

---

# Project Report

## Cross-Platform Billing & Inventory Management Application

---

### 1. Introduction

The **Cross-Platform Billing & Inventory Management Application** is a full-stack business solution designed to manage **billing, invoices, payments, stock, and financial tracking** from a single system.

The application supports **Android, iOS, Web, and Desktop** platforms using a unified architecture, making it suitable for small and medium-scale businesses.

This system eliminates manual billing processes, reduces errors, and provides real-time insights into sales and inventory.

---

### 2. Problem Statement

Many small businesses rely on manual billing systems or separate tools for invoices, stock, and payment tracking. These systems are:

- Error-prone
- Time-consuming
- Not synchronized across devices
- Difficult to scale

The objective of this project is to develop a **secure, scalable, and cloud-based billing system** that works across multiple platforms.

---

### 3. Objectives of the Project

- To create a **cross-platform billing application**
  - To manage **products, stock, invoices, and payments**
  - To provide **real-time financial reports**
  - To ensure **secure authentication and data integrity**
  - To offer a **user-friendly interface**
- 

### 4. Scope of the Project

The application can be used by:

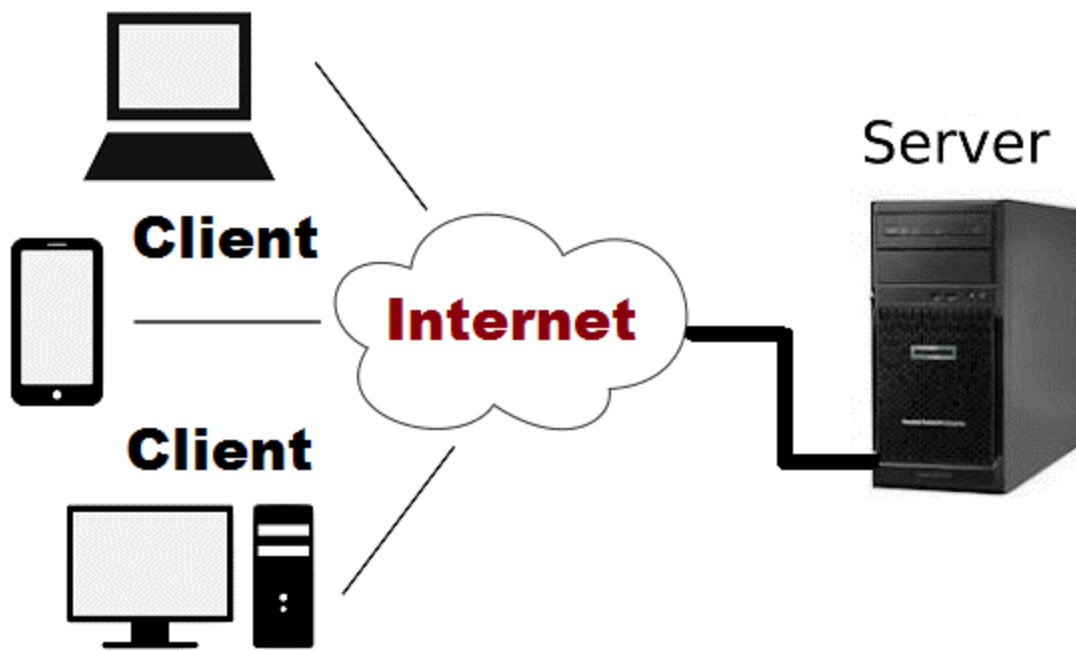
- Retail shops
- Small businesses
- Service providers

