

Task 2.7: Search & Visualization Plan

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1. Search Implementation Strategy

- **Search Criteria:** I will allow users to search by **Recipe Name**.
- **Logic:** I will use Django's `icontains` filter to allow for partial matches (e.g., "Choc" finds "Chocolate Cake").
- **Data Handling:** Results will be converted into a Pandas DataFrame for easier processing and rendering as an HTML table.

2. Data Visualization Analysis

- **Bar Chart: Cooking Time per Recipe.** (X-Axis: Recipe Name, Y-Axis: Minutes). Shows which recipes are quick vs. slow.
- **Pie Chart: Difficulty Distribution.** (Sections: Easy, Medium, Hard). Shows the complexity balance of my database.
- **Line Chart: Cooking Time Trend.** (X-Axis: Recipe ID, Y-Axis: Cooking Time). Visualizes if I'm adding longer/shorter recipes over time.

3. Execution Flow

- Home -> Login -> Search Page -> User types "Tea" -> View Data & Charts -> Logout.