# CS 438 - Assignment 1

## Course Project Requirements

**May Moktar AL-Gallai**

# Functional Requirements of the Booking Ticket Event System (BTES)

### 1-Display List of Available Events

The system should present the user with a list of all available events-concerts, sports, theater, among others-categorized by event type, location, and date. The user shall be allowed to filter and sort events in order of preference.

### 2-Event Search Functionality

The system shall provide a search functionality to enable users to search for specific events based on keywords, event title, date, venue, or event category.

### 3-View Event Details

They should be able to obtain details of each event: title, description, date, time of the event, venue location, and ticket price. The system should also list the major performers or participants of the event.

### 4-User Registration and Authentication

The system shall allow users to create an account by providing a username, password, and personal information (name, address, email, phone number). Registered users can log in to view, manage, and print tickets.

### 5-Ticket Purchase

It should be able to provide users with the facility to purchase tickets for selected events by selecting the number of tickets, inserting payment details, and completing the payment process. The system should facilitate a range of payment options, including but not limited to local bank cards, Edfali, Sadad, Tadawul (Mobicash).

**6-Discount Management**

The system should automatically apply all discounts for users who are students, teachers, military personnel, and seniors. The rate of discount shall be amendable depending on the category of the user.

**7-Ticket Refund and Return**

Users with a registered account can only cancel/return a purchased ticket if such action is taken at least 24 hours prior to the start of the event. The application should store the record of the time of purchase and the start time of the event to enforce this.

**8-Event Management by Admin**

The system shall grant the administrator rights to add new events to the system, including adding event details such as event title, description, date, time, venue, and ticket prices.

**9-Administrators Event Update Functionality**

The system shall allow administrators to update existing events, such as updating event details-for example, modification of date, time, or location-and adjust ticket availability or pricing.

**10-Summary of Events View by Administrator**

This summary should display all the events within the system to Administrators; it shows statistics on sales of tickets, revenues, and the remaining number of tickets.

**11-Ticket Printing**

Upon every purchase, the system will provide a user with a downloaded version of their purchased tickets for printing purposes. Each ticket needs to reflect event

details .

**12. Event Rating by User**

The system shall provide the facility for users to rate the events they have attended. They can give ratings in the form of star counts and write comments about their experience, for example, quality of performance and arrangement. The average ratings and comments to be shown to other visitors on the event details page will help them decide about attending it.

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**Use Case Diagram Description**

Below is the use case diagram for BTES, depicting functionality to be provided by the proposed system. It has to provide the facility of ticket booking of the events to the users while maintaining the basic management facilities to the administrators of the system.

**There are mainly two types of actors as shown: Users and Administrators.**

**Following are the actions that a User can take:**

**1-View Available Events:** Events listed by type, location, and date.

**2-Event Search:** Event searching either by keywords or via filtering functionality.

**3-View Event Details:** All events must have a detailed view.

**4-User Registration and Authentication:** Allow the creation of accounts for users to manage their ticket purchases.

**5-Ticket Purchase:** Allow ticket purchasing via one of several payment options.

**6-Refund and Return of Tickets:** Users are able to request a refund/return upon

certain conditions, of course.

**7-Discounts:** Users can get discounts in cases they meet specific criteria for those discounts.

**8-Rating of Event by User:** Users can rate and comment on events they have attended.

**Following are the capabilities of admins:**

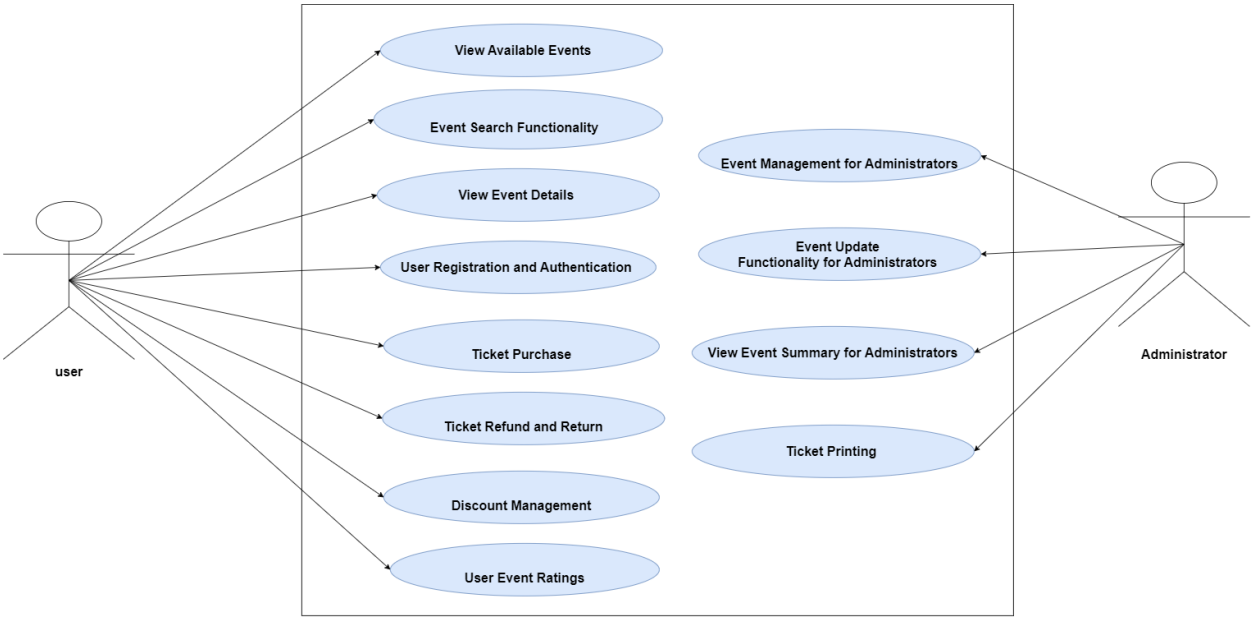
**Admin Event Management**: Admins can add new events into the system.

