Theatre Booking System

Software Design Document

Version 1.0

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Contents

1 INTRODUCTION

1.1 Purpose

This SDD document contains the details about the implementation of the requirement as defined in the Software Requirements Specification document, with all the necessary information required to define the architecture and system design for “Los Portales Theatre Booking System Project” to provide the development team guidance on the architecture of the system being developed.

1.2 Overview

The website built for Los Portales, LLC is done to facilitate the reservation and purchase of seats or tickets with a credit card while logged in to a customer authenticated secured connection.

1.3 Definitions and Acronyms (Optional)

Customer: A user that Access the website as a client/customer of Los Portales Theatre. This person browses the website to see upcoming plays in the theatre and purchase tickets.

Guest: A customer user that has not registered or logged in yet.

Admin: A unique user that has access to the management area of the website, to add plays or amend existing ones in the system.

Customer area: The sub-system that the customer accesses.

Management area: The sub-system that the admin user accesses.

2 SYSTEM OVERVIEW

Los Portales Booking System is a system created with the goal of supplying a web application to the customers for Los Portales, so they can view the upcoming plays playing in the theatre and give them access to the ability to buy from their own accounts in a safe manner, tickets for those plays. Thus, the theatre can provide sales services to customers from the comfort of their own homes. Additionally, the system is also designed so an admin can add, and schedule plays from the management area, with also the ability to generate reports.

3 ARCHITECTURE DESIGN

The architecture design of the system is divided into two sub-systems called Management Area and Customer Area that interact with a database independently.

The Management Area sub-system consists of the modules that a user with admin access can make use of to Add, Modify and Delete information on the table Plays in the database that contains information regarding the plays within the system. From this sub-system the admin can also generate reports regarding ticket sales.

The Customer Area is where the customer users access to view the upcoming Plays in the system. They can register an account here, login and purchase tickets after adding a Payment Method.

4 DATA DESIGN

4.1 Data Description

The data in the system is stored in a database that is accessed in their own ways by the two sub-systems, the Management Area and the Customer Area. Both sub-systems execute different tasks which involve inserting, updating, deleting and selecting data from the tables in the database.

4.2 Data Dictionary

4.2.1 Customers

- User ID as **user_id:** integer [11, PRIMARY KEY, NOT NULL AND AUTO INCREMENT]
- User Email as **user_email:** varchar (255, NOT NULL and UNIQUE)
- Hashed user password as **user_psw:** varchar (255, NOT NULL)
- User first name as **user_fname:** varchar (255, NOT NULL)
- User last name as **user_lname:** varchar (255, NOT NULL)
- User's Birthday as **user_birthday:** date (NOT NULL)
- User phone as **user_phone:** varchar (20, NOT NULL)
- Status of Account (Activation) as **active:** tinyint (1, NOT NULL and DEFAULT 0)
- Hashed Activation code as **activation_code:** varchar (255)

4.2.2 Admin

- User ID as **user_id:** integer (PRIMARY KEY, NOT NULL AND AUTO INCREMENT)
- User Email as **user_email:** varchar (NOT NULL and UNIQUE)
- Hashed user password as **user_psw:** varchar (NOT NULL)
- Hashed Activation code as **activation_code:** varchar (255) [used to change password]

4.2.3 Plays

- Play ID as **play_id:** integer (11, PRIMARY KEY, NOT NULL AND AUTO INCREMENT)
- Play Name as **play_name:** varchar (255, NOT NULL)
- Play Long Description as **long_desc:** varchar (1000, NOT NULL)
- Play Brief Description as **brief_desc:** varchar (50, NOT NULL)
- Play Date and Time as **dtime:** datetime (NOT NULL)
- Play Image URL as **image**: varchar (255, NOT NULL)

