# 

# STADIUM MANAGEMENT SYSTEM



**Session 2023 - 2027**

**Submitted By:**

Hannan Mushtaq 2023-CS-85

**Submitted To:**

Prof. Dr. Muhammad Awais Hassan

**Course:**

CSC-103 Object Oriented Programming

Department of Computer Science

**University of Engineering and Technology**

**Lahore Pakistan**

TABLE OF CONTENTS

[1. Description 3](#_Toc160833236)

[2. Users of Application 3](#_Toc160833237)

[1. Admin: 3](#_Toc160833238)

[2. Customer: 3](#_Toc160833239)

[3. Functional Requirements 4](#_Toc160833241)

Stadium Management System

# Project Description

The objective of my project **Stadium Management System** is to solve the problem of managing a stadium. It is a User-friendly application that is as simple and effective as can be. The Matches and Tickets data is managed flawlessly and Customer can browse through and buy tickets without any issue.

## Design

The whole project consists of 3 sub-projects:

1. **Project Library:** It contains all the classes of the entities in the Business Layer and a Data Layer to manage all entities’ data. The DataBase folder in the Data Layer handles all data using Database connection and SQL queries. Likewise, The File Handling folder handles only the Matches data. The Data Layer Interfaces folder contains all the Interfaces of the Data Layer Classes. The use of C# language is in full effect in the back-end. This Library makes the base of the Application.
2. **Window Forms Project:** It contains the Front-End of the Application. User-Friendly Window Forms are linked with the Project Library for smooth running of the Application.
3. **Console Application:** It contains a Console App in which the CRUD of the Match entity has been performed.

## OOP Pillars

1. **Encapsulation:** The Class Attributes have been made private and accessed through Getters & Setters. The Class Behaviors are public. The Parent Class Attributes are protected.
2. **Association:** The Customer Class has a Ticket Object to show Aggregation between Customer and Ticket classes so that when a customer buys a ticket, it is saved as an object in the customer class. The Ticket Class has an Object of Match class to show which match the ticket is of.

Hannan Mushtaq 2023-CS-85 3

Stadium Management System

1. **Inheritance:** The Muser Class inherits the Customer & Admin Classes as they both have common attributes.
2. **Polymorphism:** The Objects of all the Data Layer classes have been made through their Interfaces in the Window Forms & Console Projects to represent Polymorphism.

# Project Features

There are a total of **two users** in my project:

## Admin:

The admin has authority over everything. He can manage Matches as well as Tickets. All Order History can be viewed by the Admin. He can change his Password and also can delete the account of any unwanted Customer from the Application.

## Customer:

The Customer is able to view the details about the stadium. He will also be able to buy tickets of his choice, view his order history and give their feedbacks or any complaints regarding the services provided. He can also change his Password and Delete his account.

Hannan Mushtaq 2023-CS-85 4

Stadium Management System

# User Functionality

|  |  |  |
| --- | --- | --- |
| Admin | Functions | So That They Can |
| Manage Matches | Add & Delete Matches. |
| Manage Tickets | Add & Remove Tickets From Matches. |
| Update Tickets Price | Change the price of the tickets. |
| View Customers | View All Customers with An Account. |
| View Orders | View All Order History. |
| Change Password | Change Account Password. |
| View Feedbacks | View Customer Feedbacks. |
| Delete Customer | Delete Unwanted Customer Account. |
| Logout | Logout from the app. |
| **Customer** | View Tickets | View Available Tickets & Matches. |
| Buy Tickets | Buy tickets of their choice. |
| View Orders | View all of their Orders. |
| Add Personal Information | Save Name, Address & Contact. |
| Change Password | Change Account Password. |
| Delete Account | Delete Account from the App. |
| Give Feedback | Give reviews about the services. |
| Logout | Logout from the app. |

Hannan Mushtaq 2023-CS-85 5