Visvesvaraya Technological University

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A MINI PROJECT REPORT
On

‘EVENT MANAGEMENT SYSTEM’

Submitted
In partial fulfilment requirements for the award of the Degree

of

BACHELOR OF ENGINEERING
IN
INFORMATION SCIENCE AND ENGINEERING

by

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DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

CERTIFICATE

This is to certify that Mr. **Darshan Harish Salian** (4NM21IS040) and Mr. **Hardhik Chinthan P** (4NM21IS049) have satisfactorily completed the Application Development Mini Project work entitled "**EVENT MANAGEMENT SYSTEM**" of Third Year, Bachelor of Engineering in Information Science and Engineering at NMAMIT, Nitte in the academic year 2023 - 24.

Project Guide	**Head, Dept. of ISE**
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ABSTRACT

The LAN-Based Event Management System is a comprehensive software solution designed to streamline the planning and execution of events. The project utilizes JavaFX for the frontend and MySQL as the backend database, providing a user-friendly interface for efficient event management. The system incorporates essential features such as user authentication, event creation, and detailed event information storage.

The system begins with a secure login and signup page, ensuring that only authorized users can access and manage events. Upon successful authentication, users gain access to a dashboard where they can create, edit, and manage various events. The system collects and stores crucial details, including venue information, event location, cost details, guest lists, and food expenses.

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1. INTRODUCTION

In the dynamic world of event planning and management, efficient organization and streamlined processes are crucial for success. Our project, the LAN-Based Event Management System, aims to provide a comprehensive solution for planning, organizing, and managing events seamlessly. The system incorporates a user-friendly JavaFX frontend and a robust MySQL backend, ensuring a responsive and reliable platform for event coordinators, organizers, and participants.

Features and Functionalities

1. **User Authentication:**
    - Secure login and signup pages to control access to the system.
    - User roles to distinguish between administrators, event organizers, and participants.
2. **Event Creation and Management:**
    - Intuitive dashboard for creating, editing, and managing events.
    - Input fields for essential event details such as venue, location, and date.
3. **Database Integration:**
    - MySQL backend for efficient and structured data storage.
    - Seamless connectivity between the frontend and backend for real-time data updates.
4. **Event Details Storage:**
    - Comprehensive storage of event details, including venue specifications, event location, and date.
    - Cost tracking for different aspects of the event, such as food, venue, and miscellaneous expenses.
5. **User-Friendly Interface:**
    - JavaFX frontend for an aesthetically pleasing and responsive user interface.
    - Intuitive design to facilitate easy navigation and interaction.

2. LITERATURE SURVEY

The literature survey extensively explores the development of a LAN-based Event Management System, incorporating JavaFX for frontend and MySQL for backend. Beginning with an introduction to event management systems and their technological importance, the survey navigates through JavaFX's advantages in frontend development and MySQL's robust backend capabilities. Emphasizing LAN-based architecture, it discusses real-time communication benefits and security considerations.

User authentication is scrutinized, highlighting secure login and signup processes, while the data model and database design section emphasizes efficient structuring and normalization techniques. The survey delves into specific functionalities like venue and location management, cost management, and guest list and RSVP management, addressing strategies for each. Integration between JavaFX and MySQL is explored for seamless communication.

Security remains a focal point, covering measures against unauthorized access and data breaches. The survey concludes with insights from related work and case studies, identifying potential areas for innovation. Overall, the literature survey provides a nuanced understanding of the proposed system, offering valuable insights into technology, security, and best practices in LAN-based event management systems.

3. ANALYSIS AND REQUIREMENT SPECIFICATION

The analysis and requirement specification phase aims to identify key functionalities, assess system constraints, and define user needs. Through a comprehensive analysis, we aim to lay the foundation for a robust Event Management System that meets the diverse requirements of modern event management operations.

