A Database Project Report

"EVENT REGISTRATION DATABASE SYSTEM"

Submitted to

Tasfia Tabassum Faija

Lecturer, NUB

Computer Science & Engineering

Submitted by

Rubaiya Durdana -41230301321

Nusrat Jahan Prome - 41230301507

Hredoy Pramanik - 41230301752

Azmain Alam Khan - 41230301904

Department Of Computer Science & Engineering

Northern University Bangladesh

ABSTRACT

In this project we are created one application which is easy to access user friendly. For this application we used the backend as MySQL DB to store the data which is used in the application and for the user interface we have used the HTML, CSS, Bootstrap, Javascript and JSP. Two kinds of people are able to use this application as user and the admin as well. The user is able to register for an event just a click away sitting at home and the admin is able to add or update/manage events accordingly

ACKNOWLEDGEMENT

I respect and thank Tasfia Tabassum Faija, for providing us an opportunity to do the project work and giving us all support and guidance which made me complete the project duly. I am extremely thankful to her for providing such a nice support and guidance, although she had busy schedule managing the college affairs.

I owe my deep gratitude to our project guide Tasfia Tabassum Faija, who took keen interest on our project work and guided us all along, till the completion of our project work by providing all the necessary information for developing a good system.

I am thankful to and fortunate enough to get constant encouragement, support and guidance from all Teaching staffs of Information Technology which helped us in successfully completing our project work. Also, I would like to extend our sincere esteems to all staff in laboratory for their timely support.

I owe my deep gratitude to our project guide Tasfia Tabassum Faija, who took keen interest on our project work and guided us all along, till the completion of our project work by providing all the necessary information for developing a good system

CONTENTS

INTRODUCTION

Various events take place in colleges and event management has always been a topic of concern. Maintaining registrations being a part of event management is always done manually. The data might not be organized properly Also, retrieving and updating registration details is difficult.

Thus our project is to simplify this task and make it more efficient. It makes registration process automated.

LITERATURE REVIEW

This report discusses the result of the work done in development of "Event Registration Database System on “JSP” Front-end Platform and “MySQL” as back-end Platform. At the development of an application JSP provides a good connecting facility between all pages, also the back-end MySQL is most important to save all the data related the application.

Event Management System Module

In EMS project we use PHP and MySQL database. It has two modules.

1. Admin/Organizer Module -
2. User/participant Module -

Admin Module

Dashboard: In this section, admin can see all detail in brief like listed categories, Total Events, Total Registered Users, Total Bookings, Total New Booking.

Category: In this section, admin manage event category (add and update).

Events: In this section, admin manage events (add and update).

View Bookings for each event: In this section, admin can view list of bookings of all events.

Admin can also update his profile, change password and other fields

User Module

In this module there is two types of user guest user and registered user.

Guest User: In this guest user can see only general information like about us, event details, contact details and new about events.

OBJECTIVE

Need of Event Registration System

- Convenience
- Better affordance
- Less errors
- Easy update and retreival
- Reduces redundancy

METHODOLOGY

To implement the above goals,the following methodology

needs to be followed:

- Design an Entity-Relationship Model Diagram to depict relations and working of database.
- Convert the Entity-Relationship Diagram to an effective
- Schema Diagram and normalize it to Boyce-Codd normal form.
- Prepare a connection framework to interact with the database using Servlet programming and various procedures and queries.
- Accept data from user and display data using front-end web applications developed using HTML,CSS,JSP and Bootstrap.
- Hence,create an effective flow of data and manage it.

INNOVATION & UNIQUENESS

The Event Management Database System developed in this project goes beyond traditional data storage by integrating innovative features that enhance both functionality and user experience. The system's design and implementation reflect several unique and forward-thinking elements:

1. Real-Time Availability Tracking

A unique feature of the system is real-time tracking of vendor and venue availability. By dynamically updating based on bookings, the system prevents double-booking and allows customers to see available slots instantly—minimizing human error and saving time.

2. Smart Booking Recommendations

The system integrates logic to recommend vendors, venues, and event packages based on customer history, event type, and budget. This smart suggestion engine adds a layer of personalization rarely seen in traditional systems.

3. Automated Notification System

The project includes an automated email/SMS notification feature that reminds customers of upcoming events, payment deadlines, and vendor confirmations. This reduces missed communications and enhances client satisfaction.

