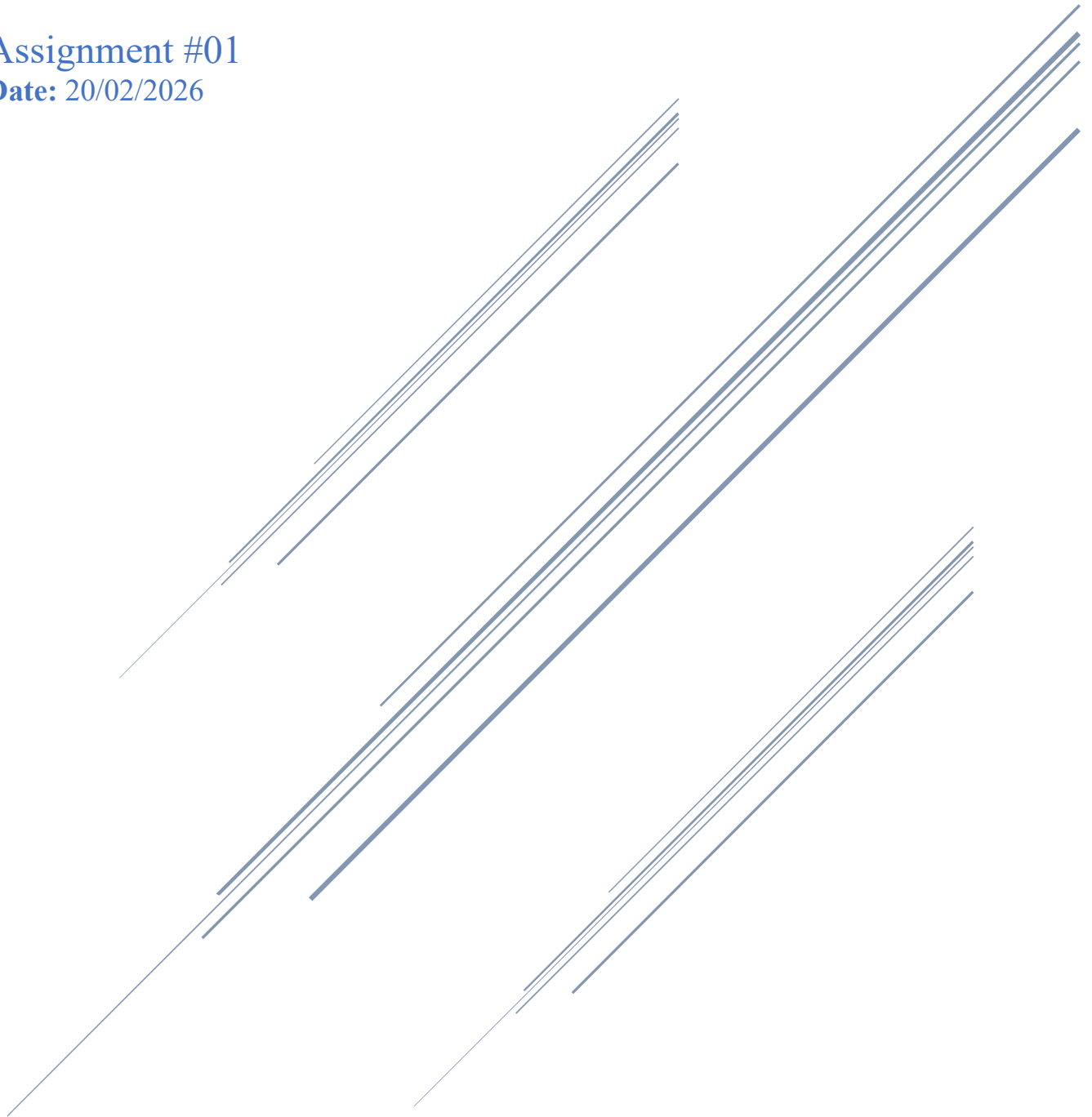


# MOBILE APPLICATION DEVELOPMENT

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

## 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

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

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

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

### 3. Non-Functional Requirements

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

