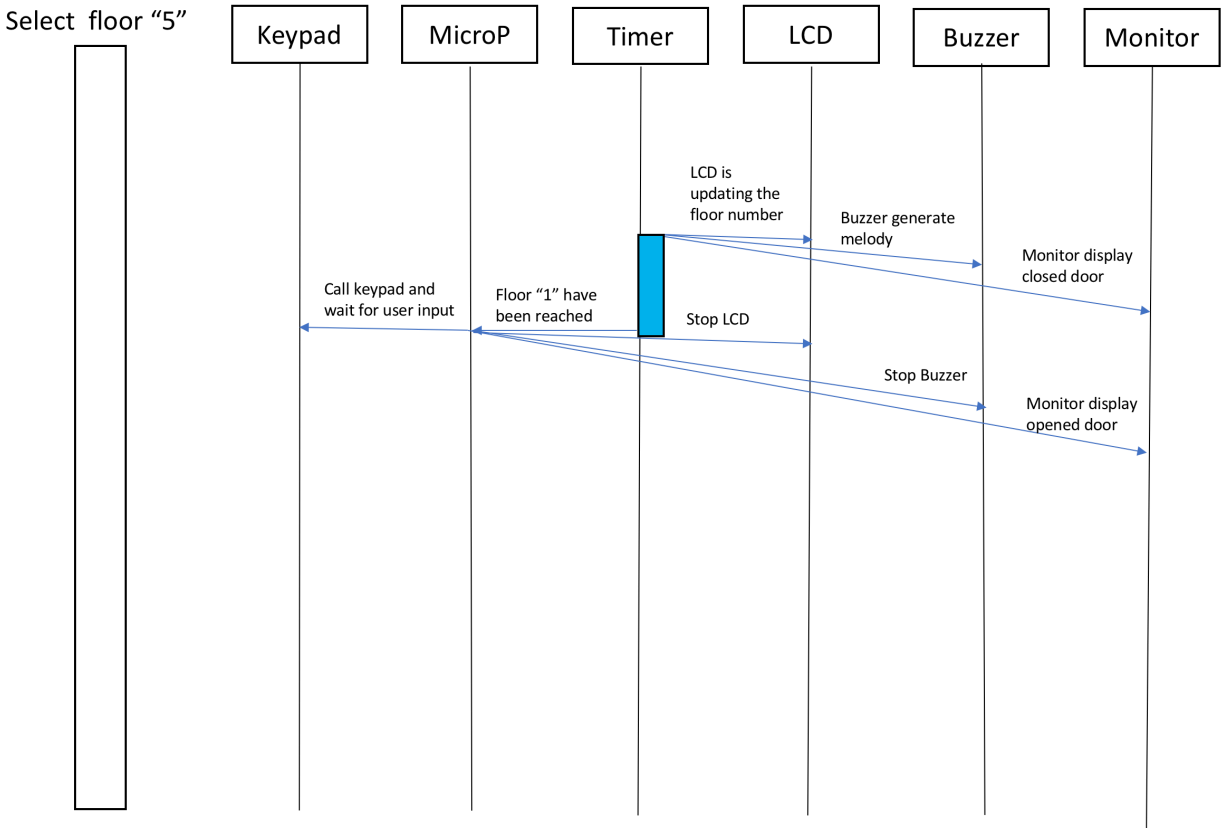
Nikhil Raghavendra



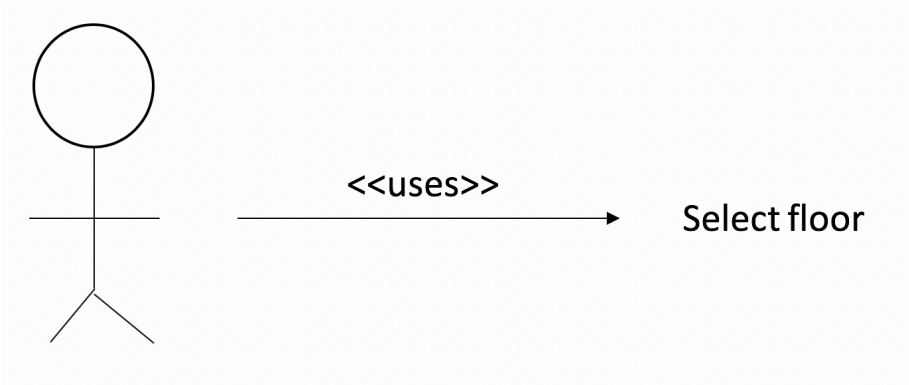
Ong Jun Wen


Select floor “5”
Keypad
MicroP
Timer
LCD
Buzzer
Monitor
Call keypad and wait for user input
Floor “5” have been reached
Stop LCD
Stop Buzzer
Wait 5 secs
Monitor display opened door
Inform delay complete
Move to floor 1

Sun Ling Yue



Use Case Diagram



Input: Keypad
Output: LCD monitor, LCD display, buzzer and LED
Messages: "Press 1 - 10", "Floor reached!", "Floor number: [xx]"