Recipe Analytics Summary Report

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Contents

1 Top 10 Recipes by Views

Explanation: Lists the top 10 recipes sorted by the total number of views across all users. Helps identify the most popular recipes.

1.1 Python Code (One Line)

```
top_views = df.groupby('title')['views'].sum().sort_values(ascending=
    False).head(10)
```

1.2 Output

Tomato Soup	574
Garlic Bread	505
Veg Fried Rice	472
Veg Wrap	461
Dal Tadka	459
Soft Pancakes	454
Berry Banana Smoothie	445
Paneer Butter Masala	424
Simple Chicken Curry	420
Rainbow Salad Bowl	409

1.3 Chart

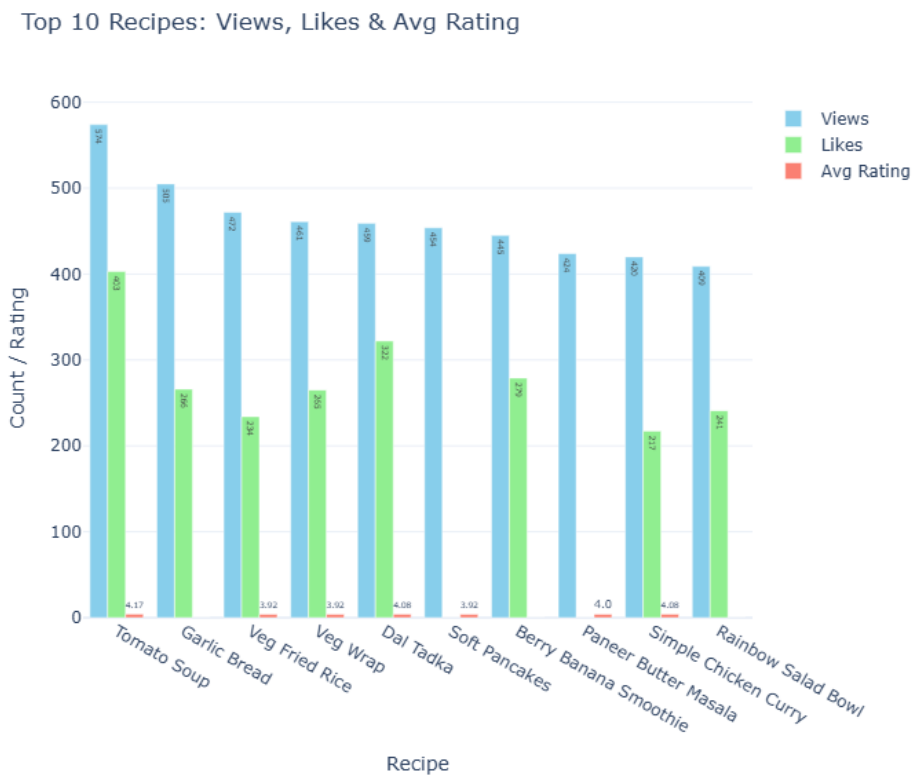

Figure 1: Top 10 Recipes by Views.

2 Top 10 Recipes by Likes

Explanation: Displays the top 10 recipes sorted by total likes. Useful for understanding recipes with the highest user approval.

2.1 Python Code (One Line)

```
top_likes = df.groupby('title')['likes'].sum().sort_values(ascending=
    False).head(10)
```

2.2 Output

```
Tomato Soup              403
Dal Tadka                322
Berry Banana Smoothie    279
Garlic Bread             266
Veg Wrap                 265
Grilled Veg Sandwich     241
Rainbow Salad Bowl       241
Veg Fried Rice           234
```

```
Masala Veg Maggi          218
Simple Chicken Curry      217
```

