|  |  |
| --- | --- |
| **Use Case Name:** - Move Passengers  **Scope:** Elevator  **Level:** User Goal  **Primary Actor:** Passenger  **Stakeholders and Interests:**  • Passenger: Call elevator to current floor; move from one floor to another; stop the elevator  • Maintenance Worker: Call elevator to current floor; Move from one floor to another; Be able to stop the elevator  **Preconditions:**  • Not in Maintenance Mod   * Not in Alarm Mode   **Post Conditions:**  • Passenger is relocated to desired floor | |
| **Actor Action** | **System Responsibility** |
| **Main Success Scenario:** |  |
| 1. Actor presses button to call elevator |  |
|  | 2. Elevator moves to floor |
|  | 3. Elevator opens door |
| 4. Person gets on elevator |  |
|  | 5. Elevator closes door |
| 6. Person chooses floor |  |
|  | 7. Elevator moves to floor |
|  | 8. Elevator opens doors |
| 9. Person gets off elevator |  |
|  | 10. Elevator closes doors |
| **Alternative Flows:** |  |
| **Passenger presses stop:** |  |
| 1. At any time, passenger pushes stop button |  |
|  | 2. Elevator follows UCX – Press Stop |
|  | 3. Elevator resumes operation per UC1 – Moving Passengers |
| **Elevator receives alarm:** |  |
|  | 1. Anytime elevator receives alarm signal |
|  | 2. Elevator follows UC3 - Alarm Code |
| 3. Passenger exits at the nearest floor |  |
| **Elevator enters maintenance mode:** |  |
|  | 1. Anytime elevator gets maintenance signal |
|  | 2. Elevator follows UC2 - Maintenance Mode |
| 3. Passenger exits at desired floor |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **Use Case Name:** - Maintenance Mode  **Scope:** Elevator  **Level:** Maintenance Worker Goal  **Primary Actor:** Maintenance Worker  **Stakeholders and Interests:**  • Maintenance Worker: Maintenance worker wants to be able to perform safe uninterrupted scheduled / unscheduled maintenance on elevator  • Passenger: Passenger wants maintenance to complete quickly so they can ride elevator  **Preconditions:**  • Not in Alarm Mode  **Post Conditions:**  • Elevator is on first floor  • Elevator is ready to accept requests | |
| **Actor Action** | **System Responsibility** |
| **Main Success Scenario:** |  |
| 1. Maintenance Worker validates system |  |
| 2. Maintenance Worker requests maintenance mode |  |
|  | 3. Elevator updates status to maintenance mode causing it to reject new requests |
|  | 4. Elevator processes all current requests as per UC1 - Move Passengers |
|  | 5. Elevator moves to the first floor |
|  | 6. Elevator opens doors |
| 7. Maintenance Worker performs required maintenance action |  |
| 8. Maintenance Worker requests exit maintenance mode |  |
|  | 9. Elevator closes doors |
|  | 10. Elevator proceeds as per UC1 - Move Passengers |
| **Alternative Flows:** |  |
| **At any time Elevator is immobile:** |  |
|  | 1. Elevator hangs at UC2 step 4 |

|  |  |
| --- | --- |
| **Use Case Name:** - Alarm Signal Received  **Scope:** Elevator  **Level:** Alarm System Goal  **Primary Actor:** Alarm System  **Stakeholders and Interests:**  • Passengers: Exit building safely  • Emergency Personnel: Wish elevator to be cleared as fast as possible  **Preconditions:**  • None  **Post Conditions:**  • Elevator is on first floor  • Elevator is ready to accept requests | |
| **Actor Action** | **System Responsibility** |
| **Main Success Scenario:** |  |
| 1. Alarm sends alarm signal to Elevator |  |
|  | 2. Elevator updates alarm status |
|  | 3. Elevator clears all pending requests |
|  | 4. Elevator proceeds to nearest floor |
|  | 5. Elevator opens doors |
| 6. Alarm sends all-clear signal to Elevator |  |
|  | 7. Elevator closes doors |
|  | 8. Elevator proceeds to first floor uninterrupted |
|  | 9. Elevator proceeds as per UC1 – Move Passengers |
| **Alternative Flows:** |  |
| **At any time Elevator is immobile:** |  |
|  | 1. Elevator hangs at UC3 step 4 |

