Use cases descriptions for *Theatre Reservation System*

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| ID and name | UC-1: Reserve a seat | | |
| Primary actor | Client | Secondary actors | Theatre Reservation System,  Theatre Inventory System,  Payment System,  Cash Slot |
| Description | A client accesses the Theatre Reservation System via an external device inside a theatre, views the seats (both free and occupied) of the current day’s play and reserves a certain number of seats. | | |
| Trigger | A client indicates that he wants to make a reservation. | | |
| Preconditions | PRE-1. Selected seats are not marked as “Occupied”. | | |
| Postconditions | POST-1. Reserved seats are marked as “Occupied”.  POST-2. Inventory is updated. | | |
| Normal flow | 1. **Make a Single Reservation** 2. TRS displays the seat configuration for the current day’s show. 3. Client selects one or more seats from the displayed configuration. 4. Client indicates that the reservation is complete. (see 1.0.E1) 5. TRS displays the show information, reserved seats, individual prices and total price. 6. Client either confirms reservation (continue normal flow) or cancel it (return to step 1). 7. TRS redirects client to a page where he must input some personal data (first name, second name, email, phone number) and choose from the two available payment methods (cash and card). 8. Client submits the requested information and selects payment by card. (see 1.0.E2) 9. TRS redirects client to a Payment System. (see UC-10) 10. Client inputs their credit card information and confirms the payment. 11. TRS confirms the reservation, marks the reserved seats as “Occupied” and updates the Theatre’s Inventory. 12. TRS sends tickets to client via submitted email and phone number. | | |
| Alternative flows | **1.1 Client requests cash payment**  1. TRS indicates the required amount and that it must be placed   in the device’s Cash Slot.  2. Client inserts the requested amount in the Cash Slot.  3. Return to step 10 of normal flow. | | |
| Exceptions | **1.0.E1 No seats selected**  1. TRS informs client that they must select a seat.  2. Return to step 2 of normal flow.  **1.0.E2 Invalid or missing data**  1. TRS informs client of the invalid or missing data fields and   urges them to complete them again.  2a. Client completes the required fields with correct data (continue   normal flow).  2b. Client doesn’t complete required fields or fills them with invalid   data (return to step 1).  2c. Client cancels the reservation process (return to step 1 of   normal flow). | | |

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| ID and name | UC-2: View show information | | |
| Primary actor | Client | Secondary actors | Theatre Reservation System |
| Description | A client accesses the Theatre Reservation System via an external device inside a theatre and requests to see information about the current’s day show. | | |
| Trigger | A client indicates that he wants to see more information about the current day’s show. | | |
| Preconditions | - | | |
| Postconditions | - | | |
| Normal flow | 1. **View show information** 2. Client requests to view information about the current day’s show (name, genre, duration, director, actors, description). 3. TRS displays the requested show’s information. | | |
| Alternative flows | - | | |
| Exceptions | - | | |

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| ID and name | UC-3: Add show | | |
| Primary actor | Administrator | Secondary actors | Theatre Inventory System,  Theatre Reservation System |
| Description | An administrator accesses the Theatre Reservation System via an external device inside a theatre, logs in, enters the “View future shows” screen and selects the option to add a show. All the external devices in the Theatre are notified of this change. | | |
| Trigger | An administrator indicates that he wants to add a show. | | |
| Preconditions | PRE-1. Administrator is logged into TRS  PRE-2. Administrator must be in the “Show future shows” screen | | |
| Postconditions | POST-1. The show is added on all TRS devices.  POST-2. The previous show inventory is archived and the current show’s inventory is added in the Theatre’s Inventory System. | | |
| Normal flow | 1. **Add show** 2. Administrator indicates that he wants to add a new show. 3. TRS redirects administrator to a page where they must select the date and time of the show and input information about it (date, name, actors, genre, description, poster image, show time, show duration). 4. Administrator confirms submitted data. (see 1.0.E1, 1.0.E2) 5. TRS updates the displayed show on all devices and adds new tickets to the Theatre’s Inventory. | | |
| Alternative flows | - | | |
| Exceptions | **1.0.E1 Selected date is before the current date**  1. TRS informs administrator that they must select a date after   the current one.  2a. Administrator selects another invalid date (return to step 1).  2b. Administrator selects a valid date (continue normal flow).  **1.0.E2 Invalid or missing data**  1. TRS informs administrator of the invalid or missing data fields   and urges them to complete them again.  2a. Administrator completes the required fields with correct data   (continue normal flow).  2b. Administrator doesn’t complete required fields or fills them with   invalid data (return to step 1).  2c. Administrator cancels the update process (return to step 1 of   normal flow).  **1.0.E3 Another show takes place on selected date** 1. TRS informs administrator that another show is taking place   on selected date and prompts them to change it.  2a. Administrator selects a valid date (continue normal flow).  2b. Administrator selects a date before the current one (see   1.0.E1)  2c. Administrator selects another date in which another show   takes place (return to step 1). | | |