4. Enhanced Security & Role-Based Access

Security is built in through role-based access control. Event managers, vendors, and clients each have specific privileges, ensuring data privacy and minimizing misuse.

REQUIREMENTS

Operating System	Windows 10
Interface	JDBC
Database	MySQL
User Interface Design	HTML, CSS, Bootstrap 4, Javascript, JSP
Web Browser	Google Chrome, IE8
Server	Apache Tomcat 8.5
Software	Mysql Workbench, Eclipse version-2018-09

RESULT & DISCUSSION

Results

The Event Management Database System was successfully designed and implemented using a relational database management system . The database was structured to handle various aspects of event management, including:

- Event Details: Event ID, name, type, date, venue, and organizer.
- Customer Information: Client ID, name, contact details, and booking history.
- Vendor Management: Vendor ID, services provided, rates, and availability.

- Bookings and Payments: Booking ID, associated event, customer, vendor, payment status, and receipts.

Key queries and reports were tested and executed to confirm the functionality of the database. The following results were achieved:

- Users can easily retrieve upcoming events, available venues, and vendor schedules.
- Event managers can track customer bookings and payment status in real-time.
- The system can generate automatic reports on total revenue, event frequency, and vendor utilization.

Discussion

The implementation of the event management database system demonstrated several benefits in streamlining operations for event planners and companies:

- Efficiency: Manual records and spreadsheets were replaced with a centralized database, significantly improving the efficiency and accuracy of data retrieval and storage.
- Scalability: The schema design supports future expansion to include additional features like feedback tracking, social media integration, or real-time notifications.
- Error Reduction: Automated validation rules reduced errors in data entry, particularly for event scheduling, double-booking, and payment mismatches.
- Security and Backup: The database includes user authentication and data backup mechanisms to ensure data safety and access control.

However, some limitations and areas for future improvement were noted:

- The current interface is basic and could benefit from a more user-friendly frontend (e.g., web or mobile app).
- Advanced analytics, such as predictive scheduling or customer preference analysis, are not yet integrated.
- Real-time updates and multi-user concurrency handling require further optimization for large-scale deployment.

APPLICATIONS & FUTURE SCOPE

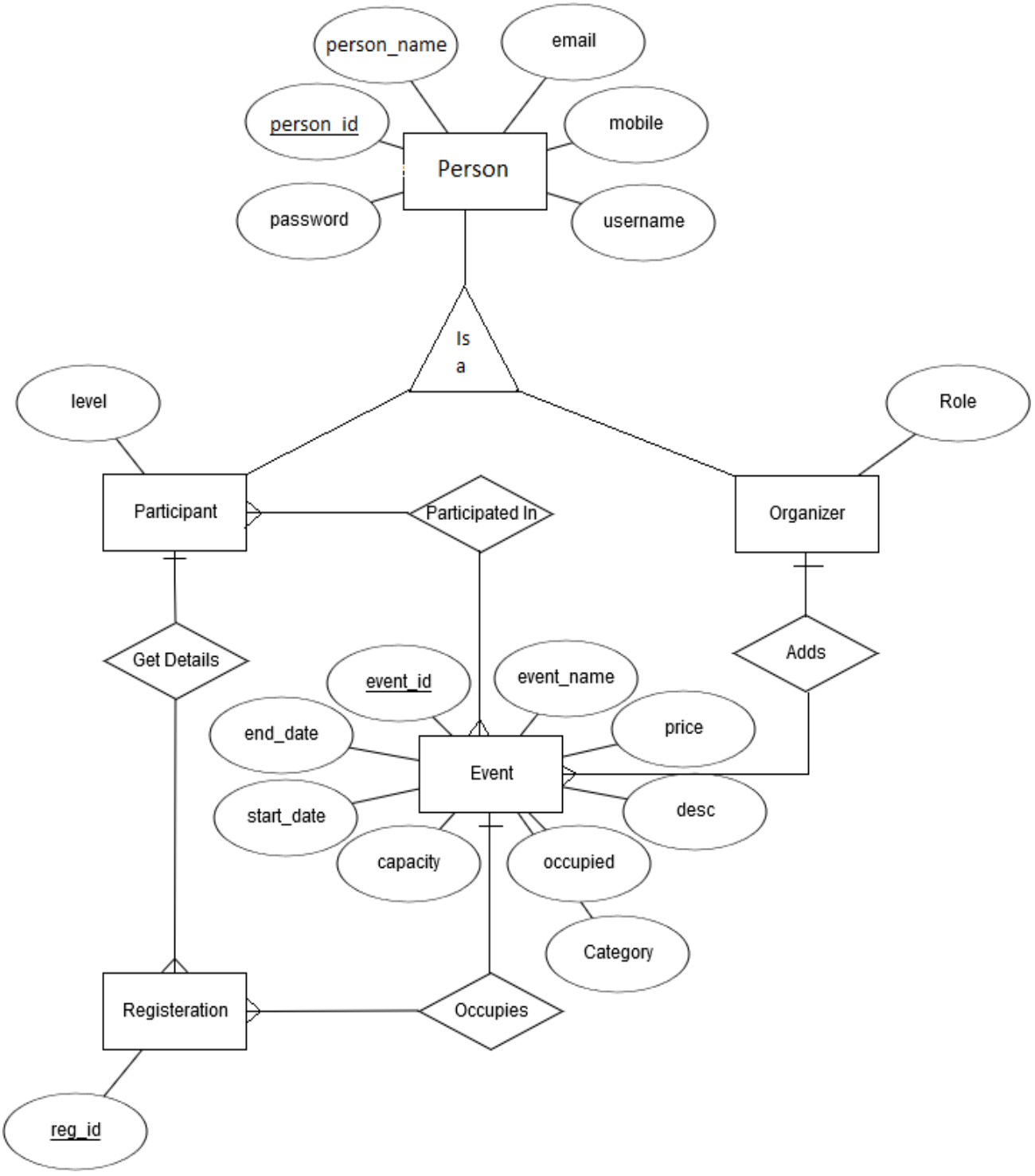
The scope of the project is clear to give a simple and attractive application to simplify the work as well as to reduce the efforts while doing it manually or we can say by doing it with old methods.