|  |  |
| --- | --- |
| **Use Case Name:** - Call Elevator to Location  **Scope:** Elevator  **Level:** Passenger Goal  **Primary Actor:** Passenger  **Stakeholders and Interests:**  • Passengers: Be able to call an elevator to a specific location  **Preconditions:**  • None  **Post Conditions:**  • Elevator is on the last requested floor  • Elevator is ready to proceed to next request | |
| **Actor Action** | **System Responsibility** |
| **Main Success Scenario:** |  |
| 1. Passenger presses call elevator button |  |
|  | 2. Elevator records floor request |
|  | 3. Elevator services requests in order of priority |
|  | 4. Elevator arrives at requested floor |
|  | 5. Elevator opens doors |
| 6. Passenger enters elevator |  |
|  | 7. Elevator closes doors |
| **Alternative Flows:** |  |
| **At any time Elevator is immobile:** |  |
|  | 1. Elevator hangs at UC4 step 2 |
| **Elevator is in Maintenance Mode:** |  |
|  | 1. Elevator ignores request |
| **Elevator is in Alarm Mode:** |  |
|  | 1. Elevator ignores request |

|  |  |
| --- | --- |
| **Use Case Name:** - Drop a Passenger at a Location  **Scope:** Elevator  **Level:** Passenger Goal  **Primary Actor:** Passenger, Elevator  **Stakeholders and Interests:**  • Passenger: Arrive at desired floor safely and quickly  • Elevator: Drop passengers off quickly and safely  **Preconditions:**  • Elevator must have a passenger with a desired location in the queue  **Post Conditions:**  • Passenger is on desired floor  • Elevator is ready to proceed to next request | |
| **Actor Action** | **System Responsibility** |
| **Main Success Scenario:** |  |
| 1. Passenger presses button of the desired floor |  |
|  | 2. Elevator records floor request |
|  | 3. Elevator services requests in order of priority |
|  | 4. Elevator arrives at requested floor |
|  | 5. Elevator opens doors |
| 6. Passenger exits elevator |  |
|  | 7. Elevator closes doors |
| **Alternative Flows:** |  |
| **At any time Elevator is immobile:** |  |
|  | 1. Elevator hangs at UC5 - step 2 |
| **Stop Request:** |  |
|  | 1. Elevator receives stop request |
|  | 2. Elevator proceeds as per UC6 - Stop Request |
| **Elevator receives an Alarm Code:** |  |
|  | 1. Elevator receives alarm call while in route to floor |
|  | 2. Elevator proceeds per UC3 - Alarm Code |

|  |  |
| --- | --- |
| **Use Case Name:** - Stop Request  **Scope:** Elevator  **Level:** Passenger Goal  **Primary Actor:** Passenger  **Stakeholders and Interests:**  • Passenger: Delay Elevator’s progress  **Preconditions:**  • Elevator must have a passenger  **Post Conditions:**  • Elevator resumes servicing new and existing requests | |
| **Actor Action** | **System Responsibility** |
| **Main Success Scenario:** |  |
| 1. At any time, Passenger presses Stop Button |  |
|  | 2. Elevator halts immediately |
|  | 3. Elevator records any new requests |
| 4. Passenger presses Stop Button |  |
|  | 5. Elevator proceeds per UC1 - Move Passengers |
| **Alternative Flows:** |  |
| **Elevator receives an Alarm Code:** |  |
|  | 1. Elevator receives alarm call while in route to floor |
|  | 2. Elevator proceeds per UC3 - Alarm Code |