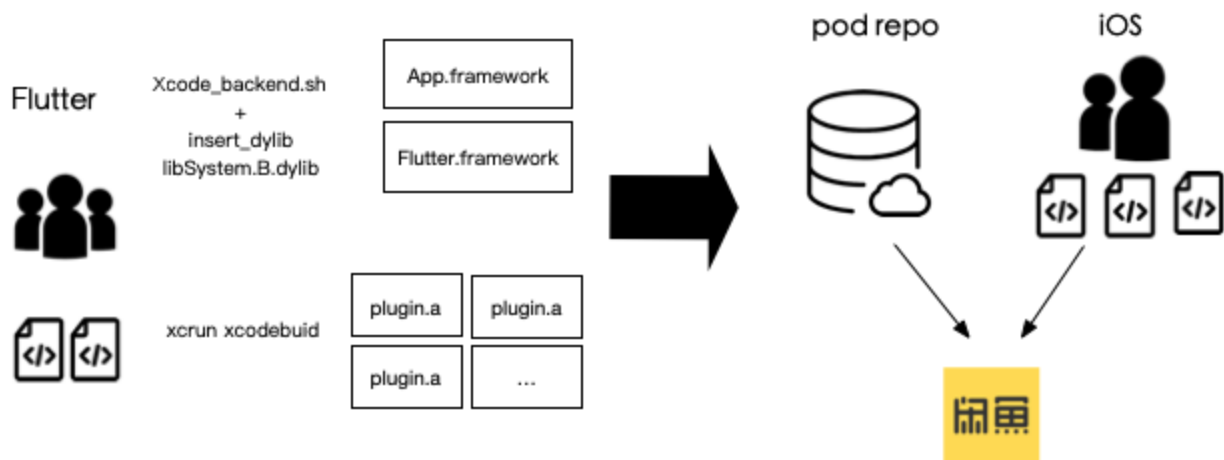
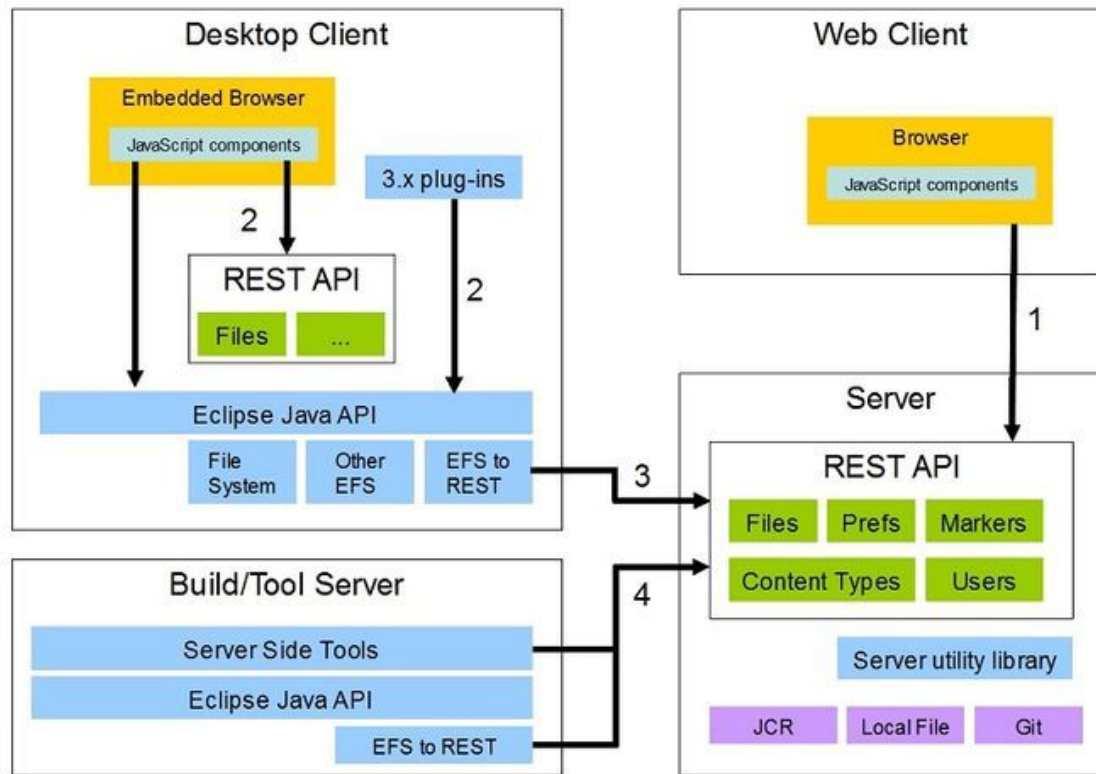
The system supports:

- Invoice generation
  - Stock management
  - Payment tracking
  - Business reports
  - Multi-device access
- 

## 5. System Architecture

The application follows a **client-server architecture**.





**Architecture Flow:**

Flutter Application

(Android / iOS / Web / Desktop)

|

| REST API (JWT Authentication)

|

Spring Boot Backend

|

|

MySQL Database

---

## 6. Technology Stack

### Frontend

- **Flutter** – Cross-platform UI framework
- **Dart** – Programming language
- **REST API Integration**

### Backend

- **Java**
- **Spring Boot**

- **Spring Security (JWT Authentication)**

## **Database**

- **MySQL**

## **Payment Integration**

- UPI / Card / Wallet (via Payment Gateway API)