4.2.4 Seats

- Ticket ID as **ticket_id:** integer (11, PRIMARY KEY, NOT NULL AND AUTO INCREMENT)
- Play ID as **play_id:** integer (11, FOREIGN KEY, NOT NULL)
- Seat Number as **seat_number:** tinyint (2, NOT NULL)
- Seat Cost as **cost: integer** (11, NOT NULL)
- Seat Owner as **user_id:** (FOREIGN KEY, NOT NULL)

4.2.5 Cart

- User ID as **user_id:** integer [11, FOREIGN KEY, NOT NULL]

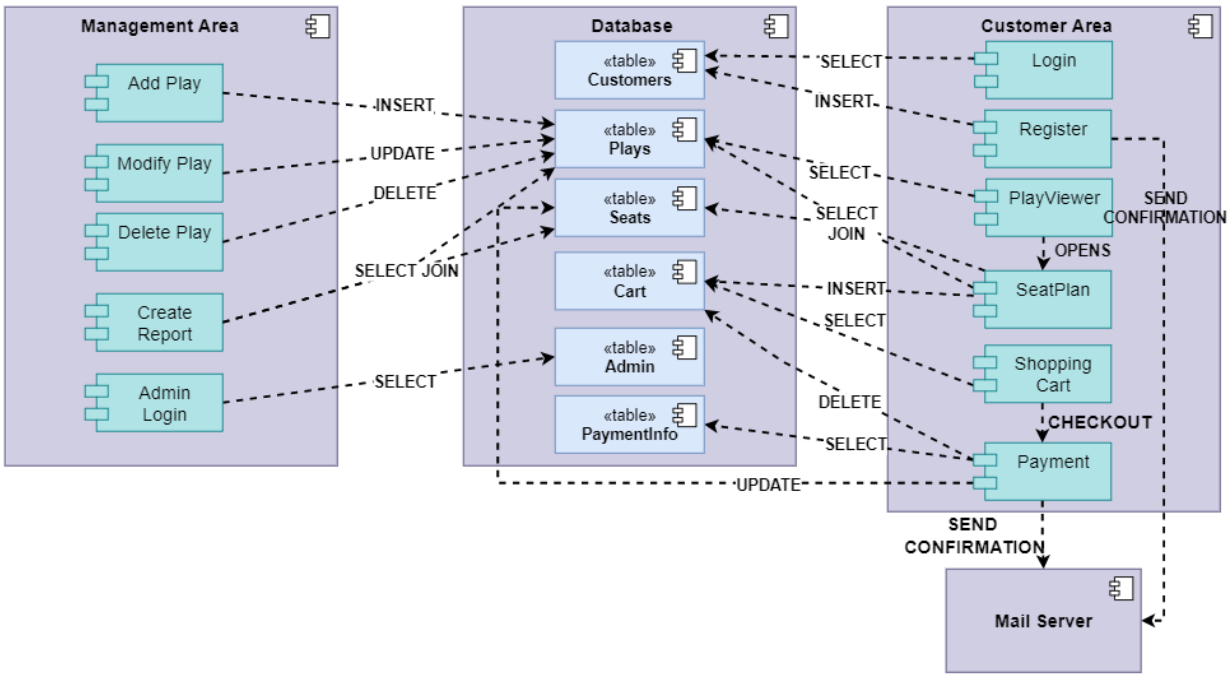
- Ticket ID as **ticket_id:** integer (11, FOREIGN KEY, NOT NULL)
- Ticket Cost as **ticket_cost:** integer (11, NOT NULL)

4.2.6 PaymentInfo

- User ID as **user_id:** integer [11, PRIMARY KEY, NOT NULL]
- Cardholder name as **card_name:** varchar (255, NOT NULL)
- Cardholder address as **address:** varchar (255, NOT NULL)
- Card holder encrypted card number as **encrypted_card**: varchar (255, NOT NULL)
- Encrypted CVV as **encrypted_CVV:** smallint (3, NOT NULL)
- Card expiration date as **expiration:** (NOT NULL)

Note: The first number inside the parenthesis for each data entry is its max length.

