

InstaMeal - Food Recommendation App

App Concept

InstaMeal is an application that provides users with meal recommendations based on the ingredients they have. Users can take a picture of their ingredients, and the app will identify them using Google ML Kit's image recognition. Based on the recognized ingredients, the Spoonacular API will be used to suggest meals.

Course Requirements Fulfillment

1. Android Architecture, Environment, and Component

The app follows the MVVM (Model-View-ViewModel) architecture to separate the logic from the UI and ensure clean, maintainable code. Jetpack components like LiveData and ViewModel will be used for managing UI-related data, while Retrofit will be utilized to handle API requests to Spoonacular.

2. Android Activity and Intent

Activities will be used to handle the major screens of the app, such as ingredient scanning, meal recommendations, and history. Intents will be employed to pass data between activities and handle user navigation, such as moving from the scanning activity to the recommendation screen.

3. Android Fragments

Fragments will be used to display different parts of the UI, such as the list of recommended meals and a detailed view of selected recipes. This will make the UI more dynamic and responsive.

4. Android Service & Shared Preferences

A background service can be implemented to notify users of daily meal suggestions or remind them about expiring ingredients. Shared preferences will be used to store user settings, such as dietary preferences (e.g., vegetarian, vegan, etc.) without requiring a login.

5. Android Storage: SQLite

Ingredient history and favorite meals will be stored locally on the user's device using SQLite. This way, users

can view past recommendations and their saved recipes without needing a login system.

6. Android Device: Camera

The app will use the camera to scan the ingredients, which are then recognized by Google ML Kit's image recognition capabilities. This feature will fulfill the requirement for Android device integration.

7. Android Sensors

Although sensors aren't a natural fit for this app, you could use the accelerometer to enable gesture-based interactions, such as shaking the device to refresh meal recommendations or clear the ingredient list.