## **Tools & Platforms**

- Git & GitHub
  - Postman
  - Android Studio
  - VS Code
  - MySQL Workbench
- 

# **7. Modules Description**

## **7.1 Authentication Module**

- User Registration
- Secure Login using JWT

- Role-based access control

## **7.2 Billing & Invoice Module**

- Create invoices
- Auto invoice numbering
- Tax calculation
- Invoice history

## **7.3 Inventory Management Module**

- Product management
- Stock tracking
- Auto stock update after billing

## **7.4 Payment Module**

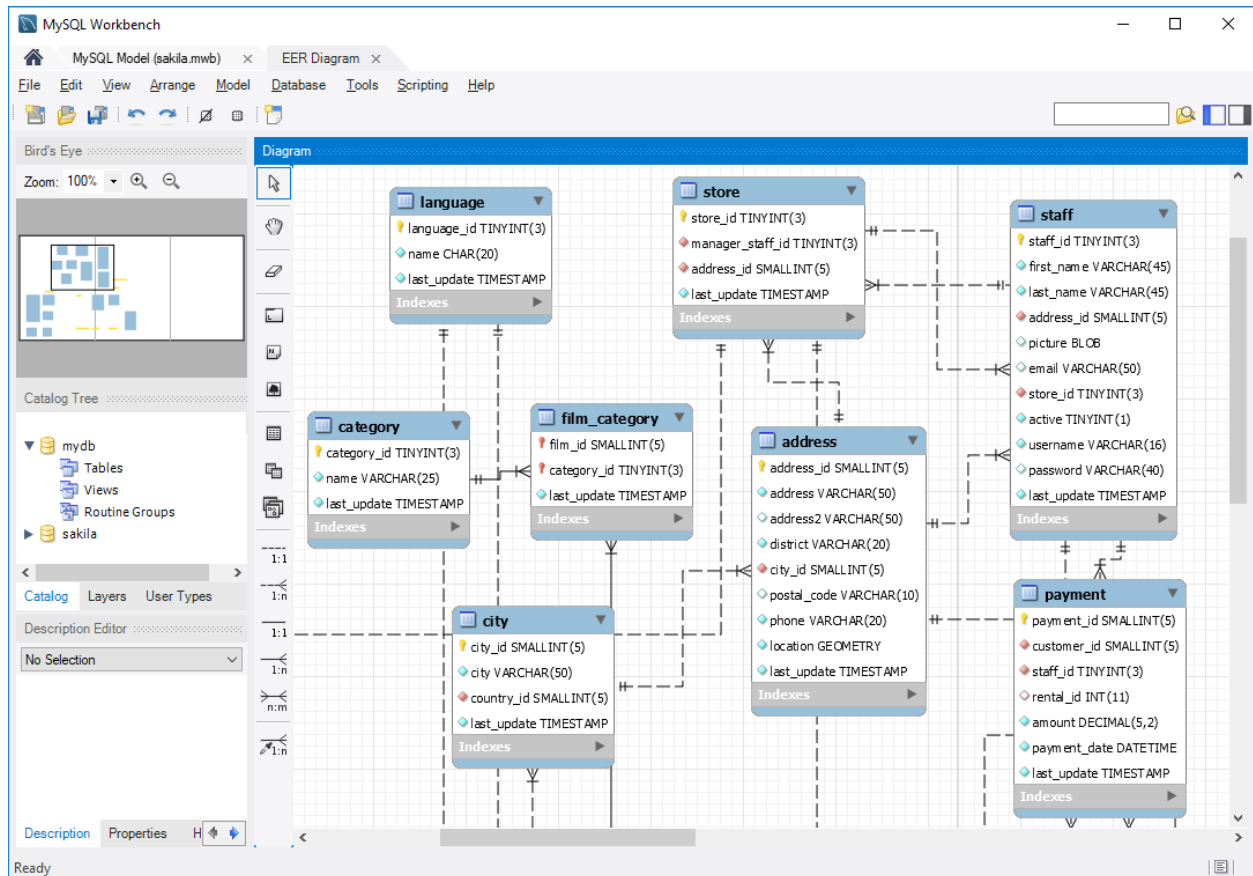
- Multiple payment modes
- Payment status tracking
- Transaction history

## **7.5 Reports Module**

- Sales reports
- Monthly revenue
- Stock reports



## 8. Database Design (Overview)



### Main Tables:

- Users

- Products
  - Invoices
  - Invoice\_Items
  - Payments
  - Stock\_Logs
- 

## **9. Security Features**

- JWT-based authentication
  - Role-based authorization
  - Secure REST APIs
  - Encrypted passwords
- 

## **10. Advantages of the System**

- Cross-platform support
- Centralized data management
- Reduced manual work
- Scalable architecture
- Secure and reliable

---

## 11. Future Enhancements

- Online payment gateway integration
  - GST reports
  - Cloud backup
  - Notification system
  - Subscription-based plans
- 

## 12. Conclusion

The **Cross-Platform Billing & Inventory Management Application** provides a reliable and efficient solution for managing business operations.

By leveraging modern technologies like **Flutter and Spring Boot**, the system ensures scalability, security, and ease of use.

---

## Where to Paste This Report?

- ✓ 1. College / University Project Submission

- Paste into:
    - **MS Word (.docx)** or **PDF**
  - Sections are already in **academic format**
  - Add:
    - Cover page
    - Certificate
    - Acknowledgement
- 

## ✓ 2. GitHub Repository

Paste in:

- **README.md**

👉 Use sections:

- Introduction
  - Tech Stack
  - Features
  - Architecture
  - Future Scope
-

### ✓ 3. Resume (Short Version)

Add this under **Projects**:

Cross-Platform Billing & Inventory Management App

- Built using Flutter, Spring Boot, and MySQL
  - Implemented billing, inventory, and payment tracking
  - Designed secure REST APIs with JWT authentication
- 

### ✓ 4. YouTube / Portfolio Website

- Use **Introduction + Features + Tech Stack**
  - Add screenshots and demo link
-