In this application we are able to save database of all registrations made by the user. In this way we can keep track of records without human interference.

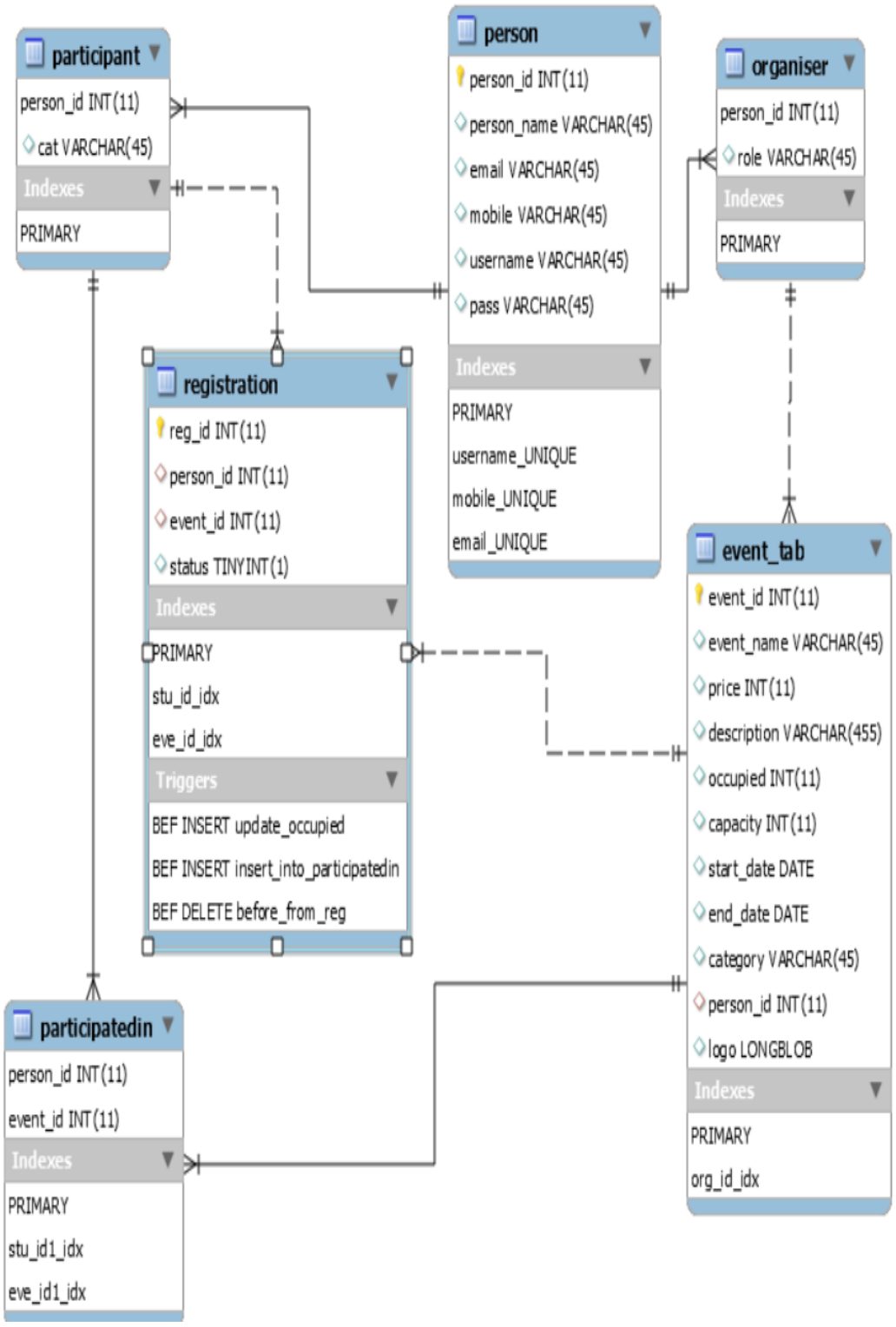
Registered users can do following activity

