

PROJECT ABSTRACT

Salon Appointment Booking and Billing System

A Flask-based system for salons and spas: online service booking with stylist-wise slots, staff schedules, POS billing with membership discounts, and loyalty points — built-to-order with source code, report, PPT and viva kit.

01. Title

Salon Appointment Booking and Billing System

02. Introduction / Background

Salons run on two systems that rarely talk to each other: a paper appointment diary at the reception and a separate billing register. Double-booked stylists, forgotten appointments, unbilled add-on services and loyalty tracked on punch cards are the daily reality. Meanwhile customers expect to book from their phones and see real prices upfront. This project builds one web system covering both sides: customers browse services with transparent pricing and book a specific stylist and time slot online; the salon gets a staff schedule view, a point-of-sale billing screen with membership discounts and taxes, and a loyalty-points ledger. SMS reminders cut no-shows, and every appointment links to its bill, so the day's revenue always reconciles.

03. Problem Statement

Salon owners lose money to no-shows, double bookings and unbilled services, while receptionists juggle a diary, a calculator and a loyalty notebook. The project replaces all three with a single database: slots are the single source of truth for bookings, and billing draws directly from the services rendered, with memberships and loyalty applied automatically.

04. Objectives

- Implement a service catalog with pricing, duration and category management.
- Build stylist-wise slot booking with conflict prevention and a per-stylist daily schedule view.
- Send booking confirmations and SMS/email reminders to cut no-shows.
- Implement POS billing: services, products, membership discounts, taxes and split payments.
- Maintain a loyalty-points ledger (earn/redeem) tied to the customer profile.
- Provide an owner dashboard: daily revenue, stylist utilization, top services and repeat-visit rate.

05. Proposed Methodology

Built with Flask and PostgreSQL. (1) Scheduling core: a slots model generated from stylist shifts and service durations; bookings hold a slot with a unique constraint on (stylist, start_time) so double-booking is impossible at the database level. (2) Booking flow:

customer selects service, stylist and slot; the hold-then-confirm pattern from e-commerce is adapted with a 10-minute reservation window. (3) Billing: a POS screen that pulls the day's appointments, adds walk-in services/products, applies membership and loyalty rules, and records payment mode. (4) Notifications: reminder jobs run before appointments. Jinja2 templates keep the UI fast and printable for bills.

06. System Architecture / Working

The salon admin defines services (price, duration), stylists and their weekly shifts; the system generates bookable slots. A customer picks a service, sees each stylist's free slots for the chosen day, and books — receiving confirmation and a reminder before the visit. At checkout, the cashier opens the appointment, adds any extra services or retail products, and the bill applies membership discount, loyalty redemption and tax automatically. Points accrue per rupee spent. The owner dashboard aggregates revenue by day, utilization per stylist and the repeat-customer ratio, with a no-show report per customer.

07. Hardware / Software Requirements

- Python 3.11+, Flask, PostgreSQL 14 — all open source
- SMS gateway sandbox (or email) for booking reminders
- Any modern laptop/PC; receipt printer optional for physical bills
- Modern browser; tablet-friendly billing screen for the counter

08. Expected Outcomes

- Working system: online booking, stylist schedules, POS billing, loyalty, reminders.
- Database-level guarantee against double-booking, demonstrable in testing.
- Owner dashboard with revenue, utilization and repeat-visit analytics.
- Complete documentation: project report, PPT and viva Q&A.;

09. Applications

- Unisex salons, spas and barbershops digitizing bookings and billing.
- Beauty clinics and wellness centres with membership plans.
- Franchise salon chains needing per-branch reports.
- A base for adding a customer mobile app later.

10. Future Scope

- Customer mobile app with booking history and one-tap rebook.
- Online advance payment and refund handling for no-shows.
- Inventory module for retail product stock.
- AI-based demand forecasting for stylist rostering.