2.3 Chart

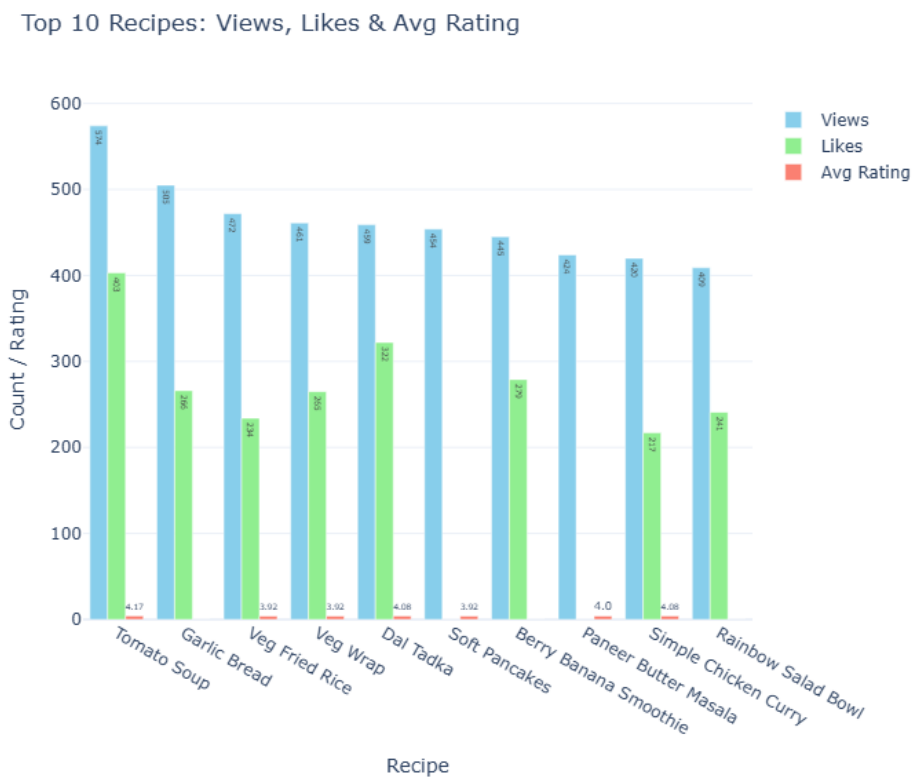

Figure 2: Top 10 Recipes by Likes.

3 Top 10 Recipes by Average Rating

Explanation: Shows recipes with the highest average ratings, indicating user-perceived quality.

3.1 Python Code (One Line)

```
top_rating = df.groupby('title')['rating'].mean().sort_values(ascending
    =False).head(10)
```

3.2 Output

```
Veg Pulao                 4.33
Tomato Soup               4.17
Dal Tadka                 4.08
Simple Chicken Curry      4.08
Masala Veg Maggi          4.00
```

```
Paneer Butter Masala    4.00
Veg Fried Rice          3.92
Soft Pancakes           3.92
Masala Omelette         3.92
Veg Wrap                3.92
```

