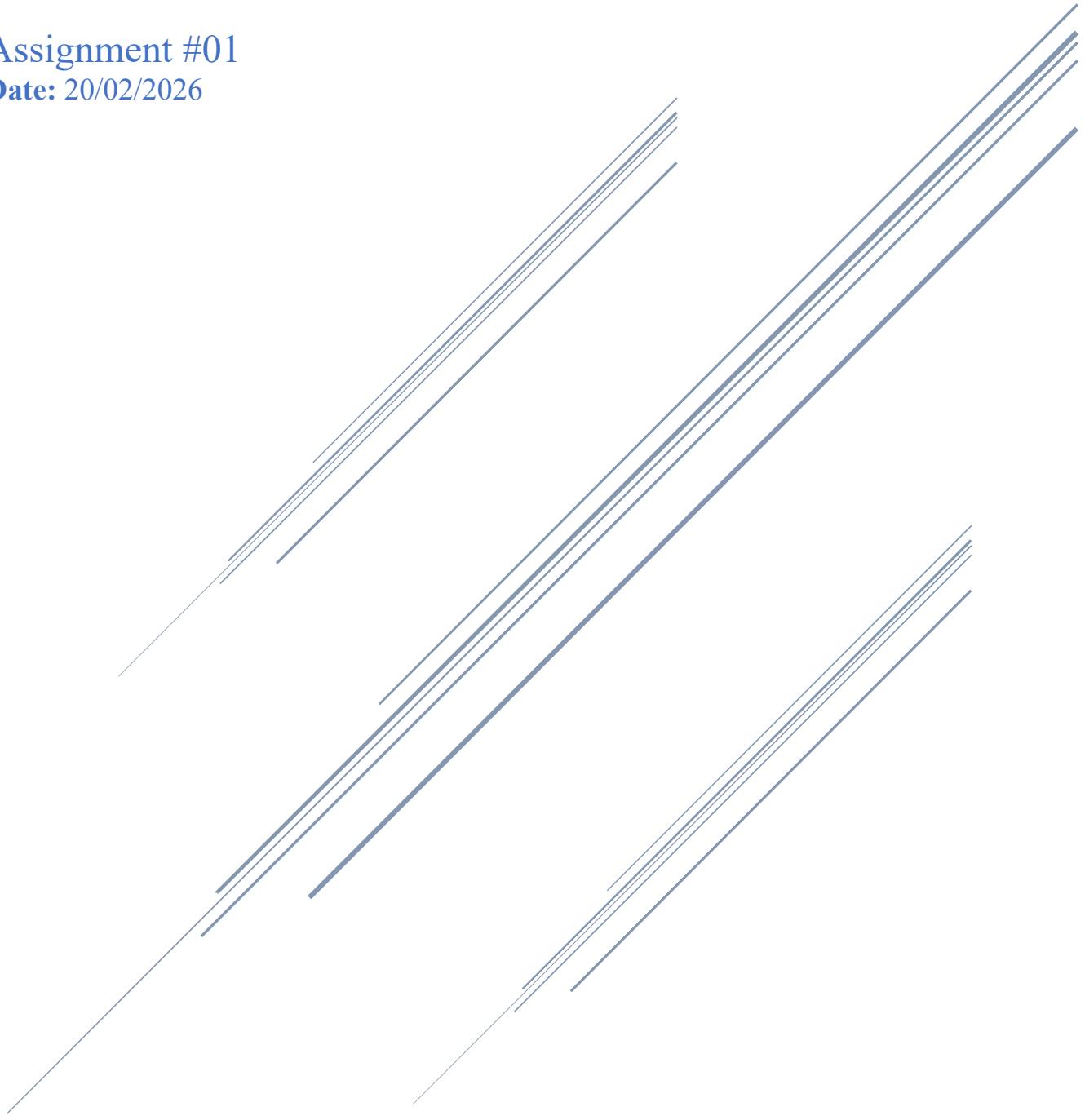


MOBILE APPLICATION DEVELOPMENT

Assignment #01

Date: 20/02/2026



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To: Ma'am Sadaf Tanvir

Question 1: Software Requirements Specification (SRS)

1. Introduction

1.1.Purpose

This document defines the requirements for the **Spice With Hassan** Restaurant Management System, a mobile application developed in React Native that enables restaurant customers to place orders, reserve tables, provide feedback, and scan table availability, while providing managers with comprehensive oversight of orders, tables, and customer feedback.

