

# Overall system description

## Bill Me SaaS Platform

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### 1. Introduction

#### 1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to define the functional and non-functional requirements for **Bill Me**, a **Software-as-a-Service (SaaS)** platform designed to streamline and digitize business operations for commercial entities such as **restaurants**, **gas stations**, and similar establishments.

The system enables **digital receipt management**, **order handling**, **payment processing**, and **auditing**, aiming to enhance **transparency**, **operational efficiency**, and **customer satisfaction**.

#### 1.2 Scope

**Bill Me** is a **subscription-based multi-tenant SaaS platform** that offers entity-specific management capabilities.

It provides tailored functionalities to different business types and manages interactions among multiple user roles, including **super admins**, **entity owners**, **managers**, **employees** (e.g., waiters or gas station attendants), and **customers**.

#### Key Capabilities

- Subscription management and access control
- Entity (restaurants, gas stations, etc.) registration and profiling
- Employee and role management
- Order creation and management
- Digital receipt generation and management
- Integrated digital payment processing

- Comprehensive auditing and reporting

### 1.3 Definitions, Acronyms, and Abbreviations

Term	Definition
SaaS	Software as a Service
API	Application Programming Interface
QR	Quick Response
SRS	Software Requirements Specification
entity	Restaurants, gas stations, supermarkets, and others

### 1.5 Overview

This document outlines:

- System description and architecture
- Functional and non-functional requirements
- User roles and permissions
- Data and process flow (including the order lifecycle)

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## 2. Overall Description

### 2.1 System Perspective

Bill Me is a **modular platform** consisting of several integrated components:

#### System Components

Component	Description
<b>Super Admin Portal</b>	Web-based interface for system owners to manage subscriptions, entities, and global configurations.
<b>Entity Admin Portal</b>	Used by entity owners to configure and manage their business accounts, roles, and permissions.
<b>Manager Portal</b>	Enables operational control, including managing employees, tables/stations, and approving transactions.
<b>Employee Portal(web and mobile portal)</b>	Used by waiters/gas attendants for order handling, payment tracking, and reporting.
<b>Customer portal(web and mobile)</b>	Enables customers to browse menus/products, place orders, pay, and view digital receipts.
<b>APIs</b>	Backend communication layer connecting web and mobile clients to server-side logic.

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## 2.2 Product Functions

### Primary Features

- Subscription & Access Control
  - Entity Registration & Profiling
  - Employee & Role Management
  - Menu/Product Management
  - Order Creation, Assignment & Payment
  - Digital Receipt Generation & Storage
  - Auditing, Logging & Reporting
  - Bulk Ordering & Bill Splitting
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## 2.3 User Classes and Characteristics

Role	Description	Access Level
<b>Super Admin</b>	Manages subscriptions, access, and overall system configuration.	Full system control
<b>Entity Owner</b>	Creates and manages their entity, adds managers, and audits operations.	Entity-level admin
<b>Manager</b>	Oversees daily operations, manages employees, and reviews transactions.	Operational control
<b>Employee (Waiter/Gas Worker)</b>	Handles customer orders and payments.	Limited operational access
<b>Customer</b>	End-user who orders, pays, and views receipts.	End-user access

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## 2.4 Operating Environment

- **Web Platform:** Accessible via modern browsers (Chrome, Edge, Safari, Firefox).
  - **Mobile App:** Available for **Android** and **iOS**.
  - **Database:** SQL-based relational database with secure access.
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## 2.6 Assumptions and Dependencies

- Users must have a stable internet connection.
  - Customers have an account in the system, either on mobile or on the web
  - Payment integrations depend on third-party payment gateways
  - Each entity has its own customised portal based on its category (restaurant, gas station, supermarket, etc.).
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## 3. Specific Requirements

### 3.1 Roles and their features

#### 3.1.1 Super Admin Features

- The system shall allow super admins to create, activate, suspend, and deactivate entity accounts.
  - The system shall manage subscription plans (creation, renewal, and expiry notifications).
  - The system shall monitor global activities, entities, and user metrics.
  - The system shall dynamically add new entity categories.
  - The system shall provide audit trails for all system-level operations.
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#### 3.1.2 Entity Owner Features

