Step 1:

1. Addition of `Ingredient` Model

- **Separation of Concerns:**

  o **Reason:** Ingredients are a distinct entity from recipes and might have their own attributes and relationships. Creating a separate `Ingredient` model allows for better organization and management of ingredients.
  o **Benefit:** It allows for more flexibility, such as adding attributes to ingredients (e.g., nutritional information) or managing them independently of recipes.

- **Many-to-Many Relationship:**

  o **Reason:** A recipe typically includes multiple ingredients, and the same ingredient might be used in multiple recipes. Using a `ManyToManyField` facilitates this relationship.
  o **Benefit:** It simplifies the management of ingredients and avoids redundancy. It allows you to associate multiple ingredients with a recipe and vice versa.

2. Changes to `Recipe` Model Fields

- **Updated `description` Field:**

  o **Reason:** Expanding the length of the `description` field allows for more detailed descriptions of the recipe.
  o **Benefit:** Users can provide more comprehensive and informative descriptions, which can enhance the user experience and provide better context.

- **Changed `cooking_time` to `FloatField`:**

  o **Reason:** Cooking time can be more precise and may include fractional minutes (e.g., 12.5 minutes). Using a `FloatField` accommodates this need.
  o **Benefit:** Allows for more accurate representation of cooking time, which can be important for recipes that require precise timing.

- **Added `image` Field:**

  o **Reason:** Recipes often benefit from visual representation. Including an image field allows users to upload images of the recipe.
  o **Benefit:** Enhances the user experience by providing a visual reference for recipes, which can make the application more engaging and informative.

3. New Methods

- **`calculate_difficulty`:**

  o **Reason:** Difficulty level can be a valuable attribute for recipes, helping users select recipes based on their skill level and available time.

- **Benefit:** Provides an automated way to assess and categorize the difficulty of recipes, which can improve usability and help users find recipes that match their preferences.

- **`get_absolute_url`:**

  - **Reason:** Generates a URL for the recipe's detail page, which is useful for creating links to specific recipe pages within the application.
  - **Benefit:** Facilitates better navigation and linking within the app, making it easier for users to access detailed information about recipes.

Summary of Benefits:

- **Improved Data Organization:** By separating ingredients into their own model and using a many-to-many relationship, data is better organized and more maintainable.
- **Enhanced User Experience:** The ability to add images and provide more detailed descriptions makes the application more informative and engaging.
- **Increased Flexibility:** The use of a `FloatField` for cooking time and the addition of a difficulty calculation method add flexibility and precision to recipe management.
- **Better Navigation and Linking:** The `get_absolute_url` method helps with navigating and linking to recipe details within the application.

Step 3:

1. Yummly - https://www.yummly.com/

What I Like:

- **Visual Appeal:** Yummly's homepage features high-quality, appetizing images of recipes which immediately grab attention.
- **Personalization:** It offers personalized recipe recommendations based on user preferences and dietary restrictions.
- **Interactive Filters:** The advanced filtering options allow users to easily search for recipes based on various criteria like ingredients, cuisine, and preparation time.

2. Allrecipes - https://www.allrecipes.com/

What I Like:

- **Community Engagement:** Allrecipes integrates user reviews and ratings prominently, allowing users to make informed decisions based on community feedback.
- **Recipe Collections:** The app features curated collections and meal plans, making it easier to discover recipes for specific occasions or dietary needs.
- **Step-by-Step Instructions:** Recipes include clear, step-by-step instructions and user-generated photos, which help in replicating the dishes accurately.

3. Epicurious - https://www.epicurious.com/

What I Like:

- **Elegant Design:** Epicurious boasts a clean and sophisticated design with a focus on high-resolution images and a well-organized layout.
- **Recipe Discovery:** The search functionality is enhanced with smart suggestions and the ability to filter by various attributes, including seasonal ingredients.
- **Expert Reviews:** Offers professional reviews and tips, providing users with expert advice and cooking techniques.