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| ID and name | UC-4: Administrator login | | |
| Primary actor | Administrator | Secondary actors | Theatre Reservation System |
| Description | An administrator accesses the Theatre Reservation System via an external device inside a theatre and logs in, in order to access administrator only functionalities. | | |
| Trigger | An administrator indicates that he wants to login. | | |
| Preconditions | - | | |
| Postconditions | POST-1. Administrator now has access to administrator only functionalities. | | |
| Normal flow | 1. **Administrator login** 2. Administrator indicates that he wants to login. 3. TRS redirects administrator to a page where they must fill their username and password. 4. Administrator submits the requested data. 5. TRS verifies whether the given credentials are correct (continue normal flow) or not (return to step 2). 6. TRS logs in the administrator and redirects them to an administrator only view. | | |
| Alternative flows | - | | |
| Exceptions | - | | |

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| ID and name | UC-5: View past shows | | |
| Primary actor | Administrator | Secondary actors | Theatre Reservation System |
| Description | An administrator accesses the Theatre Reservation System via an external device inside a theatre, logs in and selects the option to view past shows. | | |
| Trigger | An administrator indicates that he wants to view past shows. | | |
| Preconditions | PRE-1. Administrator is logged into TRS | | |
| Postconditions | - | | |
| Normal flow | 1. **View past shows** 2. Administrator indicates that he wants to view past shows. 3. TRS prompts the administrator to select a time frame (all time, last year, last 6 months, last month, last week). 4. Administrator selects desired time frame. 5. TRS displays all shows in the given time frame, indicating the number of sold tickets for each one and the sold tickets total for that time frame. | | |
| Alternative flows | - | | |
| Exceptions | **1.0.E1 No time frame selected**  1. TRS informs client that they must select a time frame.   2. Client selects a time frame (continue normal flow). | | |

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| ID and name | UC-6: View future shows (client) | | |
| Primary actor | Client | Secondary actors | Theatre Reservation System |
| Description | A client accesses the Theatre Reservation System via an external device inside a theatre and requests to see information about future shows. | | |
| Trigger | A client indicates that he wants to view future shows. | | |
| Preconditions | - | | |
| Postconditions | - | | |
| Normal flow | 1. **View future shows** 2. Client indicates that he wants to view future shows. 3. TRS prompts the client to select a time frame (start date and end date). 4. Client selects desired time frame. (see 1.0.E1, 1.0.E2) 5. TRS displays all shows in the given time frame ordered by date. | | |
| Alternative flows | - | | |
| Exceptions | **1.0.E1 Selected start date is before the current date**  1. TRS informs client that they must select a start date   after the current one.  2a. Client selects another invalid start date (return to step 1).  2b. Client selects a valid start date (continue normal flow).  **1.0.E2 Selected start date is before selected end date**  1. TRS informs client that the selected start date must be before   the selected end date.  2a. Client selects another invalid start date (return to step 1).  2b. Client selects a valid start date (continue normal flow). | | |

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| ID and name | UC-7: Delete show | | |
| Primary actor | Administrator | Secondary actors | Theatre Reservation System,  Theatre Inventory System |
| Description | An administrator accesses the Theatre Reservation System via an external device inside a theatre, logs in, selects a show from the “Show future shows” screen and indicates that they want to delete it. | | |
| Trigger | An administrator indicates that they want to delete a show. | | |
| Preconditions | PRE-1. Administrator must be logged in. PRE-2. Administrator must select a show from the “Show future   shows” screen | | |
| Postconditions | POST-1. Selected show is deleted.  POST-2. Inventory is updated. | | |
| Normal flow | 1. **Delete show** 2. Administrator selects a show from the “Show future  shows” screen and indicates that they want to delete it. (see 1.0.E1) 3. TRS asks the administrator if they are sure they want to delete the show. 4. Administrator selects that they are sure and the show is deleted. 5. TRS deletes the selected show from all devices and the Theatre’s Inventory. | | |
| Alternative flows | **1.1 Administrator not sure of deletion**  1. Administrator selects that they are not sure of deletion.  2. TRS redirects administrator to “Show future shows” screen. | | |
| Exceptions | **1.0.E1 Show not selected**  1. Administrator doesn’t select any show and indicates that they   want to delete it.  2. TRS informs administrator that they must select a show.  3. Return to step 1 of normal flow. | | |