- Entity owners shall register and configure their entity profile.
  - The owner can register all the branches of their entity and assign them to different managers
  - Entity owners shall add the menu items with their QR code or barcode that redirects to their information, including the price and everything related
  - Entity owners shall manage subscription and payment status.
  - Entity owners shall add managers and assign permissions.
  - Entity owners can view and manage promotion/discount offers.
  - Entity owners shall view financial summaries, order statistics, and receipts.
  - Entity owners shall access entity-specific audit logs and reports.
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### 3.1.3 Manager Features

- Managers shall create and manage employee accounts.
  - Managers shall add menu items.
  - Managers can view and manage promotions/discount offers.
  - For restaurants/hotels, Managers shall follow up on waiters' availability and rotate them when needed to ensure quick service delivery.
  - Managers shall approve/reject customers'/clients' actions, such as removing order items and issuing refunds.
  - Managers shall view and approve daily cash and sales reports.
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### 3.1.4 Employee (Waiter/Gas Worker) Features

- Employees shall create and handle customer orders.
  - Employees shall mark orders as **paid** after payment confirmation (for cash payments only; otherwise, the system automatically marks them as paid).
  - Employees shall view and track assigned orders.
  - Employees shall access daily performance summaries (sales, tips, etc.).
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### 3.1.5 Customer Features

- Customers shall register and manage their profiles.
- Customers shall browse entities, menus, and available products.
- Customers shall see the available waiters in the selected entity and select one to serve them.
- Customers shall create and manage orders.

- Customers shall pay via integrated payment methods or cash.
  - Customer shall be able to add a tip to the payment dedicated to the waiter who served them.
  - Customers shall view, download, and share digital receipts.
  - Customers shall initiate or join **bulk orders** and **split bills**.
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### 3.1.6 Order and Receipt Management

- Orders shall have the following statuses: **Incoming, Processing, Served, Paid, and Cancelled**.
  - Each order shall have a unique **QR code** representing its current status.
  - QR codes shall be scannable by authorized personnel for verification.
  - The system shall support **bulk orders** in which multiple users share a single order.
  - Orders can be **cancelled or partially modified** with manager approval.
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### 3.1.7 Auditing, Logging, and Reporting

- The system shall log every user activity (creation, update, deletion).
  - Logs shall include timestamps, user IDs, and entity IDs.
  - Super Admins shall have access to global logs; Entity Owners shall have access to entity-specific logs.
  - Reports (sales, performance, audit summaries) shall be exportable in **PDF** format.
  - Role-based access shall control reporting privileges.
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## 4. System Flow

### 4.1 Order Flow

#### Client Side

1. Customer logs into the app.
2. Views nearby or subscribed entities (by category).
3. Selects an entity → menu/product list appears.
4. Chooses items, specifies quantity (real-time total displayed).
5. Choose a waiter among the available ones.
6. Input table number or station identifier.
7. Places order → receives confirmation.
8. Can modify/cancel before preparation starts.
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#### Manager Side

1. The manager views incoming orders.
2. Assign orders to available employees when the chosen employee is overwhelmed or requested at the same time.
3. Tracks order progress (Incoming → Processing → Served → Paid).
4. Can view how long the preparation took for the performance evaluation.

#### Employee Side

1. Sees assigned orders.
2. Handles order fulfillment (kitchen/delivery).
3. Updates order status to **served**.



4. Marks an order as **paid** after payment confirmation(cash payment)

### **Bulk Order & Bill Splitting**

- One customer initiates a bulk order and invites others.
- All participants choose their items.
- The initiator places the order collectively.
- During payment, the initiator can **split the bill** or **pay in full**.
- Each participant receives their respective portion of the bill.

### **Employee tips from the customer**

- A customer can also tip the waiter when paying for the order.
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## **5. Reporting and Analytics**

- Sales, revenue, and employee performance reports per entity.
- Daily/weekly/monthly summaries are viewable by managers and owners.
- Exportable reports in PDF and CSV formats.
- Real-time dashboard analytics for super admins.