- Register for the events.
- Update his/her own profile.
- Change Password.
- Can see all the details in brief like listed categories, Upcoming Events, Old events, (with event details), his own registrations(with receipt/ticket).

ER DIAGRAM


person_name
email
person_id
mobile
Person
password
username
Is
a
level
Role
Participant
Participated In
Organizer
Get Details
Adds
event_id
event_name
end_date
price
Event
start_date
desc
capacity
occupied
Category
Registeration
Occupies
reg_id

SCHEMA DIAGRAM



RELATIONAL DATA BASE DESIGN

1] Person:-

person_id	person_name	Email	Mobile	Username	Password
Int(11) Primary key	Varchar (25)	Varchar (25)	Int (11)	Varchar (45)	Varchar (45)

2] Events Table:-

Event_id	Event_name	Price	description	Occupied	Capacity	Start Date
Int(11) Primary Key	Varchar(45)	Int(11)	Varchar(455)	Int(11)	Int(11)	Date

Person_id	End_date	Category	Alice Brown
Int(11)	Date	Varchar (25)	Bob Wilson

3] Participant:-

person_id	Category
Int(11) Primary Key	Varchar(25)

4]Organiser:-

person_id	Role
Int (11)	Varchar(255)

5]Registration:-

Reg_id	Person_id	Event_id	Status
Int(11) Primary key	Int(11)	Int(11)	Int (1)

6]ParticipatedIn:-

person_id	Event_id
Int (11)	Int(11)

DATABASE NORMALIZATION

Database normalization can reduce data redundancy caused by insertion,deletion and updation anomalies and makes the data more meaningful.

First Normal Form

The rules for the table to be in first normal form are:

1. Single Values Atributes : Each column of the table should be single valued which means they should not contain multiple values.
2. Attribute domain should not change : In each column,the values stored must be of same type or kind.
3. Unique name for columns : To avoid confusion,each column must have a unique name.
4. Order doesn't matter:-The rule says the order in which you store data in your table doesn't matter.

Example :

Person

person_id	person_name	email	Mobile	username	pass

- This table is 1NF as each column has atomic values.
- The values stored in each column has same type , consider person_name attribute every record will have name as type varchar()
- Every column above has unique name
- The order of data in table does not matter.

Second Normal Form

The rules for table to be in second normal form are:-

1. The table should be in the First Normal Form.
2. There should be no partial dependency i.e any attribute of the table shouldn't depend on a part of the primary key but depend on the whole primary key instead.

Person

person_id	person_name	email	mobile	username	pass		

- The table is already in 1NF as discussed above.
- Also every non-prime attribute is not dependent on part of primary key but whole primary key, consider person_name depends on person_id completely and not partially.

