

OSDBMS PROJECT SYNOPSIS

Project Title: Service Booking & Complaint Tracking Database System

Subject: Open Source Database (MySQL)

Course / Semester: SY BSc IT / Semester IV

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1. Introduction

The Service Booking & Complaint Tracking Database System is designed to manage customer service requests efficiently using MySQL. The system maintains records of customers, services offered, service bookings, and complaints. It helps organizations track service status and complaint resolution in a structured manner.

2. Problem Statement

Traditional manual systems for service booking and complaint handling suffer from data redundancy, slow processing, lack of tracking, and higher chances of human error. There is a need for a reliable database-driven system to overcome these issues.

3. Objectives of the Project

- To design a structured database using MySQL.
- To manage service booking details efficiently.
- To track complaints and their resolution status.
- To ensure data consistency and integrity using constraints.
- To retrieve required information using SQL queries.

4. Scope of the Project

The system is intended for small and medium service-based organizations such as repair centers, maintenance services, and support centers. The project is limited to database design and SQL operations for academic purposes.

5. Tools and Technologies Used

Database: MySQL

Interface: MySQL Workbench

Language: SQL

Platform: Windows

DBMS Type: Open Source

6. Database Design

6.1 Tables and Description

Table Name	Description
Customer	Stores customer personal and contact details
Service	Stores details of services provided by the organization
Booking	Stores service booking information
Complaint	Stores customer complaints and resolution status

6.2 Attributes

Customer: customer_id (PK), name, phone, email, address

Service: service_id (PK), service_name, description, charges

Booking: booking_id (PK), customer_id (FK), service_id (FK), booking_date, service_date, status
Complaint: complaint_id (PK), customer_id (FK), booking_id (FK), complaint_date, description, status

6.3 Constraints Used

PRIMARY KEY: Ensures unique identification of records.

FOREIGN KEY: Maintains relationship between tables.

NOT NULL: Mandatory fields cannot be left empty. UNIQUE: Prevents duplicate values.

7. SQL Concepts Used

DDL commands (CREATE, DROP)

DML commands (INSERT, UPDATE, DELETE)

SELECT queries, JOINS, Subqueries, Views, Transactions, Group by, Having queries, Constraints.

8. Sample SQL Queries

```
CREATE TABLE Customer (customer_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, phone VARCHAR(15) UNIQUE, email VARCHAR(100), address VARCHAR(200));
```

```
CREATE TABLE Service (service_id INT PRIMARY KEY, service_name VARCHAR(100), description VARCHAR(200), charges DECIMAL(10,2));
```

```
CREATE TABLE Booking (booking_id INT PRIMARY KEY, customer_id INT, service_id INT, booking_date DATE, service_date DATE, status VARCHAR(20), FOREIGN KEY(customer_id) REFERENCES Customer(customer_id), FOREIGN KEY(service_id) REFERENCES Service(service_id));
```

```
Service(service_id));
```

```
CREATE TABLE Complaint (complaint_id INT PRIMARY KEY,  
customer_id INT, booking_id INT, complaint_date DATE, description  
VARCHAR(255), status VARCHAR(20), FOREIGN KEY(customer_id)  
REFERENCES Customer(customer_id), FOREIGN KEY(booking_id)  
REFERENCES Booking(booking_id));
```

```
INSERT INTO Customer VALUES (1,'Amit  
Sharma','9876543210','amit@gmail.com','Mumbai');
```

```
INSERT INTO Service VALUES (101,'AC Repair','Air conditioner  
servicing',1500);
```

```
INSERT INTO Booking VALUES (201,1,101,'2026-01-10','2026-01-  
12','Booked');
```

```
INSERT INTO Complaint VALUES (301,1,201,'2026-01-13','Service  
not satisfactory','Pending');
```

```
UPDATE Complaint SET status='Resolved' WHERE  
complaint_id=301;
```

```
SELECT * FROM Booking WHERE status='Booked';
```

```
SELECT Customer.name, Service.service_name FROM Booking JOIN  
Customer ON  
Booking.customer_id=Customer.customer_id JOIN Service ON  
Booking.service_id=Service.service_id;
```

9. Security Features

- User authentication
- role-based privileges
- data validation
- controlled access to database tables.

10. Backup and Recovery

- Backup is the process of creating a copy of database data.
- It helps to restore data in case of data loss or system failure.
- Types of backup include Full, Incremental, and Differential.
- Tools like mysqldump and MySQL Workbench are used for backup.
- Recovery restores data from backup files when failure occurs.
- Regular backups ensure data safety and system reliability.

11. Expected Outcome

- Faster service booking process
- Proper complaint tracking
- Reduced data redundancy
- Improved customer satisfaction

12. Conclusion

The Service Booking & Complaint Tracking Database System provides a practical understanding of MySQL database concepts and their application in real-world scenarios.

13. Future Enhancements

- Web-based front end
- Automated SMS/Email notifications
- Advanced reports and analytics

14. References

MySQL Official Documentation
DBMS Textbooks
Online Tutorials