5 COMPONENT DESIGN



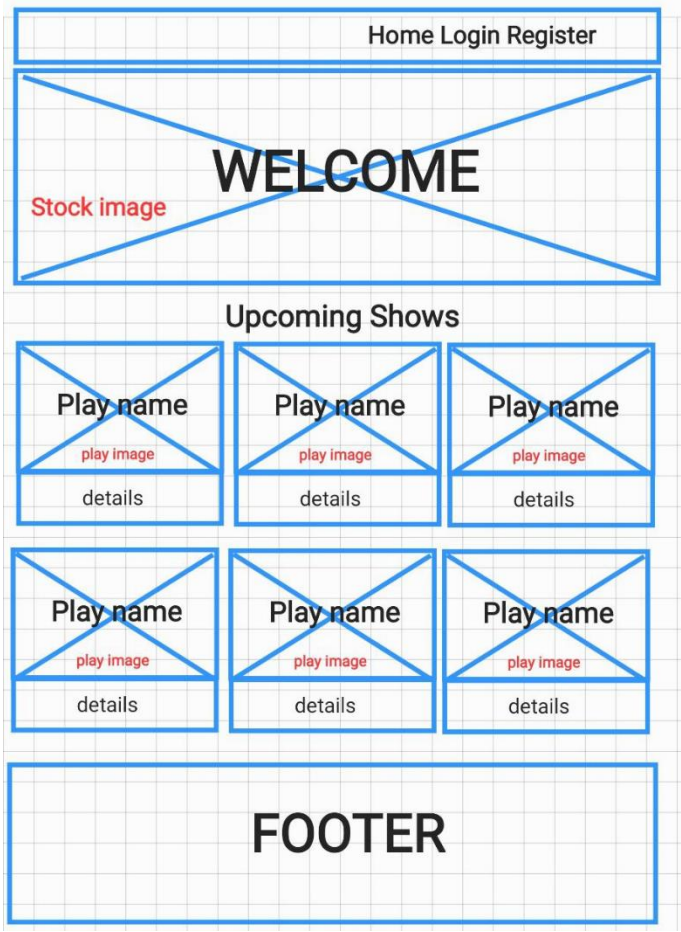
In the above component diagram **INSERT, UPDATE, AND DELETE** refer to the SQL **commands** used to query the database and its tables.

- **Add Play** inserts new information into the table **Plays** regarding upcoming plays.
- **Modify Play** updates information on the table **Plays**
- **Delete Play** deletes information on the table **Plays**
- **Create Report** based on the selected criteria, it selects and joins information from the tables **Plays** and **Seats** to generate a report.

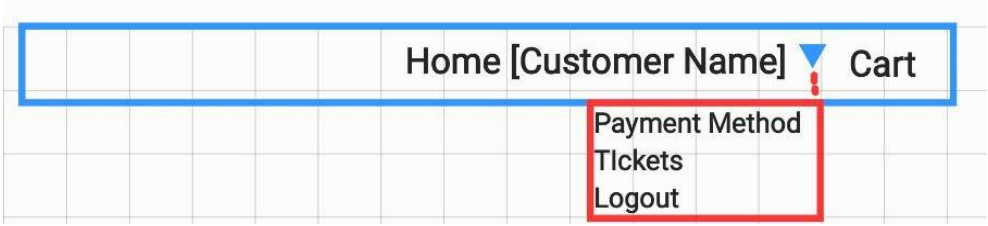
- **Admin Login** selects user data from the table **Admin** to confirm and authenticate the admin into the session.
- **Login** selects user data from the table **Customers** to confirm and authenticate the customer into the session.
- **Register** inserts into the table **Customers** the information of the registered customer and sends a confirmation email through the **Mail Server**
- **PlayViewer** selects play data from the **Plays** table to display it into the system. From there, the customer can open the **SeatPlan.**
- **SeatPlan** selects and joins table **Plays** and **Seats** to display the seating plan to the customer. From there, the customer can insert seats to the **Cart** table for their **ShoppingCart**
- **ShoppingCart** selects data from the **Cart** table to display on the system the customer's shopping cart. Additionally, it can check out through **Payment.**
- **Payment** finishes the purchase by verifying the payment data that selects from the **PaymentInfo** table and when it finishes, it deletes the data on the table **Cart** to clean the **ShoppingCart**. Finally, it updates the **Seats** with the owner of that specific seat and through **Mail Server** it sends a purchase confirmation email with all the data from the purchase.