1.2.Scope

The following functionalities are in scope for the initial version:

- **User Authentication:** Email/password login with role-based access (Manager/Customer).
- **Role Selection:** Manager (password-protected with "Hassan") and Customer modes.
- **Digital Menu:** Browse food items with prices and icons, add to cart.
- **Order Management:** Place orders, view order history, update existing orders.
- **Payment Integration:** Easypaisa and JazzCash payment options (mock implementation).
- **Table Reservation:** Reserve tables with timer functionality (advance payment of Rs 500).
- **Table Scanning:** 3-second scan simulation showing available and reserved tables.
- **Table Status View:** View active tables with remaining time, today's reservations.
- **Customer Feedback:** Submit ratings (1-5) and reviews.
- **Manager Dashboard:** View all orders, active tables, today's reservations, and all feedbacks
- **Biometric Authentication:** Mock Face ID login for manager

1.3. Definitions and Acronyms

- **SRS:** Software Requirements Specification
- **UI:** User Interface
- **UX:** User Experience
- **MVP:** Minimum Viable Product
- **CRUD:** Create, Read, Update, Delete operations
- **Face ID:** Biometric facial recognition authentication
- **Easypaisa:** Pakistani mobile wallet service
- **JazzCash:** Pakistani mobile wallet service

2. Overall Description

2.1. User Roles

Role	Key Permissions & Goals
Customer	<ul style="list-style-type: none"> ✓ Browse menu and place orders ✓ View personal order history ✓ Reserve tables with timer ✓ View personal reservation ✓ Submit feedback and ratings ✓ Scan table availability
Manager	<ul style="list-style-type: none"> ✓ Access all customer functionalities ✓ View all orders across all customers ✓ Monitor active tables with timers ✓ View today's complete reservations ✓ View all customer feedback ✓ Authenticate via password or Face ID

2.2. User Stories

As a Customer

- I want to browse the menu so that I can select items I want to order.
- I want to add items to cart and place orders so that my food can be prepared.
- I want to view my orders by entering my name so that I can track my purchases.
- I want to reserve a table for specific minutes so that I can dine at my convenience.
- I want to view my reservations by entering my name so that I know my table status.
- I want to scan tables to see which are available or reserved.
- I want to submit feedback with ratings so that I can share my experience.

As a Manager

- I want to log in securely with password or Face ID so that restaurant data remains protected.
- I want to view all orders so that I can manage kitchen workflow.
- I want to monitor active tables with remaining time so that I can manage table turnover.
- I want to see today's reservations so that I can prepare for customer arrivals.
- I want to review all customer feedback so that I can improve service quality.

3. Functional Requirements

ID	Requirement	User Role	Priority
FR-01	System shall allow users to login with email and password	All	High
FR-02	System shall display splash screen with restaurant logo for 3 seconds	All	Medium
FR-03	System shall provide role selection (Manager/Customer) after splash	All	High
FR-04	System shall require password "Hassan" for manager access	Manager	High
FR-05	System shall provide mock Face ID authentication for manager	Manager	Medium
FR-06	System shall display restaurant menu with items, prices, and icons	All	High
FR-07	System shall allow customers to add items to cart	Customer	High
FR-08	System shall calculate total payment amount in real-time	Customer	High
FR-09	System shall allow order placement with customer name	Customer	High
FR-10	System shall detect existing orders and offer update option	Customer	Medium

FR-11	System shall allow customers to search orders by name	Customer	High
FR-12	System shall display customer's orders with item details and total	Customer	High
FR-13	System shall allow customers to select orders for payment	Customer	Medium
FR-14	System shall display Easypaisa and JazzCash payment options	Customer	Medium
FR-15	System shall allow table reservation with name and duration	Customer	High
FR-16	System shall enforce advance payment of Rs 500 for reservations	Customer	High
FR-17	System shall calculate and display remaining reservation time	All	High
FR-18	System shall automatically expire reservations after time ends	All	High
FR-19	System shall allow customers to search reservations by name	Customer	High
FR-20	System shall display customer's reservations with timing details	Customer	High

