**CS489 Project**

1. **Problem statement**

**Topic**: **Reservation Management System for Nail Shops**

**Objectives**:

* **Reservation System:** Enable customers to book appointments online, reducing waiting times and improving scheduling efficiency.
* **Service Selection:** Provide customers with a range of services to choose from during booking. This includes, but is not limited to: Manicure, Pedicure, Acrylic Nails, Gel & Shellac Nails, Nail Art, Dip Powder Nails, Polish Change, Hand and Foot Treatments, Nail Repair
* **Billing and Receipts:** Generate billing and receipts based on chosen services.
* **Loyalty Points Tracking:** Implement a loyalty program where customers can earn points for each reservation, which can be tracked and redeemed for future services.

1. **Identify software requirements**

**Application roles:**

* Manager
* Technician
* Customer

**All roles**

* The system allows users to register as a member.
* The system allows users to update their information.

Member information:

|  |
| --- |
| First name |
| Last name |
| Phone number |
| Email |
| Date of birth |

* The system allows users to sign in, sign out the application.

**Manager role**

* The system allows Managers to register, update, delete Services.

Service information:

|  |
| --- |
| Service name |
| Price |
| Duration |

* The system allows Managers to update, delete Customers and Technicians.
* The system allows Managers to register, update, delete appointments.

Appointment information

|  |
| --- |
| Date and time |
| Services |
| Technician |
| Notes |

* The system allows Managers to generate billings and receipts.

**Customer role**

* The system allows Customers to book appointments, choose services they want to do, choose the technician they like.
* The system allows Customers to view their appointments.
* The system allows Customers to cancel their appointments.
* The system allows Customers to view their points.

**Technician role**

* The system allows Technicians to sign in, sign out the application.
* The system allows Technicians to view their appointments.

\*\*\* Delete functionality: do not physically delete.

1. **Architecture**

A diagram of a computer

Description automatically generated

\*\*\* Note: Deployment on AWS might be changed later.

1. **Class Diagram**

**A diagram of a program

Description automatically generated**

1. **ER Diagram**

|  |  |
| --- | --- |
| Table | Status definition |
| User | Active, Deleted |
| Appointment | Booked, Changed, Cancelled, Done, Deleted |
| Invoice | Draft, Cancelled, Pending, Paid |
| Service | Active, Deleted |

A diagram of a computer

Description automatically generated