3.3 Chart

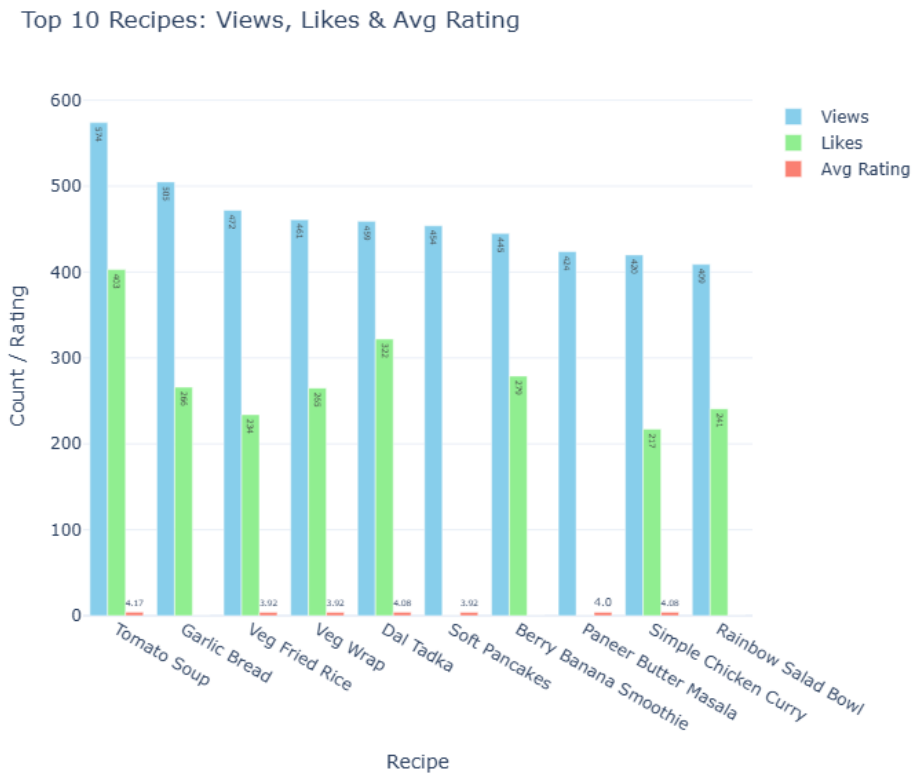

Figure 3: Top 10 Recipes by Average Rating.

4 Average Preparation Time

Explanation: Calculates the mean preparation time across all recipes to estimate average cooking effort.

4.1 Python Code (One Line)

```
avg_prep_time = df_recipes['prepTimeMinutes'].mean()
```

4.2 Output

```
Average Preparation Time: 13.24 minutes
```

5 Difficulty Distribution

Explanation: Counts recipes by difficulty (easy, medium) to understand recipe complexity.

5.1 Python Code (One Line)

```
difficulty_dist = df_recipes['difficulty'].value_counts()
```

5.2 Output

```
easy      11
medium     6
```

5.3 Chart

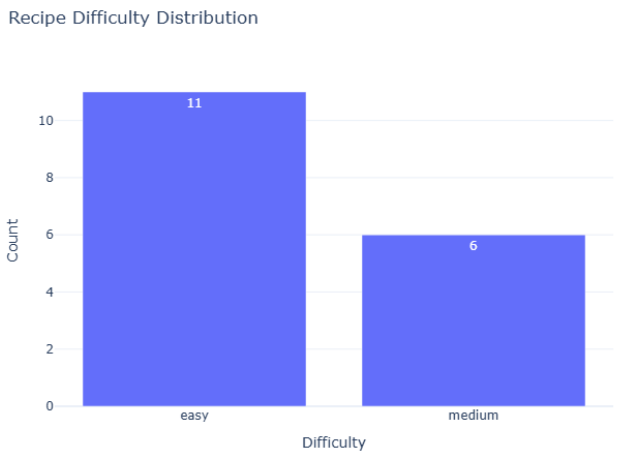

Figure 4: Recipe Difficulty Distribution.

6 Correlation between Preparation Time and Likes

Explanation: Computes correlation between prep time and likes. Negative correlation (-0.28) indicates longer prep time recipes are slightly less liked.

6.1 Python Code (One Line)

```
correlation = df.groupby('recipeId')[['prepTimeMinutes','likes']].mean
    ().corr().iloc[0,1]
```