FR-21	System shall provide table scan feature with 3-second animation	All	Medium
FR-22	System shall display available tables count after scan	All	Medium
FR-23	System shall display reserved tables with customer details	All	Medium
FR-24	System shall allow customers to submit ratings (1-5) and reviews	Customer	Medium
FR-25	System shall store and display all customer feedback	Manager	Medium
FR-26	System shall display all orders for manager view	Manager	High
FR-27	System shall display all active tables with remaining time	Manager	High
FR-28	System shall display today's all reservations	Manager	High
FR-29	System shall provide logout functionality	All	High

3. Non-Functional Requirements

ID	Requirement	Category	Description
NFR-01	Platform Compatibility	Technical	Application must run on both iOS and Android via React Native

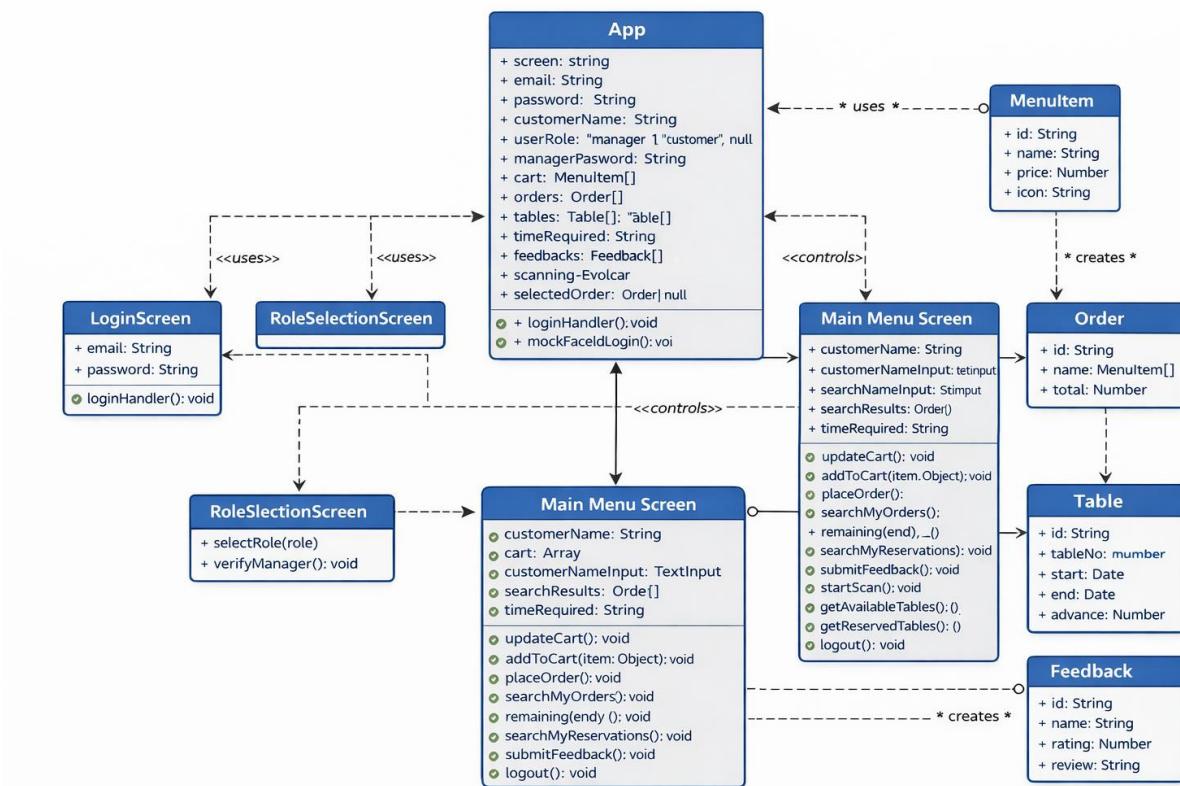
NFR-02	Response Time	Performance	Screen transitions should complete within 1 second
NFR-03	Timer Accuracy	Performance	Table timers must update every second accurately
NFR-04	UI Consistency	Usability	Consistent color scheme (#0f172a background, #facc15 accent) throughout
NFR-05	Error Handling	Reliability	System shall display user-friendly alert messages for all errors
NFR-06	Input Validation	Security	All text inputs must be validated before processing
NFR-07	Data Persistence	Reliability	Orders, tables, and feedback must persist during app session
NFR-08	Accessibility	Usability	Minimum touch target size of 44x44 points for all buttons
NFR-09	Offline Capability	Availability	Core features work without internet (local state only)
NFR-10	Scalability	Maintainability	Code structure must support easy addition of new menu items