Third Normal Form

The rules for the table to be in Third Normal Form are:-

1. It should be in Second Normal Form.
2. It should have no transitive dependency i.e. any non-prime attribute shouldn't depend on any other non-prime attribute but only a prime attribute or primary key.

Example :

Person

person_id	person_name	email	mobile	username	pass

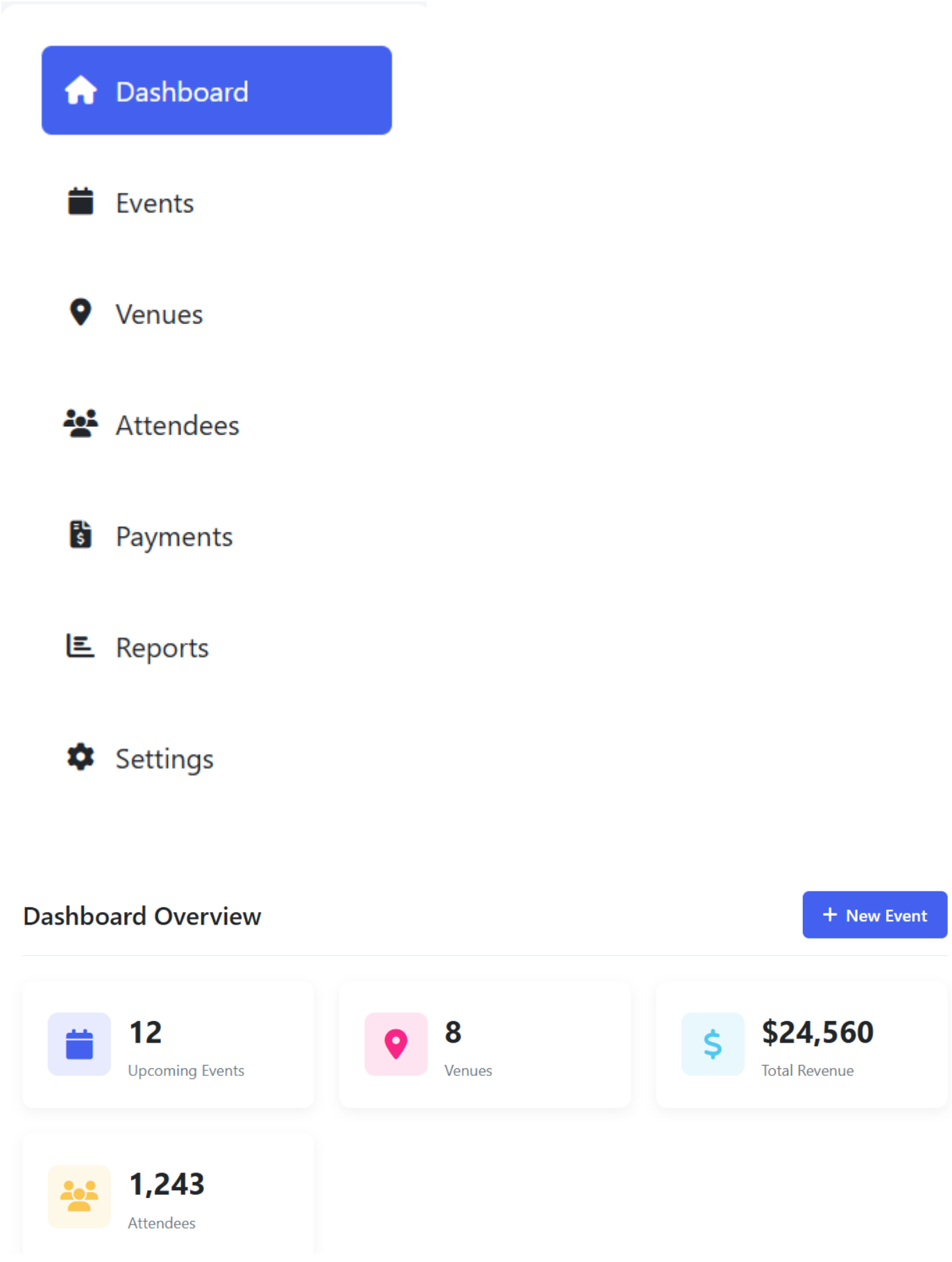
- The table is in 2NF as discussed above.
- Also every non-prime key is not dependent on other non-prime key, consider non-prime attribute email is not dependent on any other non-prime attribute of table.