6 HUMAN INTERFACE DESIGN

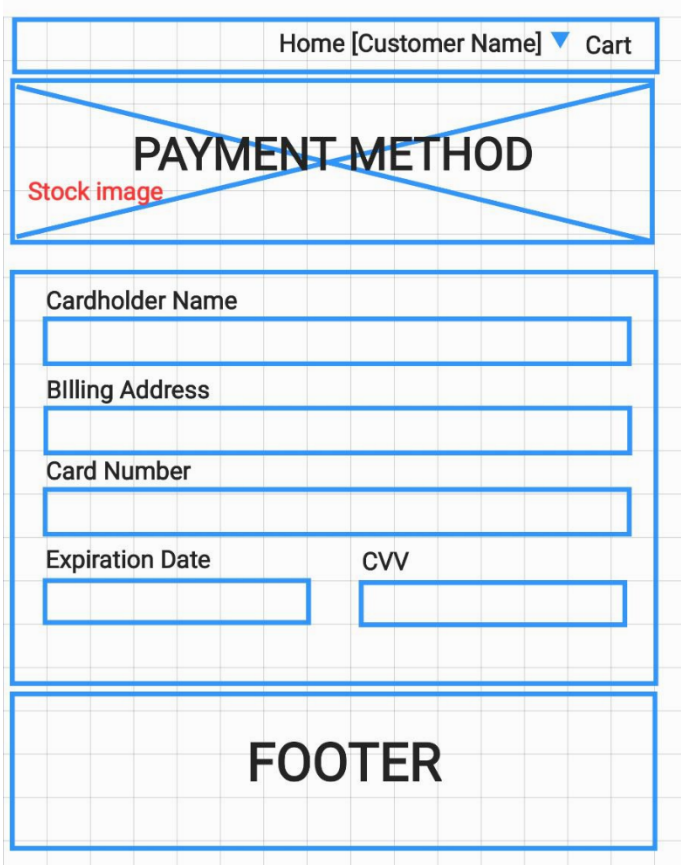
6.1 Overview of User Interface



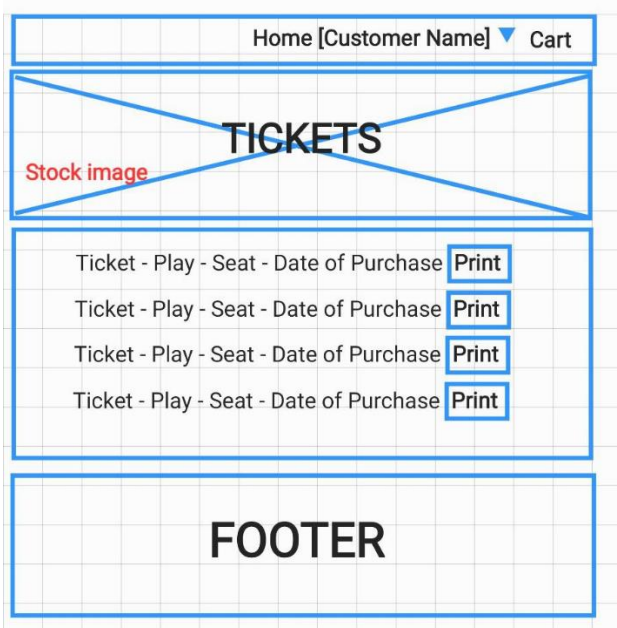
The default page for the website is the **homepage**, from where the customer can access all the functionalities and features of the system for **customers**. It receives the customer with an image displaying a message, personalized with the customer's name if they have logged into their account. Below that welcome message, the customer can see the upcoming plays in the system as boxes with basic information like the name of the play, the date of the play, and a small description; if the customer is as guess, a button called **"Log-in"** will be displayed in the box, and if they are logged in a **purchase** button instead.