5. Database Schema (NoSQL)

Collection Name	Fields	Description
users	userId (string), email (string), password (string), role (string), createdAt (timestamp)	Stores user authentication data
orders	orderId (string), customerName (string), items (array), total (number), timestamp (timestamp)	Stores all customer orders
tables	reservationId (string), tableNo (number), customerName (string), startTime (timestamp), endTime (timestamp), advance (number)	Stores active table reservations
reservations	reservationId (string), tableNo (number), customerName (string), startTime (timestamp), endTime (timestamp), date (string)	Stores historical reservation data
feedbacks	feedbackId (string), customerName (string), rating (number), review (string), timestamp (timestamp)	Stores customer feedback and ratings
menu	itemId (string), name (string), price (number), icon (string), category (string), available (boolean)	Stores menu items and prices

6. UML Diagrams

Figure 1 UML diagram



7. Use Case Diagram

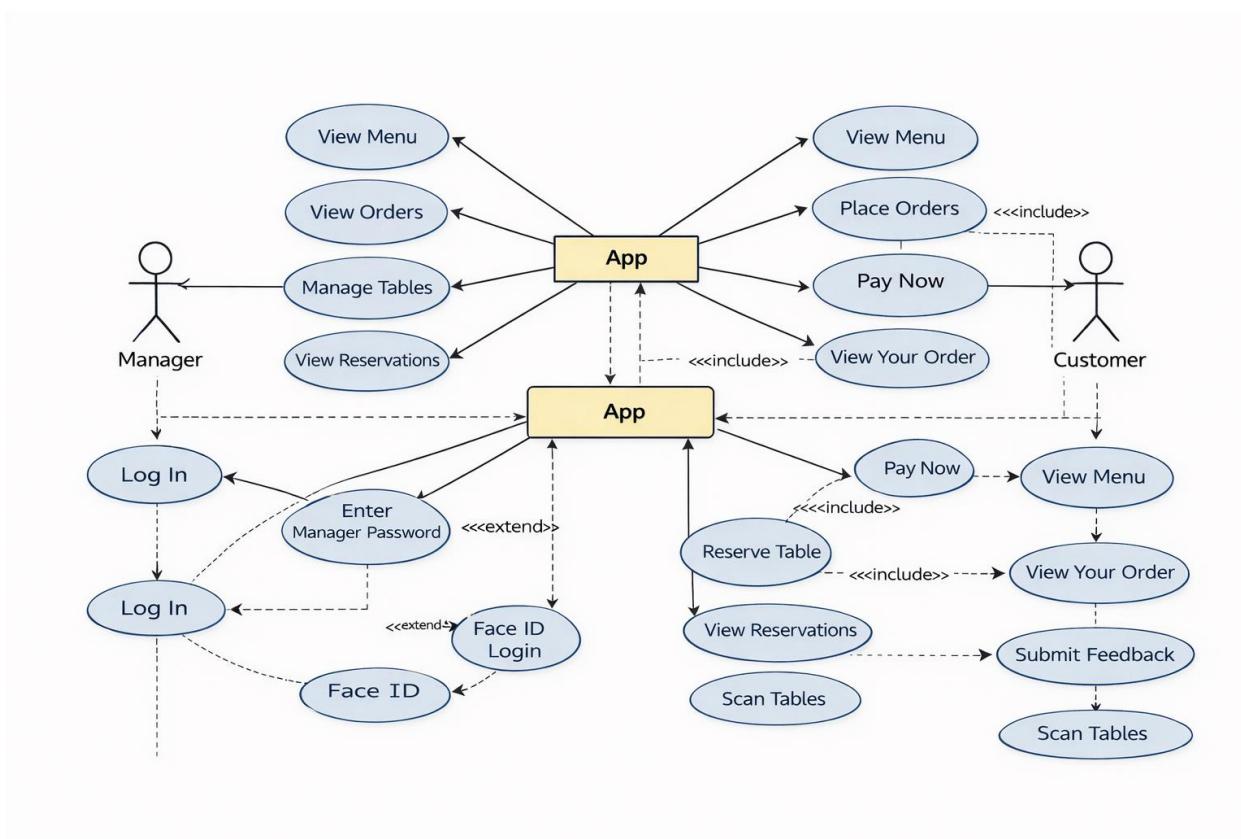


Figure 2 Use Case Diagram

8. Sequence Diagram

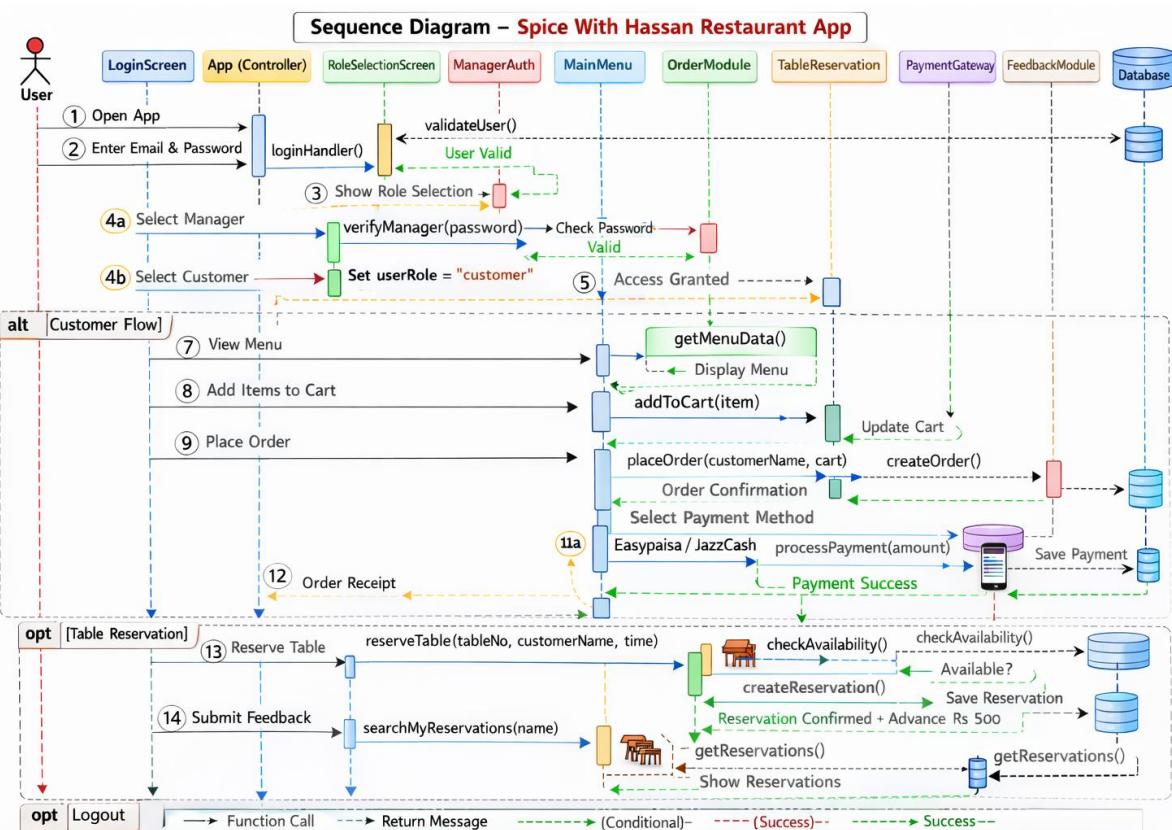
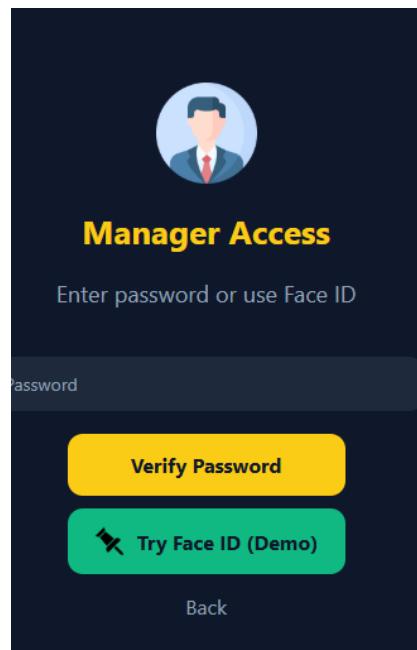
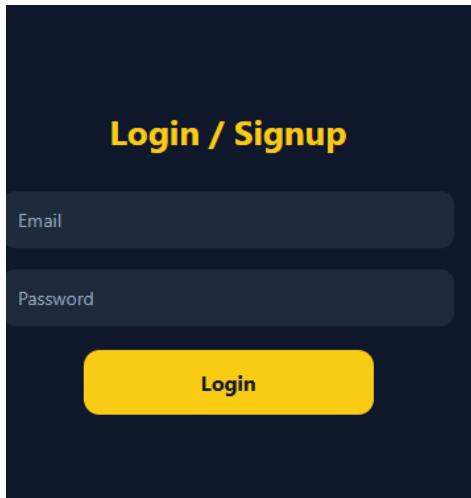
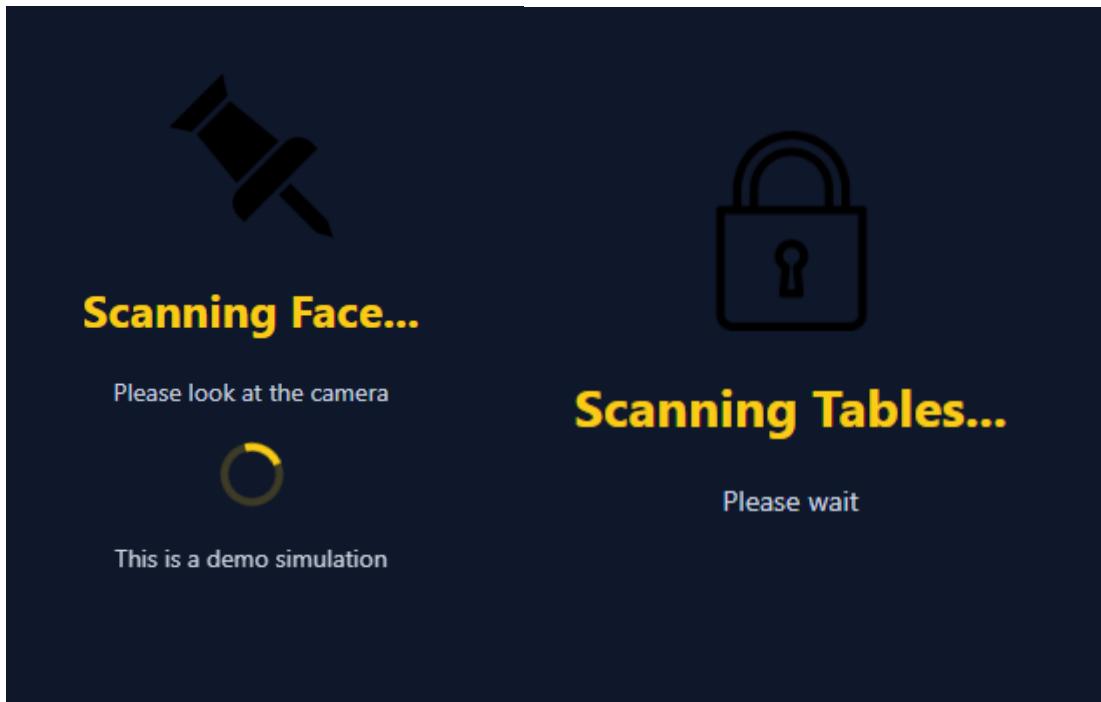


Figure 3 Sequence Diagram

7.1. Login Screen







The image shows a split-screen mobile application interface.

Left Side (Menu): The title is "Menu". It includes a text input field labeled "Your Name". Below it are three food items with their names and prices: "Zinger Burger — Rs 500" (with a burger icon), "Pizza — Rs 1200" (with a pizza icon), and "Pasta — Rs 900" (with a pasta icon).

Right Side (Table Status): The title is "Table Status". It displays two buttons: a green one labeled "Tables Available (6)" and a red one labeled "Tables Reserved (0)". At the bottom is a yellow button labeled "Back to Main".

View Your Orders

Hassan

Search Orders

Hassan

- Zinger Burger — Rs 500
- Pizza — Rs 1200
- Pasta — Rs 900
- Cold Drink — Rs 150

Total: Rs 2750

Choose Payment Method

 **Easypaisa**

 **JazzCash**

Back

Your Reservations

Ali

Search Reservations

 **Table 4**

Start: 3:52:58 AM
End: 4:23:58 AM

Time Left: 30m 51s

Advance Paid: Rs 500

All Feedbacks

Hassan — ★ 5/5

The Food is Amazing ❤️❤️😊

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