Objective

These guidelines are intended to assist students in making progress on the "Hook the Show" project. Below are templates for various project-related documents. Teams are encouraged to adapt and enhance these templates as needed.

Requirements Specification (RS)

Template

No.	Requirement	Essential/Desirable	Description of the Requirement	Remarks
RS1	The system should have a user registration feature	Essential	Users should be able to create accounts by providing necessary details such as email and password.	
RS2	The system should support login and logout functionality	Essential	Users must be able to log in and log out of the application securely.	
RS3	The system should display a list of available shows	Essential	Users should see a searchable and filterable list of shows available for booking.	
RS4	The system should provide a booking feature	Essential	Users can select shows and book tickets directly through the app.	
RS5	The system should send confirmation emails for bookings	Desirable	Users should receive email confirmations after successful ticket bookings.	Helps improve user experience, but not critical for initial launch.
RS6	The system should have user profiles	Desirable	Users should be able to view and edit their profiles, including payment information and booking history.	Important for future enhancements, but not essential for the MVP.

Database Fields Specification

The User ID is the key for the user database, and the Show ID is the key for the shows database. When a user registers, they receive a unique User ID. The shows database will track the details of each show.

Template

No.	Field Name	Range of Valid Values	Remarks
1	User ID	1 to 10000	Unique key for each user.
2	Username	Up to 20 characters in length	Unique name for the user.
3	Email	Valid email format	User's email address for communication and login.
4	Password	Minimum 8 characters	Password for user authentication (should be stored securely).
5	Show ID	1 to 1000	Unique key for each show.
6	Show Name	Up to 50 characters in length	Name of the show.
7	Date & Time	Valid date and time format	Scheduled date and time for the show.
8	Price	Numeric	Price per ticket for the show.
9	Inventory	Numeric	Number of tickets available for the show.

High Level/Detailed Design (HLD/DD)

Overview of the System

Provide a block diagram illustrating the system architecture, including where the database and application will be hosted. Include details about the database server and any third-party services used for payments or notifications.

Design Components

Component One: User Registration

Purpose:
This component handles user account creation and validation.

Pseudocode:

```pseudocode
Copy code
Bool register_user(username, email, password) {
    if username_exists(username) {
        report_error('Username already taken');
```

```
        return false;
    }
    if email_exists(email) {
        report_error('Email already in use');
        return false;
    }

    hashed_password = hash_password(password);
    save_user_to_database(username, email, hashed_password);
    send_welcome_email(email);
    return true;
}
```

Component Two: Show Listing

Purpose:
This component displays available shows to users.

Pseudocode:
```
pseudocode
Copy code
List<Show> get_available_shows() {
    return query_database_for_shows(); // Fetches shows from the
database
}
```

Component Three: Booking

Purpose:
This component manages the booking process for selected shows.

Pseudocode:
```
pseudocode
Copy code
Bool book_ticket(user_id, show_id, quantity) {
    if check_inventory(show_id, quantity) {
        reduce_inventory(show_id, quantity);
        send_confirmation_email(user_id, show_id, quantity);
        return true;
    } else {
        report_error('Not enough tickets available');
        return false;
    }
}
```

Test Plan (TP)

The test plan outlines test cases to be executed for the "Hook the Show" app. Some tests can be run independently for specific components, while others require the entire system to be functional. Testing components as they are completed is recommended before integration.

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Template

No.	Test Case Title	Description	Expected Outcome	Requirement in RS being tested	Result
1	Successful User Registration	Register a new user with valid details.	User should be created successfully.	RS1	Passed
2	Unsuccessful Registration due to existing username	Attempt to register with an already taken username.	System should return an error 'Username already taken'.	RS1	Passed
3	Successful User Login	Login with valid credentials.	User should be logged in successfully.	RS2	Passed
4	Show Listing Display	Fetch the list of available shows.	Shows should be displayed correctly with all details.	RS3	Passed
5	Successful Ticket Booking	Book tickets for a show with available seats.	Booking should be successful, and confirmation email sent.	RS4	Passed
6	Unsuccessful Booking due to insufficient tickets	Attempt to book more tickets than available.	System should return an error 'Not enough tickets available'.	RS4	Passed