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| ID and name | UC-8: Update show | | |
| Primary actor | Administrator | Secondary actors | Theatre Reservation System,  Theatre Inventory System |
| Description | An administrator accesses the Theatre Reservation System via an external device inside a theatre, logs in, selects a show from the “Show future shows” screen and indicates that they want to update it. | | |
| Trigger | An administrator indicates that they want to update a show. | | |
| Preconditions | PRE-1. Administrator must be logged in. PRE-2. Administrator must select a show from the “Show future   shows” screen | | |
| Postconditions | POST-1. Selected show is updated.  POST-2. Inventory is updated. | | |
| Normal flow | 1. **Update show** 2. Administrator selects a show from the “Show future  shows” screen and indicates that they want to update it. (see 1.0.E1) 3. TRS redirects administrator to a page where they must select the date and time of the show and input information about it (name, actors, genre, description, poster image, show time, show duration). 4. Administrator confirms submitted data. (see 1.0.E2, 1.0.E3) 5. TRS asks the administrator if they are sure they want to update the show. 6. Administrator selects that they are sure and the show is updated. 7. TRS updates the selected show on all devices and the Theatre’s Inventory. | | |
| Alternative flows | **1.1 Administrator not sure of update**  1. Administrator selects that they are not sure of update.  2. TRS redirects administrator to “Show future shows” screen. | | |
| Exceptions | **1.0.E1 Show not selected**  1. Administrator doesn’t select any show and indicates that they   want to delete it.  2. TRS informs administrator that they must select a show.  3. Return to step 1 of normal flow.  **1.0.E2 Selected date is before the current date**  1. TRS informs administrator that they must select a date after   the current one.  2a. Administrator selects another invalid date (return to step 1).  2b. Administrator selects a valid date (continue normal flow).  **1.0.E3 Invalid or missing data**  1. TRS informs administrator of the invalid or missing data fields   and urges them to complete them again.  2a. Administrator completes the required fields with correct data   (continue normal flow).  2b. Administrator doesn’t complete required fields or fills them with   invalid data (return to step 1).  2c. Administrator cancels the update process (return to step 1 of   normal flow). | | |

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| ID and name | UC-9: View future shows (administrator) | | |
| Primary actor | Administrator | Secondary actors | Theatre Reservation System |
| Description | An administrator accesses the Theatre Reservation System via an external device inside a theatre, logs in and indicates that they want to view future shows. | | |
| Trigger | An administrator indicates that he wants to view future shows. | | |
| Preconditions | PRE-1. Administrator must be logged in. | | |
| Postconditions | POST-1. Administrator can now manage (add/delete/modify) shown shows. | | |
| Normal flow | 1. **View future shows** 2. Administrator indicates that he wants to view future shows. 3. TRS prompts the administrator to select a time frame (start date and end date). 4. Administrator selects desired time frame. (see 1.0.E1, 1.0.E2) 5. TRS displays all shows in the given time frame, ordered by date. | | |
| Alternative flows | - | | |
| Exceptions | **1.0.E1 Selected start date is before the current date**  1. TRS informs administrator that they must select a start date   after the current one.  2a. Administrator selects another invalid start date (return to step   1).  2b. Administrator selects a valid start date (continue normal flow).  **1.0.E2 Selected start date is before selected end date**  1. TRS informs administrator that the selected start date must be   before the selected end date.  2a. Administrator selects another invalid start date (return to step   1).  2b. Administrator selects a valid start date (continue normal flow). | | |

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| ID and name | UC-10: Card Payment | | |
| Primary actor | Client | Secondary actors | Theatre Reservation System,  Payment System |
| Description | A client indicates that they want to make a reservation and pay by card and TRS redirects them to this screen. | | |
| Trigger | A client indicates that they want to pay by card. | | |
| Preconditions | PRE-1. Client must have made a valid reservation. | | |
| Postconditions | POST-1. The payment is processed by the external Payment System. | | |
| Normal flow | 1. **Card Payment** 2. Client indicates that they want to pay reservation by card. 3. TRS prompts client to complete their credit card information (card number, card holder, expiry date, CVV). 4. Client can either cancel the payment (end of flow) or complete the above information and proceed with the payment. (see 1.0.E1) 5. The payment is processed by the external Payment System. | | |
| Alternative flows | - | | |
| Exceptions | **1.0.E1 Invalid or missing data**  1. TRS informs client of the invalid or missing data fields and   urges them to complete them again.  2a. Client completes the required fields with correct data (continue   normal flow).  2b. Client doesn’t complete required fields or fills them with invalid   data (return to step 1). | | |