Project: CTAF Event Management System (INF4001N) [INFSYS HONS Entrance Exam]
Author: Adrian Groening
E-mail: groeningadrian@gmail.com

Database
Server Manager: http://phpmyadmin.co
Server: sql5.freesqldatabase.com
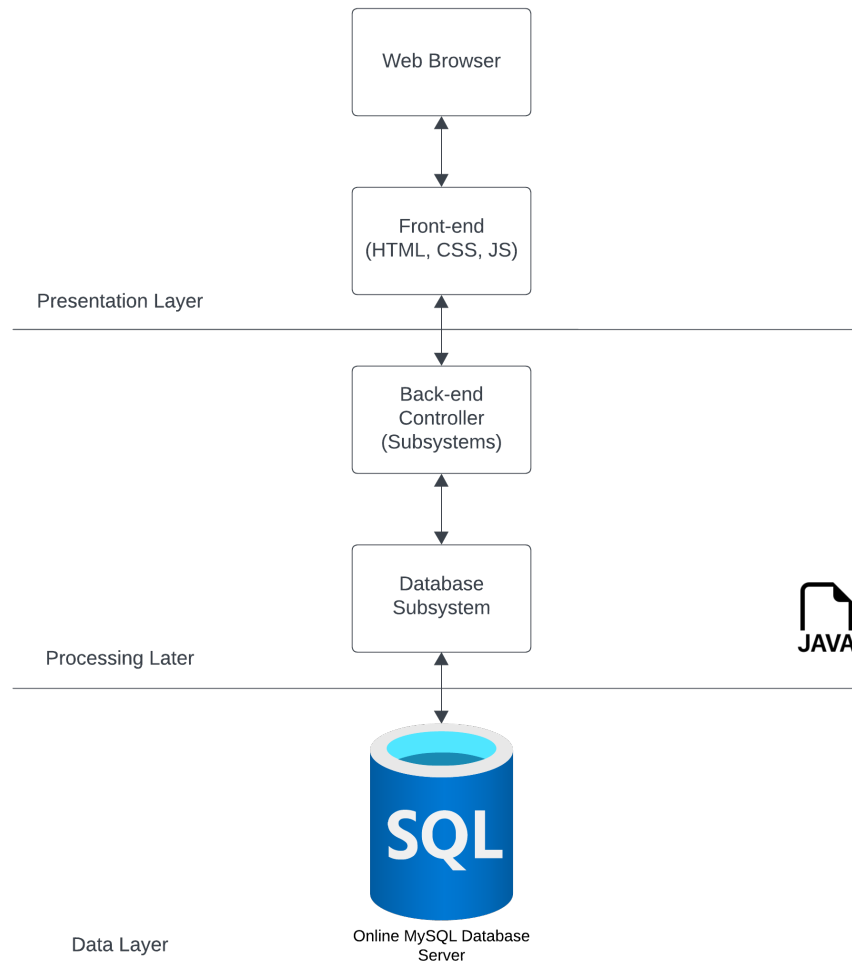Username: sql5665079
Password: Akz1DQ7rJI

Database URL: "jdbc:mysql://sql5.freesqldatabase.com:3306/sql5665079"

Architecture and Subsystems
The the system architecture chosen for the CTAF (Cape Town Arts Festival) Event Management System consists of a multi-tier architecture that includes a presentation layer, which the user interacts with, the back-end layer, where all the processing logic occurs and a data layer, where the data required for the application is stored and retrieved.

1. **Presentation Layer**: This layer is responsible for interacting with the user and serves as an intermediary to the back-end layer. Since the Vaadin Framework, an extension of the String Framework, was used in this case, there was no need for any altering of the front-end. Vaadin generates code depending on instructions written from the back-end.
2. **Processing Layer**: This layer is responsible for commanding the entire system, whether is the front end interacting with the user, or the data layer where read and write events are performed. In this context, this layer has a number of subsystems that include:
   - **User Registration Subsystem**: Responsible for getting inputs from users to then pass to the database subsystem to write.
   - **User Authentication Subsystem**: Authenticates users based on the contents of the database and directs user to the appropriate views depending on role as a visitor or an administrator.
   - **Event Management Subsystem**: Allows for events to be added, deleted, edited or archived.
   - **User RSVP Subsystem**: Makes event bookings for visitors, adding them to the lists of events they would like to attend.
   - **Rating Subsystem**: Takes visitors inputs of their experience and tallies ratings and recommendations scores up while also allowing for comments.
   - **Dashboard & Reporting Subsystem**: Takes various information from the database and displays them throughout the various views of the system.
   - **Database Subsystem**: Performs reading and write operations on the online database server to save and retrieve information for the other subsystems.
3. **Data Layer**: The physical database that is wired to the code, lies at the domain, freesqldatabase.com and can be managed at phpmyadmin.co using the details at the beginning. This layer has a running offshore server where data can be inserted and retrieved from anywhere with an internet connection.

Web Browser

Front-end
(HTML, CSS, JS)

Presentation Layer

Back-end
Controller
(Subsystems)

Database
Subsystem

JAVA

Processing Later

SQL

Data Layer

Online MySQL Database
Server

Rationale and Conclusion

To ensure that the system was going to be the most user-friendly it could be, it was made into a web application because most people carry devices that can access web browsers. This brought accessibility to the table, along with responsiveness, consistency in the UI, and performance, with the help of the Vaadin Framework. In light of the met requirements, despite the minor design flaws and coding imperfections, the project turned out well, especially considering it is an MVP.

How to run from (IDE)
1. Unzip file
2. Open project using an IDE (Preferably IntelliJ)
3. Click the run button

How to run from cmd line
1. Unzip and open folder using cmd line
2. Run ./mvn on Mac/ mvn on windows

Note: You can emulate a normal user from the sign up option but an admin needs to be created from the database. You can use ID: 3 and Password: adminpass to be able to emulate an admin or you can create one from the database. Also **while running the application, when a user wants to register for an event, they have to click one of the grid rows**. **The case is the same for administrators when they want to edit, archive or delete an event**.