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

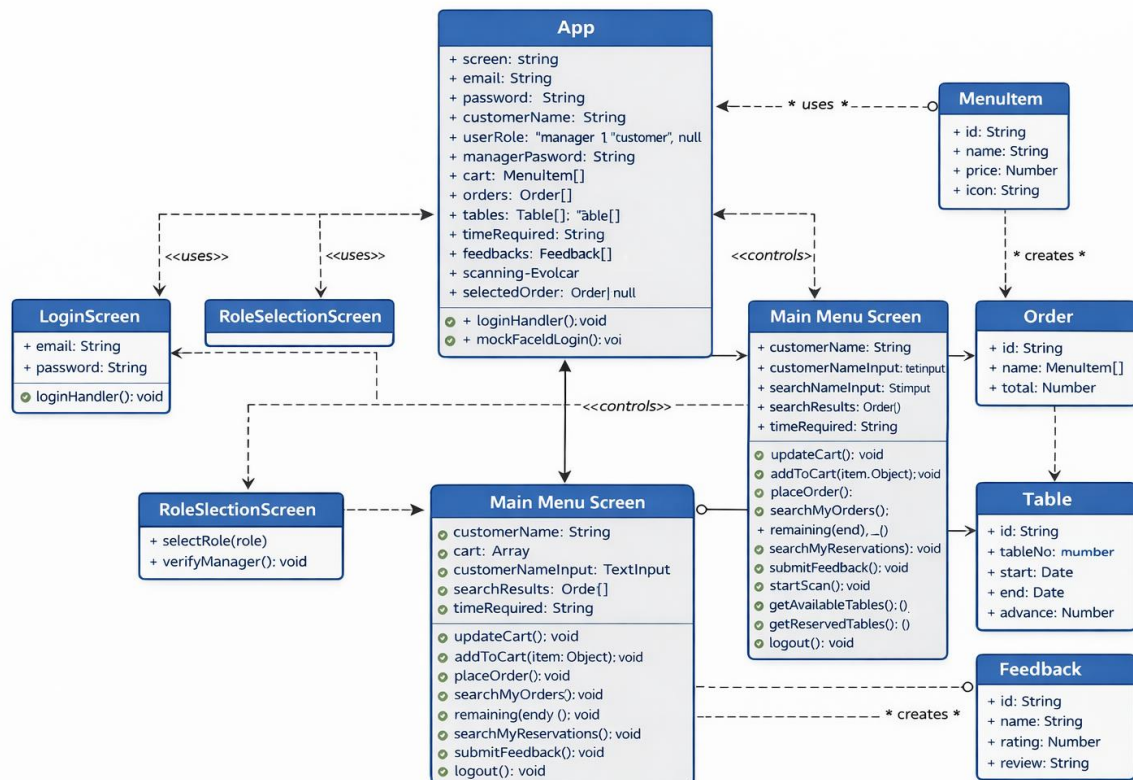


## 5. Database Schema (NoSQL)

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

## 6. UML Diagrams

Figure 1 UML diagram



## 7. Use Case Diagram

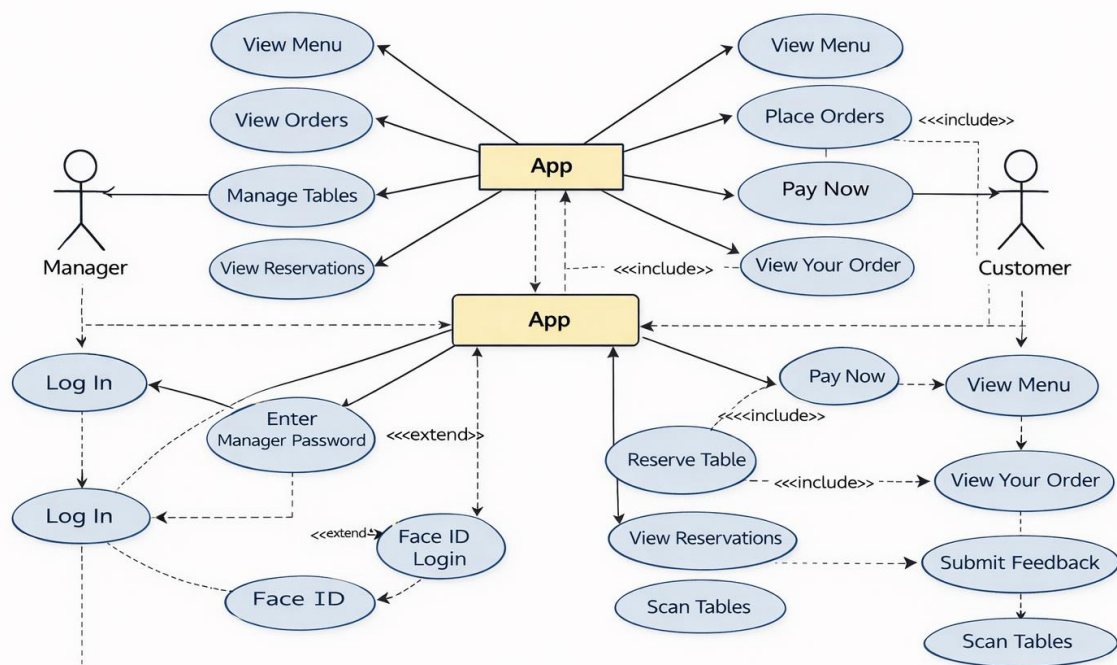
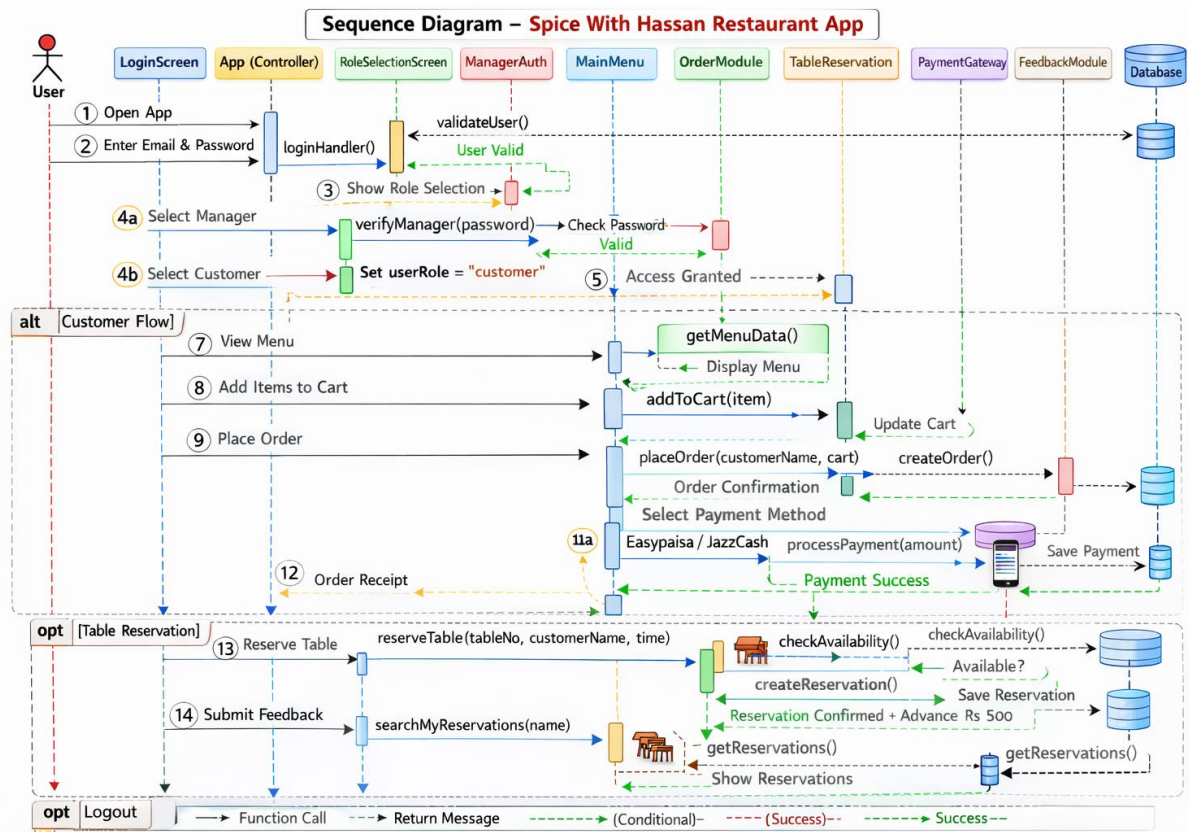
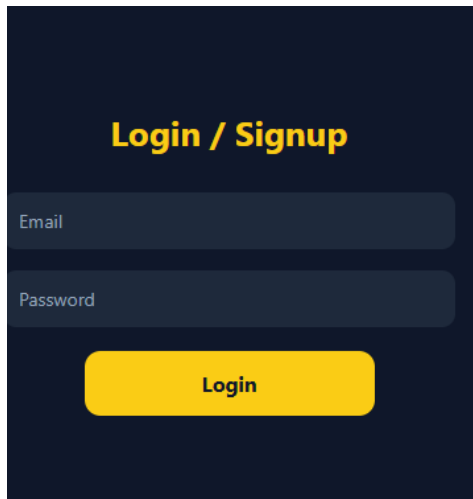


Figure 2 Use Case Diagram

## 8. Sequence Diagram



## 7.1. Login Screen



**Login / Signup**

Email

Password

**Login**

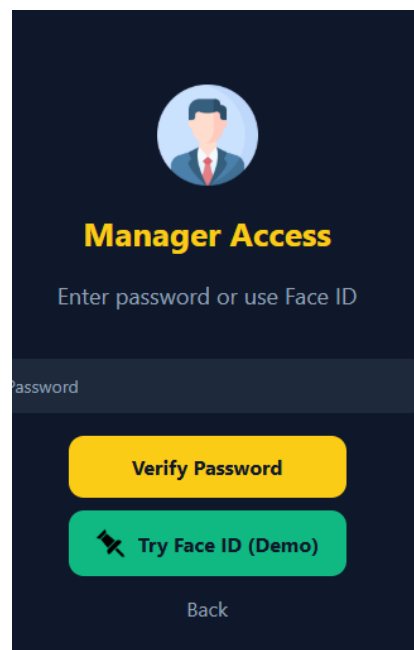


**Welcome to Spice With Hassan**

Select your role

**Manager**

**Customer**



**Manager Access**

Enter password or use Face ID

**Verify Password**

**Try Face ID (Demo)**

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