GRAPHICAL USER INTERFACE

The application uses a GUI interface implemented in HTML,CSS and Bootstrap to communicate with user.Various features of the application are self-explanatory.Forms are easy to fill in and components can be added,removed and updated easily.

The application is very user friendly and uses a GUI interface implemented in JSP and HTML to Communicate with the user. Various features are self – explanatory. Forms are easy to fill in and components can be added, removed and updated very easily. Drop downs and radio buttons are used to display all the components at once so that user can see all the components of a Particular type at once. One can just select the component and modify and remove the component.(based on the access control of the person)

SCREENSHOTS


Dashboard
Events
Venues
Attendees
Payments
Reports
Settings
Dashboard Overview
+ New Event
12
Upcoming Events
8
Venues
$24,560
Total Revenue
1,243
Attendees

Upcoming Events | Recent Registrations | Payment Status

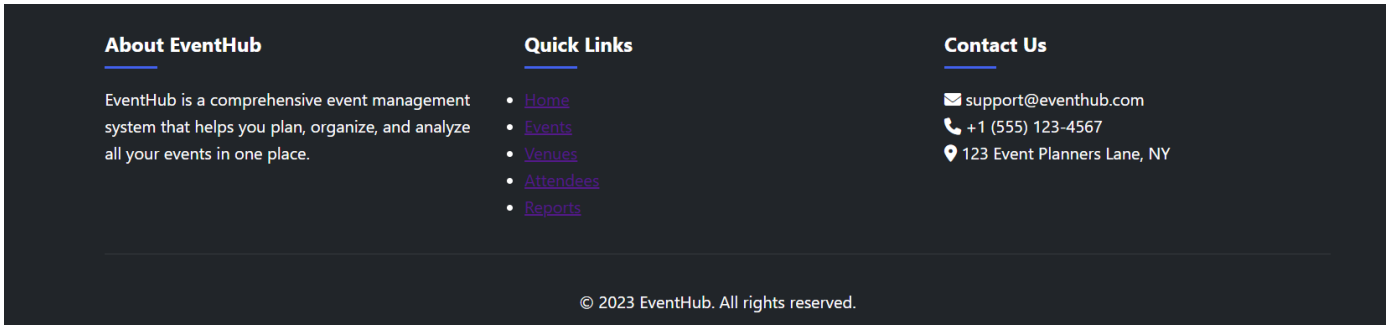
Event Name	Date	Venue	Attendees	Status	Actions
Tech Conference 2023	Oct 15-17, 2023	Grand Convention Center	423/800	Scheduled	
Summer Music Festival	Jul 20-22, 2023	City Hall	298/450	Scheduled	
Business Leadership Seminar	Nov 5, 2023	Business Center	145/200	Planning	

Upcoming Events | Recent Registrations | Payment Status

Attendee	Event	Registration Date	Ticket Type	Status
Alice Brown	Tech Conference 2023	Jun 12, 2023	Standard	Paid
Bob Wilson	Tech Conference 2023	Jun 10, 2023	VIP	Paid
Carol Martinez	Summer Music Festival	May 28, 2023	General Admission	Pending

Upcoming Events | Recent Registrations | Payment Status

Payment ID	Attendee	Amount	Date	Method	Status
#PAY-1001	Alice Brown	$199.99	Jun 12, 2023	Credit Card	Completed
#PAY-1002	Bob Wilson	$399.99	Jun 10, 2023	PayPal	Completed
#PAY-1003	Carol Martinez	$89.99	May 28, 2023	Credit Card	Pending



CONCLUSION

Thus we have successfully implemented online event registration database system which helps users to register for a particular event and he can keep track of his bookings. We have successfully implemented various functionalities of MySQL and JSP and created the fully functional database management System for Event Registration

REFERENCES

MySQL references

- https://docs.oracle.com/cd/E17952_01/mysql-8.0-en/index.html
- https://www.w3schools.in/mysql/

JSP references

- https://www.youtube.com/watch?v=OuBUUkQfBYM&authuser=0
- https://www.javatpoint.com/jsp-tutorial