MAD-1 Project Report T3-2024 (DS23F3000281)

Student Details

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Project Course - Modern Application Development - 1
Project Statement - Link

Problem Statement

Household Services Application is a multi-user app (requires one admin and other service professionals/customers) which acts as a platform for providing comprehensive home servicing and solutions.

How I Approached the Project

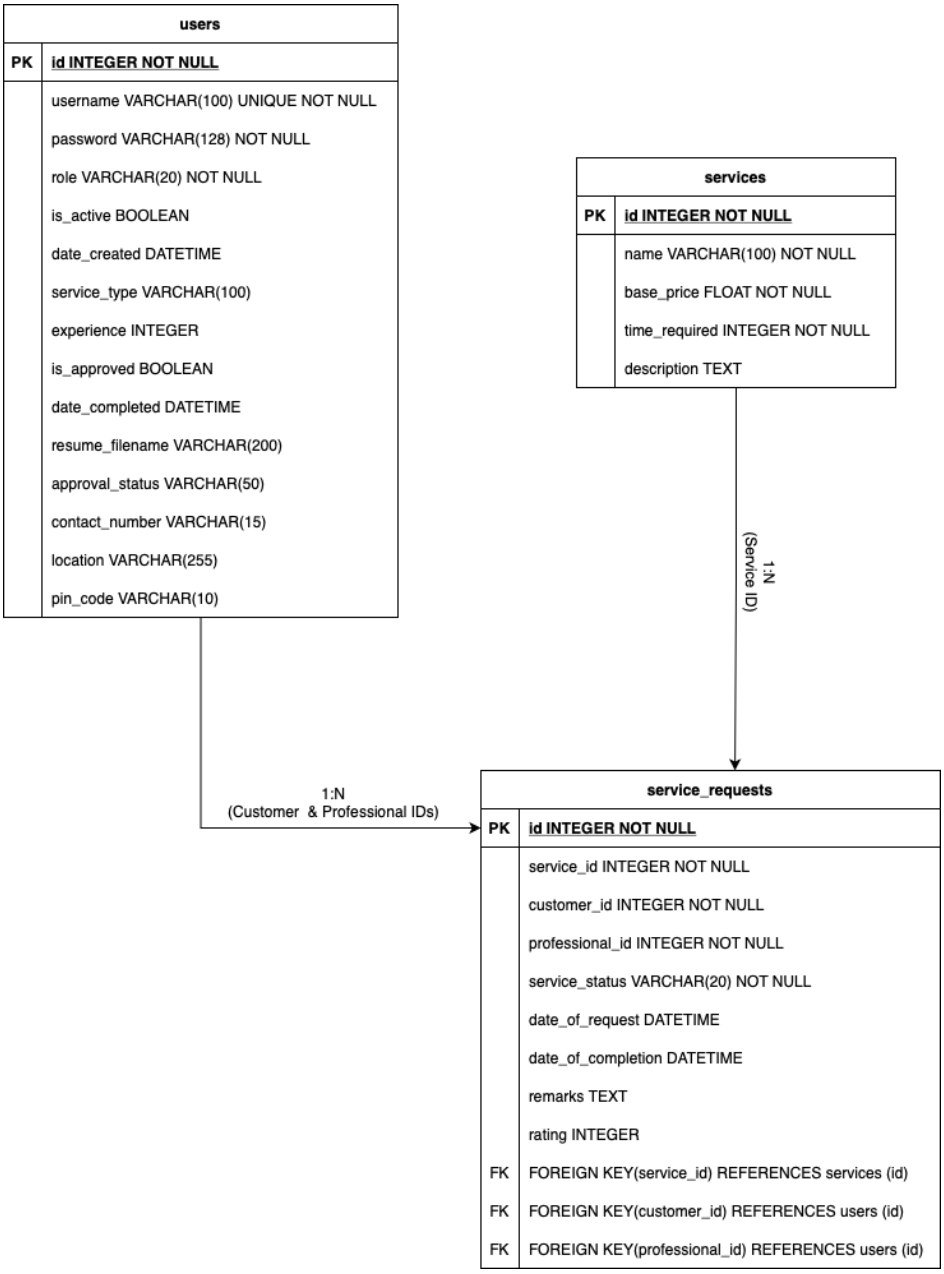
To develop Suburb Services from scratch, I began by thoroughly reviewing the statement to understand the core requirements and functionalities needed. After this, I set up a virtual environment on my machine for development as I did not want my personal work's dependencies to clash with this project's. I used Flask for the routes, models & business logic, Jinja 2 templates & Bootstrap for the frontend and styling and SQLite as the database. Specifications about each technology, library and framework used are mentioned below.

I initialized multiple routes to implement a registration system where users can sign up as professionals or customers and used a JS script to toggle role-specific fields, so they can be shown as per the user role during registration. I incorporated Flask-Login for handling authentication. Matplotlib was used to generate charts for data visualization in the Summary panels on the dashboards. There was a slight GUI problem when rendering charts, so I used an Agg backend of Matplotlib to fix that.

Technologies and Frameworks Used

Flask - For building the application and handling HTTP requests and responses
SQLite - As the database for storing user data, services and service requests
Jinja 2 Templates - For rendering dynamic HTML pages with data from backend
Bootstrap - To style the application and ensure responsiveness on different devices
Matplotlib - For generating charts and visualizing data within the application
Flask-WTF and WTForms - For form handling and validation checks
Werkzeug - For secure password hashing and secure handling of file uploads
Base64 - To encode images generated by Matplotlib directly into the HTML templates

ER Diagram of the Database



Link for the Presentation Video

https://youtu.be/hRRHYuNtcIc