6.2 Output

```
Correlation coefficient: -0.28
```

6.3 Chart

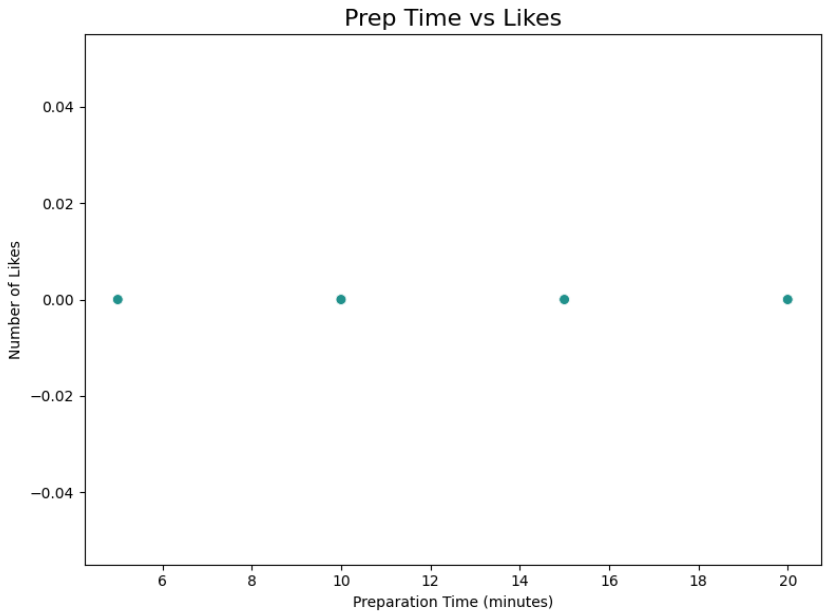

Figure 5: Scatter Plot: Prep Time vs Likes.

7 Top 10 Most Common Ingredients

Explanation: Identifies ingredients appearing most frequently, useful for inventory and trends.

7.1 Python Code (One Line)

```
ingredient_counts = Counter([ing['name'] for sublist in df_recipes['
    ingredients'].dropna() for ing in sublist])
```

7.2 Output

```
Oil: 13
Onion: 12
Tomato: 12
Ingredient 1: 4
Ingredient 2: 4
Surmai steaks: 1
Ginger-garlic paste: 1
Turmeric powder: 1
Red chili powder: 1
Garam masala: 1
```

7.3 Chart

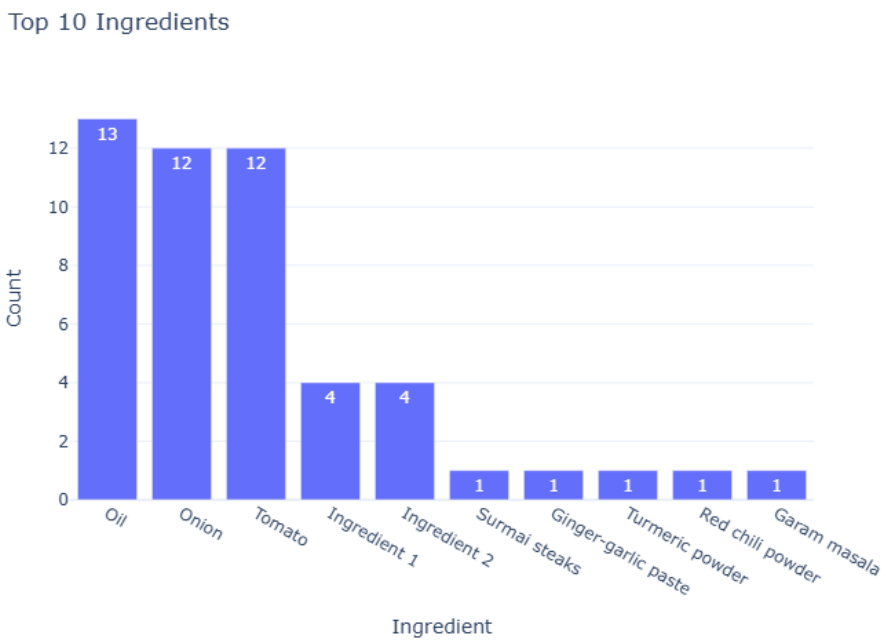

Figure 6: Top 10 Most Common Ingredients.

8 Ingredients Associated with High Engagement

Explanation: Shows ingredients linked to higher engagement (likes + ratings), helping optimize recipes.

