

Project Mile Stone 1

Software Verification and Validation (CPSC 8730)

Project topic: Implementation of verification and validation techniques in development of Multi Elevator System.

Team members:

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Use case for Multi Elevator System:

Use Case 1 : Multi Elevator System request Use Case.

- **Primary Actor** - User and controller

Description - The user request the elevator.

Preconditions - The user is already on the floor to request the Elevator.

Flow of Events - The user wants to use the elevator and request for it through the ERS.

1. User request the elevator through ERS to go up or down.
2. The ERS sends the signal to the controller indicating the current floor of the user.
3. The controller queue the request for the floor where elevator has to stop to process the request.
4. Once the request is processed the controller checks the next request in the queue and decide which elevator out of three should moves to which direction.
5. Controller checks if the door of elevator is open or closed. once the door is closed the elevator is signaled to move to the certain direction to process the request.
6. The controller checks whether the elevator is approaching the floor and if there is a request in a queue for that floor which is already not processed by any other elevator.
7. The controller sends the signal to elevator to stop at that floor.
8. Once the elevator receive the signal to stop it stops at the requested floors which are on a path of its original destination.
9. Controller opens the door once the elevator stops on the requested floor.
10. The elevator service the user request.
11. Once there is no more request in the queue. The controller sends the signal to other elevator to stop.