## **ELEVATOR”SRS”**

## **\*\***

1. **CHAPTER: PERSON NUMBERS CONSTRAINS**

|  |  |
| --- | --- |
| **Requirements** | **Req\_SRS\_01** |
| **Req** | **Software :**  **1st State:** When the entry sensor signal fires, the number on the LCD increments  **2nd State:** When the exit sensor signal fires, the number on the LCD decrements.  **3rd State:** When the entry signal fires, The number of allowed people is checked .If it’s within constrains limit it will work.  **4th State:** When the entry signal fires, The number of allowed people is checked .If it’s not within constrains limit the buzzer will fire and will display a warning on the LCD. |
| **Covers** | **Req\_CRS\_103** |

1. **CHAPTER: IDLE/ACTIVE STATE**

|  |  |
| --- | --- |
| **Requirements** | **Req\_SRS\_02** |
| **Req** | Software:  When the last person leaves the elevator after 30 seconds, it enters idle state.  In idle state the LCD and lights will turn off to save power.  It will wait until it gets called to turn to enter active mode.  If the lock sensor detects that the door is open, it will not go into active state,  but will register the floor call.  In active mode, the lights turn on and starts moving to the called floor. |
| **Covers** | **Req\_CRS\_106**  **Req\_CRS\_107**  **Req\_CRS\_108**  **Req\_CRS\_109**  **Req\_CRS\_110**  **Req\_CRS\_401**  **Req\_CRS\_402**  **Req\_CRS\_403** |

1. **CHAPTER: ELEVETARO’S ACCESS CONTROL**

|  |  |
| --- | --- |
| **Requirements** | **Req\_SRS\_03** |
| **Req** | **Software:**  Elevator is activated through a password of 4 digits.  **1st state:** When the user enters the wrong password:  LCD shows: Incorrect password and a message should appear to let user try again.  **2nd state:** When the user enters the right password:  LCD shows: Correct password and elevator activates (motor starts to run).  **3rd state:** Only when the elevator activates, it will accept requests from the user to go to the desired floor using the three buttons, one for each floor. Otherwise, It will ignore the user’s  request. |
| **Covers** | **Req\_CRS\_201**  **Req\_CRS\_202**  **Req\_CRS\_203**  **Req\_CRS\_204**  **Req\_CRS\_205**  **Req\_CRS\_206**  **Req\_CRS\_602**  **Req\_CRS\_604**  **Req\_CRS\_605** |

1. **CHAPTER: ELEVATOR CALL BUTTONS**

|  |  |
| --- | --- |
| **Requirements** | **Req\_SRS\_04** |
| **Req** | **Software:**  **state 1:**  Elevator is free and someone calls it from any floor.  Response: accepted.  **state 2:**  Elevator is free then it received more than one call.  Response :  Elevator responds to calls by the order they came with.  **state 3:**  Elevator is busy and receives a call.  Response:  - Elevator only stops and opens at the floor of the new call only if the elevator is in this floor otherwise it will respond to the call when it is on the top of the waiting queue.  - The request of the call takes place at the end of the queue but if the elevator reach the destination of this call it will stop and open.  **state 4:**  Elevator free or busy and receives multiple calls from the same floor.  Response :  Only the first call will take place in the queue. |
| **Covers** | **Req\_CRS\_301**  **Req\_CRS\_302**  **Req\_CRS\_303**  **Req\_CRS\_304**  **Req\_CRS\_305**  **Req\_CRS\_501** |

1. **CHAPTER: UP AND DOWN BUTTONS OUTSIDE THE ELEVATOR**

|  |  |
| --- | --- |
| **Requirements** | **Req\_SRS\_05** |
| **Req** | **Software:**  when the client **presses the up key** outside the elevator, we will check on state of the motor.  **1st state(idle):** the elevator will serve the client directly.  **2nd state(upwards):** we will make another check on the current floor if its less than the floor that the client pressed the key at, then the elevator will stop at this floor. Otherwise the elevator will serve the client after it finishes its current serving.  **3rd state(downwards):** the elevator will serve the client after it finishes the current serving.  when the client **presses the down key** outside the elevator, we will check on state of the motor:  **1st state (idle):** the elevator will serve the client directly.  **2nd state (upwards):** the elevator will serve the client after it finishes the current serving.  **3rd state (downwards):** we will make another check on the current floor if its greater than the floor that the client pressed the key at, then the elevator will stop at this floor. Otherwise the elevator will serve the client after it finishes its current serving. |
| **Covers** | **Req\_CRS\_701**  **Req\_CRS\_702**  **Req\_CRS\_801** |