As the focus was communication and having a 3-tier architecture, there wasn’t much in the implementation of the model in each tier. The JUnit tests verify if the validation is done properly. Most of the system is tested using Test Cases that check the behaviour of the system. The JUnit tests can be found in Appendix “”.

Test Specifications

Test Cases were used to ensure that the Use Cases and the requirements have been respected. The following table displays all the test specifications:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Nr | Description | Actor | Precondition | Expected Result | Steps | Result |
| 1 | The user creates a movie | Movie Creator | The system must be connected to the database | A movie is created and added to the list | 1. User presses on the button “CreateMovie”  2. User introduces title and submits  3. User introduces creation year and submits  4. User introduces release date and submits  5. User introduces price and submits  6. User introduces the name of the studio and submits  7. User introduces the director’s name and submits  8. User introduces the description and submits  9. User introduces the main actor’s name and submits | A movie is created and added to a list. |
| 2 | The user wants to create a movie but inputs the year of creation in the wrong format | Movie Creator |  | The system displays an error message “Input a creation year made by digits” | 1. User presses on the button “CreateMovie”  2. User introduces title and submits  3. User introduces creation year and submits | The system displays an error message “Input a creation year made by digits” |
| 3 | The user wants to create a movie but inputs the release date in the wrong format | Movie Creator |  | The system displays an error message “Please enter the date in this exact format: [DD/MM/YYYY]” | 1. User presses on the button “CreateMovie”  2. User introduces title and submits  3. User introduces creation year and submits  4. User introduces release date and submits | The system displays an error message “Please enter the date in this exact format: [DD/MM/YYYY]” |
| 4 | The user wants to create a movie but inputs the price in the wrong format | Movie Creator |  | The system displays an error message “Input a price made by digits” | 1. User presses on the button “CreateMovie”  2. User introduces title and submits  3. User introduces creation year and submits  4. User introduces release date and submits  5. User introduces price and submits | The system displays an error message “Input a price made by digits” |
| 5 | The user wants to create a room | Movie Scheduler | The system must be connected to the database | A room is created and added to a list | 1. User chooses to create a room  2. User enters size of the room  3. User enters description  4. User validates his choice  5. Room is created and added to the list | A room is created and added to a list |
| 6 | The user wants to create a room but inputs the size in the wrong format | Movie  Scheduler | The system must be connected to the database | The system displays an error message “You need to input a number” | 1. User chooses to create a room  2. User enters size of the room | The system displays an error message “You need to input a number” |
| 7 | The user wants to delete a room | Movie Scheduler | The system must be connected to the database | The selected room will be removed from the system | 1. System displays a list of all rooms  2. User selects a room from the list  3. User deletes the room  4. System removes room from the list | The selected room will be removed from the system |
| 8 | The user wants to delete a room but doesn’t input the ID in the field or inputs the wrong format | Movie Scheduler | The system must be connected to the database | The system displays an error message “You need to input a number in the ID field” | 1. System displays a list of all rooms  2. User selects a room from the list | The system displays an error message “You need to input a number in the ID field” |
| 9 | The user wants to create a schedule | Movie Scheduler | Rooms are stored in the system  Managed list of movies is stored in the system  The system must be connected to the database | Schedule created and added to the database | 1. System displays a list of available movies, rooms, days and times  2. User inputs the id of the movie.  3. User inputs the id of the room.  4. User selects the day from a list of available days.  5. User selects the time from a list of available times.  6. User presses a button with the text “Input”.  7. Steps 2 to 7 are repeated until the user decides he/she is done.  12. After he is done, the user can press the button with the text “Send” to send over to the database the schedule. | Schedule created and added to the database |
| 10 | The user wants to see the current schedule | Movie Scheduler | Rooms are stored in the system  Managed list of movies is stored in the system  A schedule in the system  The system must be connected to the database | Schedule data displayed | 1. User presses the button “show” | Schedule data displayed |
| 11 | The user wants to create a schedule but doesn’t input the ID of Room or/and Movie | Movie Scheduler | Rooms are stored in the system  Managed list of movies is stored in the system  The system must be connected to the database | The system displays a message “Wrong ID/Wrong format Inputted (Must be a number present in the list written with digits)” | 1. System displays a list of available movies, rooms, days and times.  4. User selects the day from a list of available days.  5. User selects the time from a list of available times.  6. User presses a button with the text “Input”. | The system displays a message “Wrong ID/Wrong format Inputted (Must be a number present in the list written with digits)” |
| 12 | The user wants to create a schedule but doesn’t a number as the ID of Room or/and Movie | Movie Scheduler | Rooms are stored in the system  Managed list of movies is stored in the system  The system must be connected to the database | The system displays a message “Wrong ID/Wrong format Inputted (Must be a number present in the list written with digits)” | 1. System displays a list of available movies, rooms, days and times  2. User inputs the id of the movie.  3. User inputs the id of the room.  4. User selects the day from a list of available days.  5. User selects the time from a list of available times.  6. User presses a button with the text “Input”. | The system displays a message “Wrong ID/Wrong format Inputted (Must be a number present in the list written with digits)” |
| 13 | The user wants to create a schedule but doesn’t input the ID of a Room or/and Movie from the list | Movie Scheduler | The system must be connected to the database | The system displays a message “Wrong ID/Wrong format Inputted (Must be a number present in the list written with digits)” | 1. System displays a list of available movies, rooms, days and times  2. User inputs the id of the movie.  3. User inputs the id of the room.  4. User selects the day from a list of available days.  5. User selects the time from a list of available times.  6. User presses a button with the text “Input”. | The system displays a message “Wrong ID/Wrong format Inputted (Must be a number present in the list written with digits)” |
| 14 | The user wants to rent a movie that is not rented | Movie Manager | Movies that are not rented in the database | A movie is rented by the Movie Manager | 1. System displays list of movies that are not rented  2. User inserts a movie id  3. System registers the movie as rented  4. The system displays a pop-up message informing the user of the successful operation  5. The system automatically updates the list of movies that are not rented | A movie is rented by the Movie Manager |
| 15 | The user wants to rent a movie, but the list is empty | Movie Manager | Empty list of movies that are not rented | System displays a pop-up message with “No Available Movies” | 1. System displays list of movies that are not rented | System displays a pop-up message with “No Available Movies” |
| 16 | The user wants to rent a movie that doesn’t exist or is rented already | Movie Manager | Movies that are not rented in the database | System displays an error message with “Invalid Input” | 1. System displays list of movies that are not rented  2. User inserts a movie id  3. User presses the button “Rent Movie” | System displays an error message with “Invalid Input” |
| 17 | The user wants to rent a movie and inputs something else instead of a number in the id field | Movie Manager |  | System disables the rent button | 1. System displays list of movies that are not rented  2. User inserts a movie id | System disables the rent button |
| 18 | The user rents a movie and then the list of movies that are not rented is empty | Movie Manager | Movies that are not rented in the database | System displays a pop-up message with „No Available Movies” | 1. System displays list of movies that are not rented  2. User inserts a movie id  3. System registers the movie as rented  4. The system displays a pop-up message informing the user of the successful operation  5. The system automatically updates the list of movies that are not rented | System displays a pop-up message with „No Available Movies” |