3.1. Purpose

The purpose of this LAN-based Event Management System project is to streamline and automate the process of organizing and managing events. By utilizing JavaFX for the frontend and connecting it to a MySQL backend, the system aims to provide a user-friendly interface with secure login and signup functionalities. It enables users to input and retrieve essential event details such as venue, location, cost, guest list, and food expenses. The centralized MySQL database ensures efficient storage and retrieval of information, facilitating effective event planning and coordination within a local network environment.

3.2. Scope

The LAN-Based Event Management System aims to provide a comprehensive solution for organizing and managing events through a user-friendly interface. The system will be developed with a JavaFX frontend for an intuitive user experience and a MySQL backend for efficient data storage and retrieval.

3.3. Functional Requirements

3.3.1. General Requirement

- Design an intuitive interface for easy use by event organizers.
- Implement secure password policies, 2FA, and recovery mechanisms.
- Security and ability to gain user trust.
- Password-protected areas of the site, or even the entire application.
- Password-protected specific aspects of the application. Designed for future enhancements.

3.3.2 Frontend (JavaFX):

1. Login and Signup Page:

- Design a user-friendly login and signup interface using JavaFX.

- Implement secure authentication mechanisms, possibly using password hashing for user security.

2. Dashboard:

- Create a dashboard to display essential information such as upcoming events, notifications, and quick access to event-related features.

3. Event Creation Form:

- Design a form for creating new events with fields like event name, date, venue, location, and other relevant details.

- Integrate form validation to ensure data integrity.

4. Event Details Page:

- Implement a detailed view for each event, showing information such as venue, location, cost, guest list, and food cost.

5. Cost Calculation:

- Include functionality to calculate the total cost of the event, including venue cost, food cost, and any additional expenses.

Backend (Java with MySQL):

1. User Management:

- Set up a MySQL database to store user information, including username, hashed passwords, and other relevant details.

- Implement backend services for user authentication and authorization.

2. Event Data Storage:

- Create tables in the MySQL database to store event details, such as event name, date, venue, location, cost, guest list, and food cost.

3. Database Connectivity:

- Use JDBC (Java Database Connectivity) to establish a connection between the Java backend and MySQL database.

4. Data Access Layer:

- Implement a data access layer to handle database operations, such as CRUD (Create, Read, Update, Delete) operations for events and user data.

5. Security Measures:

- Implement measures to prevent SQL injection and other security vulnerabilities.

LAN Communication:

1. Client-Server Architecture:

- Set up a client-server architecture to enable communication between the JavaFX frontend and Java backend over the LAN.

2. Socket Programming:

- Use Java's Socket API to establish communication channels between the client and server components.

3.4 Non-Functional Requirements

3.4.1 Hardware Requirements:

Processor	Intel Core i5 or above
RAM	4GB above
Hard disk	10GB or above

3.4.2 Software Requirements:

Operating System	Windows
Front end	JavaFX
Language	Java
Database	MySQL
Web Browser	-

