INSTITUTE OF SPACE TECHNOLOGY
KICSIT, Kahuta Campus

Android Development
Project Report
BSCS-6

Submitted By:

Zoya Gul
Reg No: 232202050

Minahil Shujah Satti
Reg No: 232202049

Wajeeha Naz
Reg No: 232202028

Submitted To:

Sir Uzair Hassan

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Restaurant Management System

1 Introduction

The **Restaurant Management System (RMS)** is an Android-based mobile application developed to manage restaurant operations digitally. The system provides separate interfaces for **Admin** and **Customer**. It helps in managing menu items, orders, users, and carts in an easy and efficient way. This project is developed using **Java** and **XML** in **Android Studio**.

2 Objectives of the Project

- To automate restaurant operations

- To provide an easy ordering system for customers

- To allow admin to manage menu, users, and orders

- To reduce manual work and errors

- To provide a user-friendly Android application

3 Tools and Technologies Used

- Programming Language: Java

- Frontend Design: XML

- IDE: Android Studio

- Architecture: Activity and Fragment based

- Data Handling: Model classes and Adapters

4 Project Structure Overview

The project is divided into the following main parts:

- Java (Logic and Functionality)

- Layout (User Interface Design)

- Drawable (Images and Icons)

5 Java Files Description

5.1 Activities

- SplashActivity.java – Displays splash screen when app starts

- MainActivity.java – Main launcher activity

- LoginActivity.java – Handles user login

- SignupActivity.java – Handles new user registration

- AdminDashboardActivity.java – Dashboard for admin

- CustomerDashboardActivity.java – Dashboard for customer

- CartActivity.java – Displays selected items in cart

- ManageMenuActivity.java – Admin manages menu items

- AddEditMenuActivity.java – Add or edit menu items

- UserManagementActivity.java – Admin manages users

5.2 Fragments

- HomeFragment.java – Home screen fragment

- AdminDashboardFragment.java – Admin dashboard section

- CustomerMenuFragment.java – Displays menu for customers

- OrdersFragment.java – Displays orders

- AdminOrdersFragment.java – Admin view of all orders

5.3 Model Classes

- User.java – Stores user information

- MenuItem.java – Stores menu item details

- Order.java – Stores order information

- CartItem.java – Stores cart item data

5.4 Adapter Classes

- MenuAdapterAdmin.java – Menu adapter for admin

- MenuAdapterCustomer.java – Menu adapter for customers

- OrderAdapter.java – Adapter for orders list

- CartAdapter.java – Adapter for cart items

- UserAdapter.java – Adapter for users list

5.5 Data Management

- DataManager.java – Handles data storage and access

6 Layout XML Files Description

6.1 Activity Layouts

- activity_splash.xml – Splash screen UI

- activity_login.xml – Login screen UI

- activity_signup.xml – Signup screen UI

- activity_main.xml – Main activity layout

- activity_admin_dashboard.xml – Admin dashboard UI

- activity_customer_dashboard.xml – Customer dashboard UI

- activity_cart.xml – Cart screen UI

- activity_manage_menu.xml – Manage menu UI

- activity_add_edit_menu.xml – Add/Edit menu UI

- activity_user_management.xml – User management UI

6.2 Fragment Layouts

- fragment_home.xml – Home fragment UI

- fragment_admin_dashboard.xml – Admin dashboard fragment UI

- fragment_customer_menu.xml – Customer menu UI

- fragment_orders.xml – Orders fragment UI

6.3 Item Layouts

- item_menu_admin.xml – Menu item for admin

- item_menu_customer.xml – Menu item for customer

- item_cart.xml – Cart item UI

- item_order.xml – Order item UI

- item_user.xml – User item UI

6.4 Other Layouts

- nav_header.xml – Navigation drawer header

7 Drawable Resources

The drawable folder contains images used for menu items and UI design, such as food images (burger, pizza, pasta, cake, drinks), app launcher icons, splash screen background, and restaurant logo. These resources improve the visual appearance of the application.

8 Application Workflow

1. Application starts with Splash Screen

2. User logs in or signs up

3. Based on role (Admin or Customer), dashboard is shown

4. Customer views menu, adds items to cart, and places order

5. Admin manages menu items, users, and orders

9 Features of the System

- User Authentication (Login and Signup)

- Admin and Customer roles

- Menu Management

- Cart System

- Order Management

- User Management

- Simple and attractive UI

10   Conclusion

The Restaurant Management System Android application provides a digital solution for managing restaurant activities. It is user-friendly, efficient, and reduces manual work. This project enhanced understanding of Android development concepts such as Activities, Fragments, Adapters, and XML layouts.

11   Future Enhancements

- Online payment integration

- Admin sales and analytics reports