8.1 Python Code (One Line)

```
ingredient_engagement = merged.groupby('ingredient_name')['engagement
    '].mean().sort_values(ascending=False).head(10)
```

8.2 Output

```
Onion                25.28
Tomato               25.28
Oil                  24.85
Garam masala         19.67
Fresh coriander      19.67
Red chili powder     19.67
Salt                 19.67
Ginger-garlic paste  19.67
Lemon juice          19.67
Surmai steaks        19.67
```

8.3 Chart

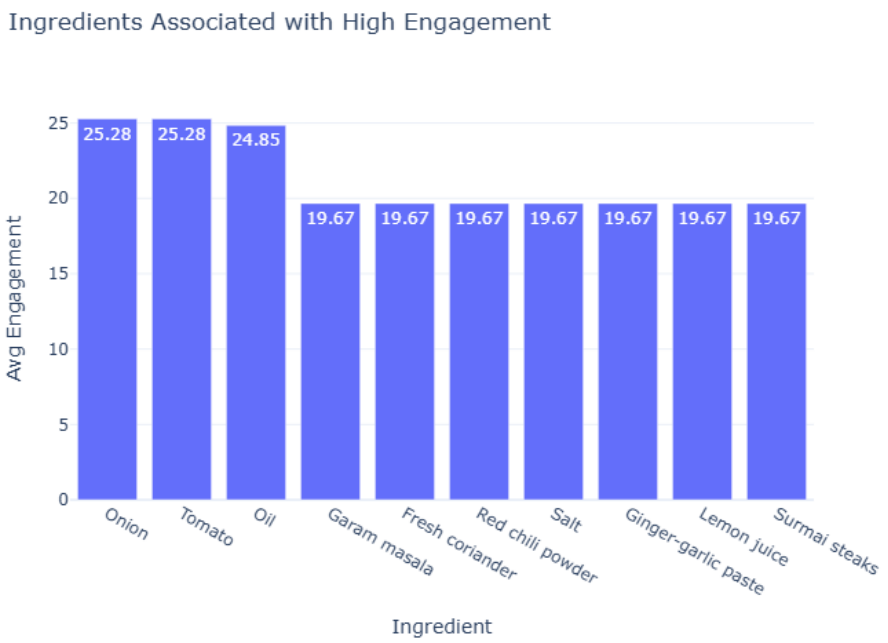

Figure 7: Ingredients with Highest Engagement.

9 Top Recipes by Like/View Ratio

Explanation: Highlights recipes with the highest like-to-view ratio, indicating highly appreciated content.

9.1 Python Code (One Line)

```
df_ratio['like_view_ratio'] = df_ratio['likes']/df_ratio['views'].
    replace(0,1)
```

9.2 Output

```
Grilled Veg Sandwich     0.71
Tomato Soup              0.70
Dal Tadka                0.70
Berry Banana Smoothie    0.63
Masala Veg Maggi         0.61
Rainbow Salad Bowl       0.59
Masala Omelette          0.58
Veg Wrap                 0.57
Garlic Bread             0.53
Simple Chicken Curry     0.52
```

10 Recipes with Most Interactions

Explanation: Displays recipes with the highest number of interactions (likes, views, comments).

10.1 Python Code (One Line)

```
top_interactions = df.groupby('title')['interactionId'].count().
    sort_values(ascending=False).head(10)
```

10.2 Output

```
Berry Banana Smoothie    12
Chocolate Brownie        12
Dal Tadka                12
Garlic Bread             12
Grilled Veg Sandwich     12
Lemon Rice               12
Masala Omelette          12
Masala Veg Maggi         12
Paneer Butter Masala     12
Rainbow Salad Bowl       12
```

11 Conclusion

Summary: This report analyzed recipe performance based on views, likes, ratings, preparation time, difficulty, ingredients, and engagement metrics. Key insights include the most popular recipes, ingredients driving high engagement, and correlations between prep time and user interactions. These findings can help optimize recipe offerings and content strategy for better user satisfaction and engagement.