**User Requirements for Smart Fridge Assistant App**

1. **Image Upload & Product Detection**

* The user is able to upload a photo of the inside of their fridge using their phone.
* The app should automatically detect and identify food items present in the fridge from the uploaded image.
* The app shows a list of detected items for user review and editing
* The user is able to manually add or remove items from the list.

1. **Inventory Management**

* The app displays a current inventory of fridge contents.
* The user is able to see the quantity (if identifiable) and type of each product (e.g., "2 tomatoes", "1 bottle of milk").
* The inventory list is editable in case the user wants to correct, add, or remove items manually.
* The app should allow users to mark items as "used" or "expired" to keep the list up to date.

1. **Recipe Suggestions**

* Based on the current fridge inventory, the app should suggest recipes the user can cook using only or mostly the available ingredients.
* The user is able to see the list of required ingredients for each recipe, with missing items highlighted.
* The app should suggest simple recipes suitable for users with limited cooking skills or time.

1. **Shopping Assistance**

* The app should help the user avoid buying duplicates by showing what’s already in their fridge.
* The app should generate a shopping list based on missing ingredients from chosen recipes.
* The user is able to manually edit the shopping list.

1. **User Convenience Features**

* The user is able to set dietary preferences (e.g., vegetarian, vegan, gluten-free) to filter recipe suggestions.
* The user is able to save favorite recipes.
* The app shall work offline for basic functionality (viewing inventory and saved recipes), with cloud sync when online.