The navigation bar for customers will be displayed all the time on the top of the website in the customer area. Here, the customer can click on the **home** page, **login** page, or **registration** page. If logged into their account, the customers can access their **shopping cart** from this bar. In addition, a dropdown is created with the customer's name where they can access the **logout** button to terminate their session or the **Payment method** button to go to the **payment method** page and the **tickets** page. The login and registration buttons disappear once the customer is logged in as they are not necessary if the user is logged.

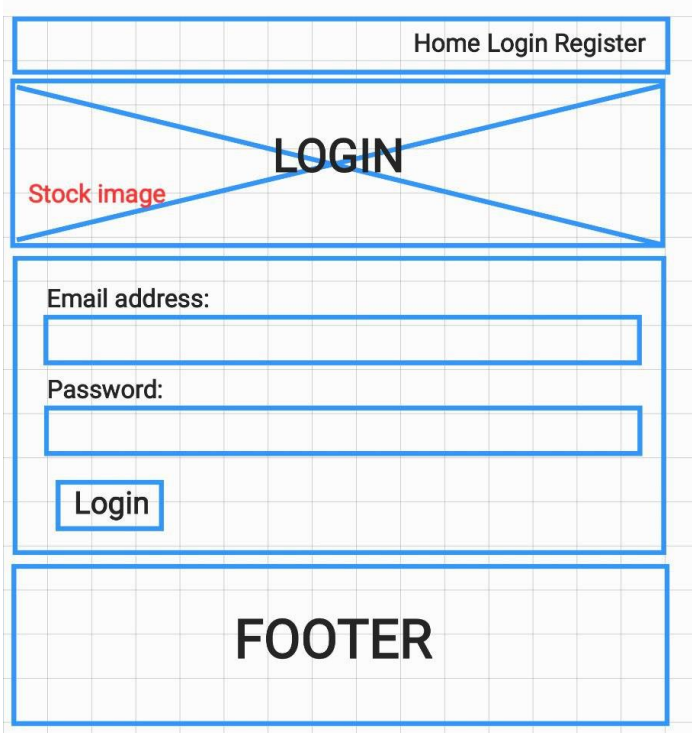


The **Payment Method** page lets the customer add or change their credit card information such as credit card number and data associated with that card, like the name of that card's titular and billing address.