4. DESIGN

4.1. ER Diagram

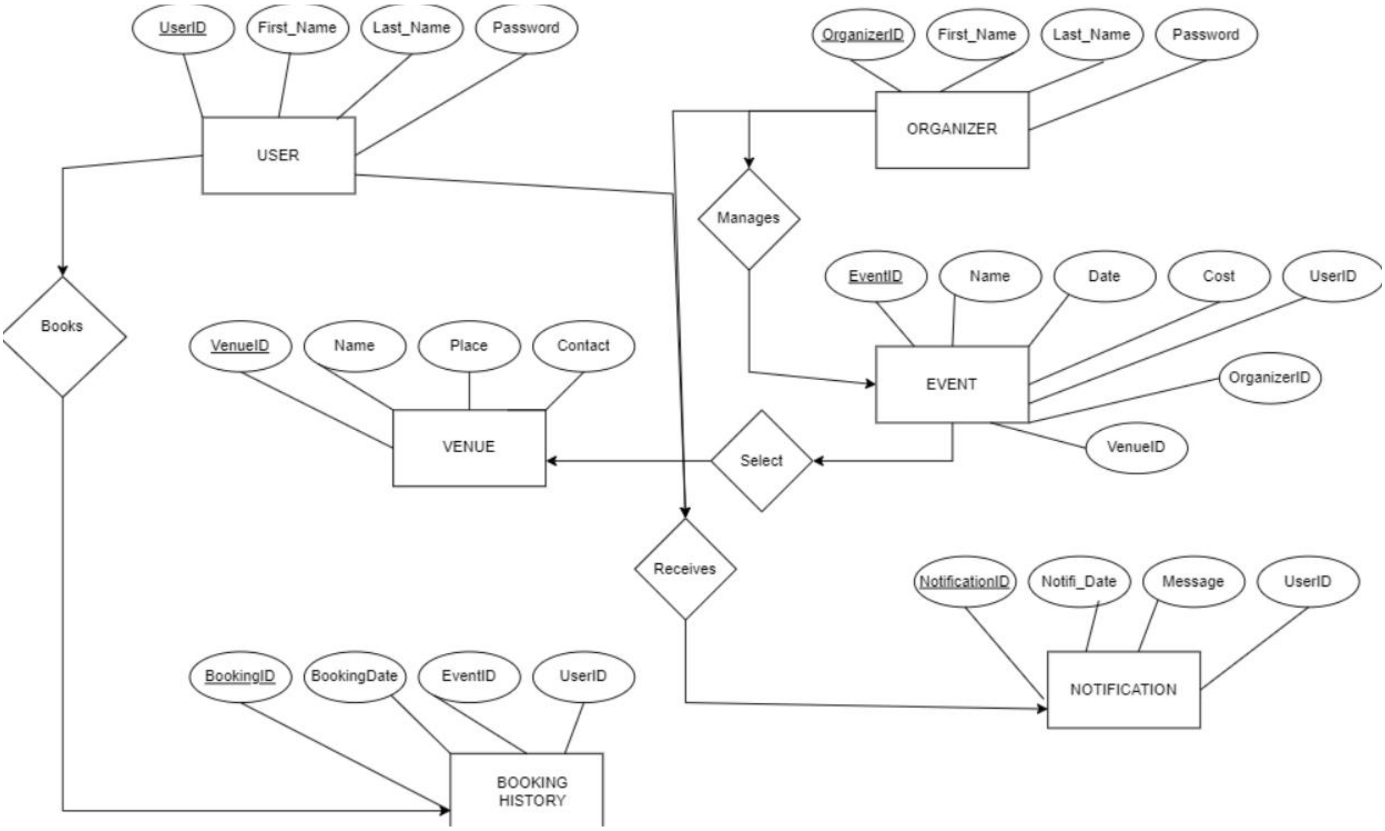


Fig. 1. ER Diagram

4.2. Schema Diagram

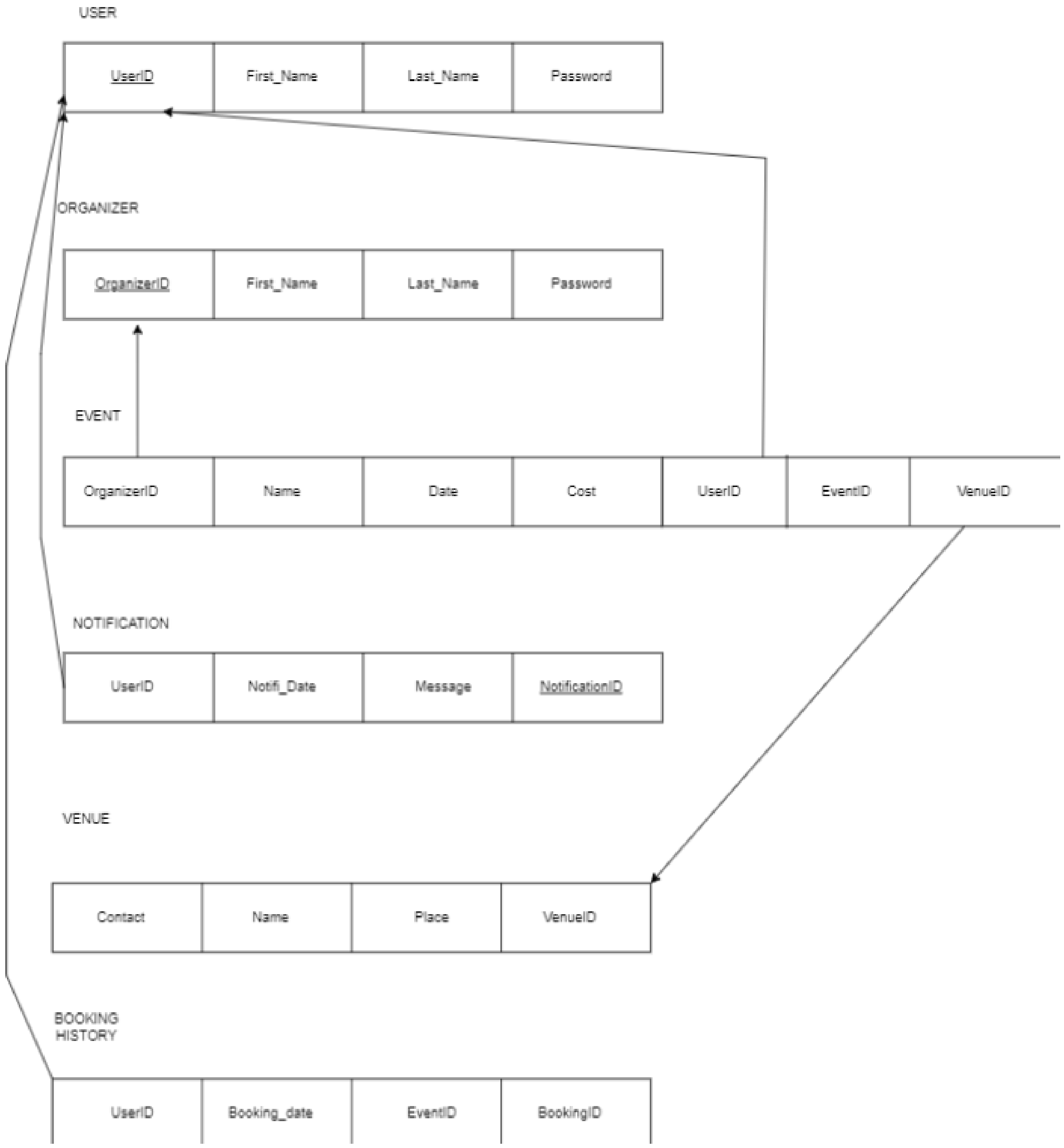


Fig. 2. Schema Diagram

5. IMPLEMENTATION

A top-down approach was followed for the implementation of the project. The top-level management formulates the strategy and passes it on to the subordinates with instructions to execute the task.

In the implementation stage, all the theoretical details were converted to working functionalities making sure that the user requirements were met.

5.1. Implementation of Table Creation & Insertion

In this Event Management System, four tables have been used. They are:

- User Table
- Organizer Table
- Venue Table
- Event Table
- Booking_History Table

Creating the tables in SQL

To create the above tables, we first need to create a database to work in. We can do this with the command:

```
CREATE DATABASE event_management;
```

Now we can create the tables. To create the table inside event_management database, we can use,

