

WEB TECHNOLOGIES LAB

MINI PROJECT – MEAL PLANNER

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Meal Planner

FoodieHub - *Discover delicious meals, plan your next dish, and follow easy recipes with images*

Abstract :

The Meal Planner app, built using **Kotlin and XML**, offers an intuitive platform for users to explore and cook a variety of dishes. It features a dynamic home page showcasing popular dishes, categorized into four distinct groups, allowing users to easily browse or filter recipes using a search bar.

The app leverages **room database with SQLite** for storing recipe details. Images for each dish are downloaded from URL links, converted into blobs, and stored directly in the database, ensuring efficient data management. Each recipe page displays comprehensive details, including meal preparation time, ingredients, and step-by-step instructions. Users can toggle between ingredient and step views for enhanced readability and navigation.

The app also includes full-screen image viewing with a toggle to adjust the image display, offering a more immersive experience. Smooth animations and edge-to-edge design further enhance the app's user experience. The Meal Planner app is a user-friendly solution for those looking to plan and prepare meals with ease, offering both functionality and visual appeal.

Uniqueness :

1. Image Handling with SQLite

One of the standout features of the **Meal Planner** app is its handling of recipe images. Images are downloaded from URLs, converted into blobs, and stored in an **SQLite database** using **Room**. This method provides several benefits:

- **Offline Access:** Recipe images can be accessed even without an internet connection, ensuring users can browse their saved recipes anytime, anywhere.
- **Optimized Storage:** Storing images as blobs within the database keeps all recipe-related data in one place, improving data management and simplifying access.
- **Faster Image Loading:** With images stored locally, retrieval is faster, reducing the time required to load and display high-quality images

2. Advanced Search with Filters

The **Meal Planner** app includes an advanced search system with real-time filtering that enhances recipe discovery:

- **Category Filters:** Users can filter recipes based on categories like "Popular," "Vegetarian," and others, making it easier to find meals based on specific preferences.
- **Ingredient Filters:** The search function allows users to filter recipes by ingredients, which is especially useful for those with limited ingredients on hand.
- **Dynamic Search:** As users type, the app instantly filters the list of recipes, providing immediate results that match their search criteria.

These features ensure that users can quickly find the perfect recipe based on their needs, dietary restrictions, or available ingredients.

3. Full-Screen Image Viewing with Toggle

The app offers an immersive image viewing experience with the ability to toggle between two modes:

- **Fit Center:** Images are scaled to fit within the screen while maintaining their aspect ratio.
- **Center Crop:** The image fills the screen by cropping the edges, which is useful when focusing on specific details of the dish.

This feature allows users to personalize how they view recipe images, improving their overall interaction with the ap

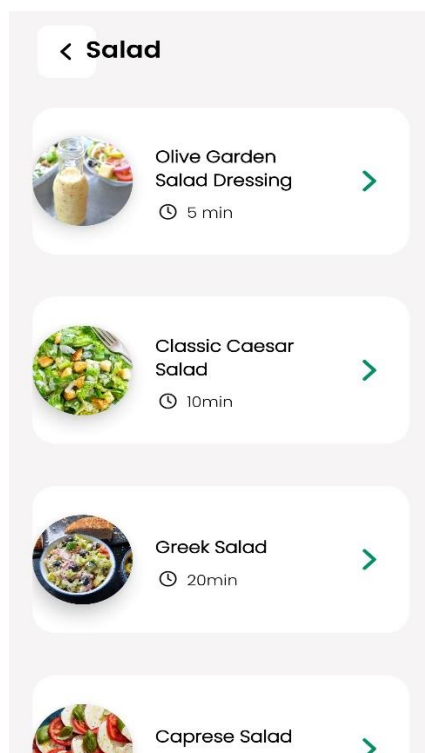


Fig : Category – Salad



Fig : Search page

Technical Architecture

The **Meal Planner** app utilizes the **Room Database** with **SQLite** for data storage. Recipe images are stored as blobs in the database, optimizing storage and ensuring offline access to images. The app's front-end is built using **Kotlin** and **XML**, providing a responsive and smooth user interface. Data is loaded dynamically, with real-time updates to the recipe list based on search criteria, ensuring users have an efficient browsing experience.



Hello Foodie!!

What Indian food would you like to cook ?

Categories



Salad



Main



Drink



Dess

Popular recipes



Spicy Coconut Grilled Chicken



Chicken Stir-Fry



Chocolate Chip Cookies



Chicken Parmesan



Asian Sesame Chicken Salad

Figure : Home page

Figure : Search bar – Filtered



Classic Caesar Salad

🕒 10min

Ingredients

Steps

Instructions:

In a large bowl, combine the torn romaine lettuce, Caesar dressing, and grated Parmesan cheese. Toss well to coat.

Add croutons and anchovy fillets (if using) to the bowl and toss again.

Season with freshly ground black pepper to taste.

Serve the classic Caesar salad as a side or add grilled chicken or shrimp to make it a complete meal.

Fig : Steps



Classic Caesar Salad

🕒 10min

Ingredients

Steps

10min

Ingredients:

Romaine lettuce, torn into bite-sized pieces

Caesar dressing

Grated Parmesan cheese

Croutons

Anchovy fillets (optional)

Freshly ground black pepper

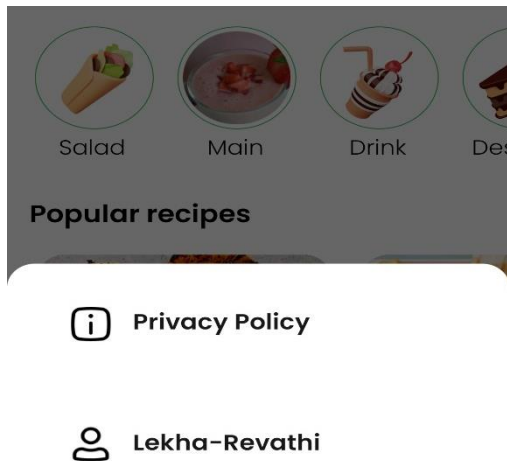
● Ingredients:

● Romaine lettuce, torn into

Fig : Ingredients

Technology Stack :

The Meal Planner app is developed using **Kotlin**, which offers concise syntax, null safety, and full Android support. It utilizes Room Database, built on SQLite, to store recipe data and images. Images are downloaded, converted to BLOB format, and stored locally for offline access. Key libraries such as Glide are used for efficient image loading and caching, while RecyclerView is employed to display recipe lists with smooth performance. The app follows the MVVM architecture, separating data (Model), UI (View), and UI logic (ViewModel) for better maintainability. Material Design principles ensure a consistent and visually appealing UI, complemented by smooth animations to enhance user interaction. Android Studio is the primary development environment, supporting coding, debugging, and UI design, with Room database migrations handling schema changes seamlessly. This tech stack ensures efficient storage, smooth navigation, and a user-friendly experience.



User Experience and Design

The app's design emphasizes ease of use and smooth navigation. Users can interact with the app through intuitive animations, toggles for viewing images, and a straightforward search bar. The **Edge-to-Edge Design** ensures a clean and immersive visual experience by utilizing the entire screen area, especially when displaying images or recipes.

Conclusion :

The Meal Planner app combines robust features with a user-friendly interface to provide a seamless and interactive meal planning experience. The use of advanced image handling techniques, full-screen image viewing options, and real-time search filtering makes it stand out from other meal planning apps. With its ability to store images offline and its dynamic search capabilities, the app offers both functionality and convenience, catering to users with diverse needs and preferences.