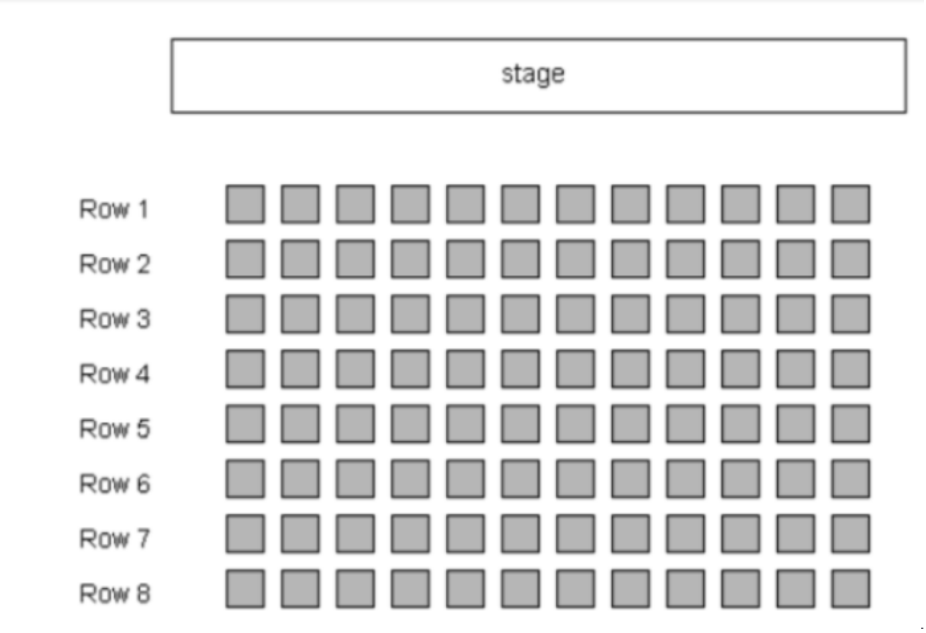


The **Tickets** page has all the tickets purchased for the customer for upcoming plays, so they can print and get their tickets again if necessary.

The registration page allows the customer to register their own personal account after filling in the provided form correctly and confirming their account by clicking on the link received on the email they provided.



In the login page the customer is able to sign in into their account after confirming their account, by providing the correct email and password combination. This will start a session on the website, so they have access to exclusive features for registered and logged customers.



Graphic seating plan for a specific play is triggered when the customer clicks the **purchase** button. Here, the user can see the available and sold seats for the play they accessed, and they can add tickets to their shopping cart.

The **Shopping Cart** page is where the added tickets from the graphic plan go; there, the customer can see the total of their purchase and check out to receive their ticket.

7 REQUIREMENTS MATRIX

Req ID (From SRS)	Req Description	Test Case ID	Test Case Description	Test Case Status	Component
4.3.3/4.9.3: Registration	Register With Application	TC-01 TC-02	Attempt to Register with Valid Information Attempt to Register with Invalid Information	PASS PASS	Customer Area (Register) Database (Table: Customers)
4.3.3/4.9.3: Sign In/Sign Out	Sign In/Sign Out of Application	TC-03 TC-04 TC-05	Attempt to Sign in with Valid Information Attempt to Sign in with Invalid Information Attempt to Sign Out	PASS PASS PASS	Customer Area (Login) Management Area (Admin Login) Database (Table: Customers)
4.4.3: View Plays	Correct Seating Information for Selected Play	TC-06	View Plays with Different Seating Availability Combinations	INCOMPLETE	Customer Area (Play Viewer) Database (table: Plays)
4.5.3: Add Seats to Cart	Allow Selection of Multiple Seats	TC-07	Attempt to Select Multiple Seats at One Time	INCOMPLETE	Customer Area (Play Viewer) Database (table: Plays)
	Only Allow Selection of Available Seats	TC-08	Attempt to Select Invalid Seats	INCOMPLETE	Customer Area (Play Viewer) Database (table: Plays)
4.6.3: View Cart	Show Seats for Multiple Plays if Selected	TC-09	Place Tickets from Multiple Plays in Cart	INCOMPLETE	Customer Area (Shopping Cart) Database (table: Cart)
4.7.3: Checkout	Validate Customer's Payment	TC-10	Attempt to Checkout with Valid Information	INCOMPLETE	Customer Area (Payment) Database (table: Cart

		TC-11	Attempt to Checkout with Invalid Information	INCOMPLETE	Table: Payment Info)
4.8.3: View Tickets	Show Printable History of Customer's Purchases	TC-12	View and Print Tickets from Multiple Accounts	INCOMPLETE	Database (table: Plays)
4.10.3 Generate Report	Admin can generate sales reports for plays	TC-13	Attempt to Generate Reports for Different Plays	INCOMPLETE	Management Area (Create Report) Database(table:Admin)
4.11.3 Add Play	Admin Can Add Plays and Select Seat Prices	TC-14	Attempt to Add Plays with Varying Pricing Plans	INCOMPLETE	Management Area (Add Play) Database (table: Plays)