CREATE TABLE command.

```
create table REGISTER

(

id int not null primary key
auto_increment,
role varchar(30) not null check (role in('USER','ORGANIZER')),
first_name varchar(21) not null unique,
last_name varchar(30) not null,
email_ varchar(30) not null,
phone_no bigint not null,
password varchar(30) not null
);

create table ORG_VEN
(
id int not null primary key auto_increment,
venue_name varchar(30) not null,
venue_place varchar(30) not null,
venue_contact varchar(30) not
null,
event_name varchar(30),
event_cost int,
food_name varchar(30),
food_cost int
);
create table VENUE(
VenueID int not null auto_increment,
VenueCapacity int not null,
VenueLocation varchar(50),
VenueCost int,
VenueImage varchar(50),
constraint venue_id primary key(VenueID)
);

create table SUPPLIER(
SupplierID int not null auto_increment,
SupplierName varchar(25) not null,
ContactInfo varchar(50),
Products varchar(50) not null,
constraint supplier_id primary key(SupplierID)
);
```

The `PRIMARY KEY` forces every row to be a unique value. This stops several rows from having the same ID. In addition, we use the `UNIQUE` keyword to ensure that no two rows have the same name.

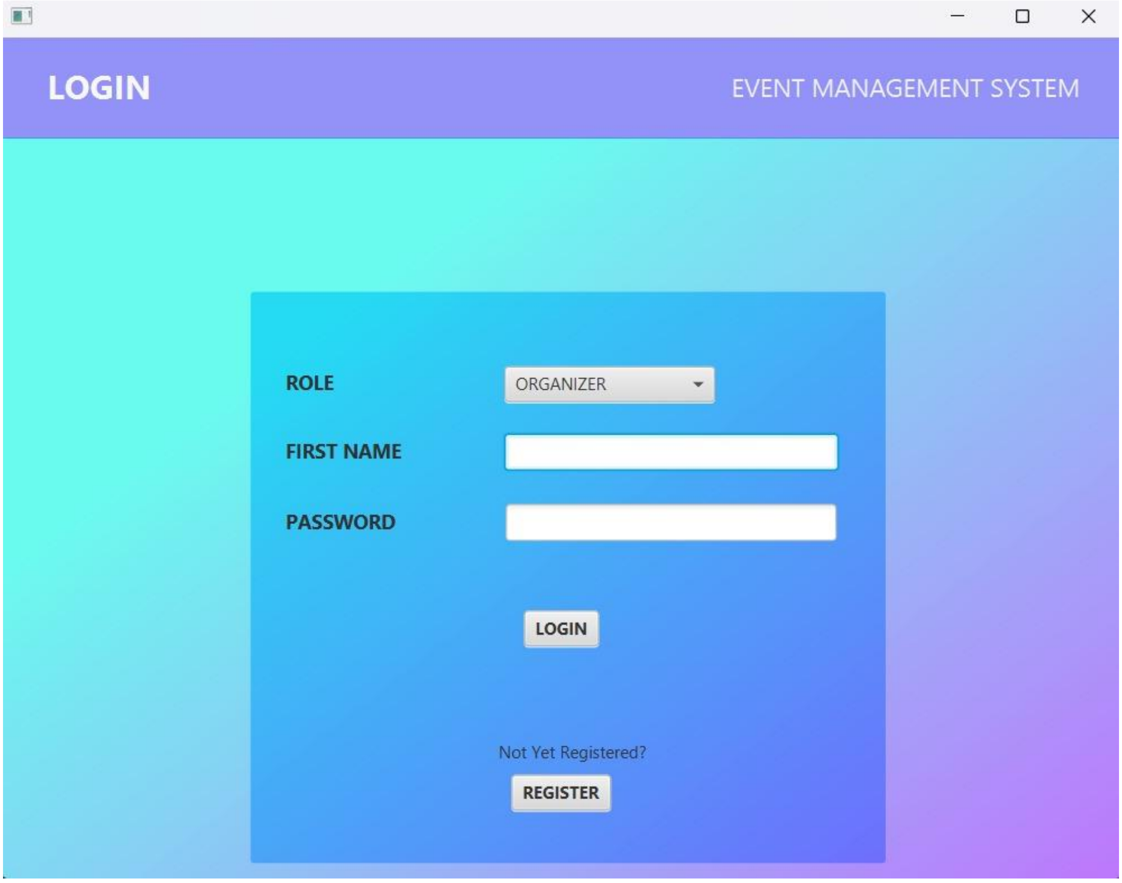
It can be noticed that different columns can have different types. IDs are integers and names are variable-length arrays of characters. `VARCHAR(100)` means the strings can store up to 100 characters. Other common types include `FLOAT`, `DOUBLE`, `DATE`, and `TIMESTAMP`.