**1-Ability for Admin to Update Events:** The admin will be able to update the details of an existing event, including the details and the availability of tickets.

**2-View Event Summary:** The admin is able to view the summary of all events, including sales statistics and remaining tickets.

**3-Print Tickets:** Admin will be able to control user printing of tickets.

**4-Use Case Diagram:** This captures the interaction between users and administrators non-ambiguously to reflect the various functionalities that support event management and the booking of tickets.




**Use Case 1: Browse Events Available**

**Actor:** User

**Main Flow:**

User navigates to the events page.

System retrieves all available events from the database.

The system will present events categorized by type, location, and date.

User can filter or sort events according to preference.

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**Use Case 2: Search for Events Functionality**

**Actor:** User

**Main Flow:**

User enters search criteria in the search bar.

System processes the search query.

System displays events matching the search criterion.

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**Use Case 3: Display Event Details**

**Actor:** User

**Main Flow:**

User clicks on any particular event.

System retrieves detailed information about the event.

It displays event title, description, date, time, venue location, ticket price, and main performers.

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**Use Case 4: User Registration and Authentication**

**Actor:** User

**Main Flow:**

The user enters personal information in the registration form.

The system validates the information and adds the new user account.

A user should be able to log into the system via a username and password.

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**Use Case 5: Ticket Purchase**

**Actor:** User

**Main Flow:**

User selects the number of tickets.

User provides the payment details.

The system processes the payment request.

System shows confirmation of ticket purchase with a receipt generated.

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**Use Case 6: Discount Management**

**Actor:** User

**Main Flow:**

User selects the number of tickets they want to purchase.

The system checks if the user is entitled to any kind of discount.

The system applies appropriate discount, if applicable, to the price of the ticket.

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**Use Case 7: Ticket Refund and Return**

**Actor:** User

**Main Flow:**

User navigates to the purchased tickets section.

User selects a ticket for refunding or returning.

The system checks if the request submitted is at least 24 hours before the date of the event.

If eligible for a refund, the system processes the refund and changes the status of the ticket.

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**Use Case 8: Event Management for Administrators**

**Actor:** Administrator

**Main Flow:**

Administrator navigates to the event management section.

Administrator fills out the event details form.

The system validates the information and adds the new event.

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**Use Case 9: Event Update Functionality for Administrators**

**Actor:** Administrator

**Main Flow:**

Administrator selects an event to update.

Administrator modifies the event details.

The system validates the changes and updates the event information.

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**Use Case 10: View Event Summary for Administrators**

**Actor:** Administrator

**Main Flow:**

Administrator navigates to the event summary section.

The system retrieves event statistics from the database.

The system displays the summary, including ticket sales and revenue.

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**Use Case 11: Ticket Printing**

**Actor:** User

**Main Flow:**

User navigates to the ticket download section.

The system retrieves the purchased ticket information.

The user clicks the download button.

The ticket is generated and can be printed.

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**Use Case 12: User Event Ratings**

**Actor:** User

**Main Flow:**

User navigates to the event details page of an attended event.

User provides a star rating and writes a comment.

The system records the rating and comment.

The average rating and comments are displayed for future visitors.

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**Non-functional requirements:**

**1. Scalability**

The system should grow to support more and more users and events without slowing down. It needs to handle a bigger database of events, users, and sales of tickets and still keep up with prompt response times during times of high traffic. In this way, it would be able to handle busy periods of time, such as when popular events are taking place.

**2. Usability**

The system should be user-friendly for its customers as well as administrators. It should be designed in a way that is instructive, with features being facile to find, and the usage of the system is pleasurable. At the same time, users can smoothly go through the process of finding and buying tickets, administrators can comfortably manage events without being highly trained.

**3. Security and Privacy**

It should also have high-level security for keeping user information and payment data secure. This means sensitive data should be encrypted in a way that no one could access it without permission. Also, it needs to follow regulations regarding the security of data such that user privacy would be guaranteed and users remain in control over their information.

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