Inserting Values into the table

Insertion of values into the table is done using the INSERT command. In the restaurant billing System, the insertion of data to the tables is done from the front end using Java language.

6. RESULT

6.1. Sample Output (Snapshots)



ROLE ORGANIZER

Fig. 3. Login Panel

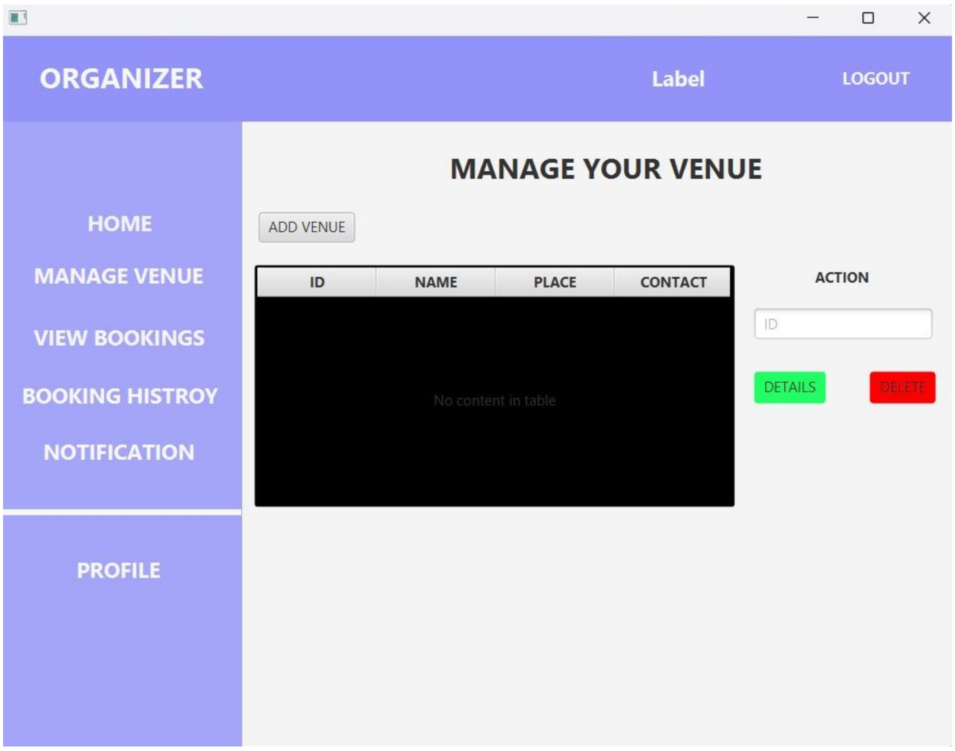


Fig. 4. Organizer interface

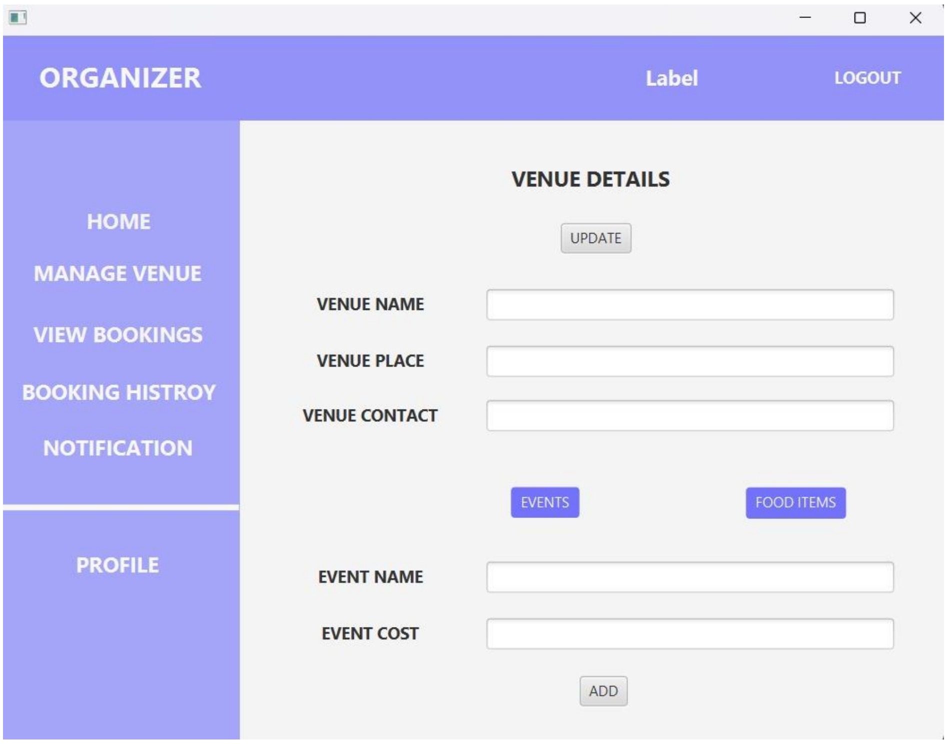


Fig. 5. Venu details

7. CONCLUSION

In conclusion, the development of the LAN-based Event Management System with a JavaFX frontend and MySQL backend has proven to be a comprehensive and effective solution for organizing and managing events. The integration of a secure and user-friendly Login and Signup system ensures data integrity and restricts unauthorized access.

The system's ability to capture and store crucial event details, including venue information, event location, cost details, guest lists, and food expenses, demonstrates its versatility in handling various aspects of event planning. The integration with MySQL ensures a reliable and scalable database, allowing for efficient data retrieval and management.

The JavaFX frontend contributes to a visually appealing and intuitive user interface, enhancing the overall user experience. The LAN-based architecture ensures quick and responsive communication between the frontend and backend, facilitating seamless data transactions.

Through the implementation of this Event Management System, users can streamline the entire event planning process, from creating and organizing events to managing costs and guest lists. The robust database connectivity and structured frontend design make it a valuable tool for event organizers looking to enhance efficiency and accuracy in their operations.

As the project concludes, it is recommended to conduct thorough testing to identify and address any potential issues. Additionally, user feedback and suggestions should be considered for future enhancements and improvements. The successful implementation of this LAN-based Event Management System marks a significant milestone in the realm of event planning, providing a reliable and efficient solution for organizers to orchestrate successful events.

Future Scope of the Project

The future scope of the Event Management System project is dynamic, offering avenues for technological advancements and user-centric features. To enhance user experience, the system could integrate emerging technologies like artificial intelligence and machine learning for predictive analytics and automated decision-making. Improving global accessibility and inclusivity by incorporating multi-language support and adherence to accessibility standards will broaden the system's user base. Integration with APIs will facilitate seamless collaboration with external tools, extending the system's functionality.

Exploring blockchain technology for enhanced security, particularly in transactions and ticketing, can fortify data integrity. The incorporation of Internet of Things (IoT) devices for venue management ensures real-time monitoring and optimization. Further, the system can evolve with marketing tools, aiding organizers in promoting events through effective email campaigns and social media strategies. Customizable reporting templates and export options empower organizers with comprehensive event analytics. Regular security audits will be crucial to staying ahead of potential cybersecurity threats. As the project advances, continuous refinement and adaptation to emerging technologies will position the Event Management System as an innovative and indispensable tool for organizers navigating the dynamic landscape of event planning.

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