

Data Analysis Report

Introduction

This report presents the findings from an analysis of user behavior, cooking preferences, and order trends based on the datasets provided: *UserDetails*, *CookingSessions*, and *OrderDetails*. The analysis involved data cleaning, merging datasets, exploring relationships, and identifying key trends to derive actionable business insights.

Key Findings

1. User Demographics and Behavior

- **Age Distribution:** Most users fall in the 20-30 age group, indicating a younger demographic as the primary user base.
- **Location Analysis:** All location are unique with at most one user from the given location.
- **Meal Preferences:** Dinner is the most preferred meal among users, followed by lunch.

2. Relationship Between Cooking Sessions and Orders

- **Session Ratings and Orders:** A positive correlation exists between higher session ratings and the number of user orders, suggesting that a satisfying cooking experience encourages users to place more orders.
- **Session Frequency:** Users who engage in frequent cooking sessions have higher order rates, emphasizing the importance of active engagement.

3. Popular Dishes

- **Top 10 Dishes:** Dishes such as "Spaghetti" and "Grilled Chicken" are the most ordered items, indicating their strong appeal among users.
- **Regional Preferences:** We couldn't find Regional Preferences as we have only 1 user from a specific location.

4. Demographic Insights

- **Age and Orders:** Users in the 40-50 age group place the highest number of orders on average.

- **Registration Trends:** A significant proportion of users registered within the past year, indicating recent growth in user acquisition. The data suggest we have more number of users from 20-30 age group

5. Order Trends

- **Order Frequency:** The average order frequency is 0.644
 - **Peak Activity Times:** Evening cooking sessions are most common, aligning with dinner preferences.
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Business Recommendations

1. Enhance User Engagement

- **Reward High Ratings:** Introduce loyalty rewards for users who frequently rate sessions highly to encourage repeat orders.
- **Gamify Cooking Sessions:** Implement gamification features, such as badges for completing a specific number of sessions, to boost participation.

2. Regional Personalization

- **Localized Menus:** Expand the menu to include more region-specific dishes, catering to localized preferences.
- **Language Support:** Offer multilingual support in the app to make the platform accessible to a broader audience.

3. Marketing Strategies

- **Target Younger Users:** Focus advertising campaigns on the 20-30 age group while retaining older users through tailored content.
- **Promote Popular Dishes:** Highlight top dishes in marketing materials and offer discounts on frequently ordered items.

4. Operational Improvements

- **Session Feedback Integration:** Use session ratings to continuously improve recipe instructions and cooking support.
- **Optimize Evening Capacity:** Increase server and support capacities during evening hours to handle peak activity efficiently.

5. Expand Offerings

- **Add New Features:** Introduce features like meal planning and grocery integration to provide a comprehensive cooking solution.
 - **Collaborate with Influencers:** Partner with food influencers to showcase the platform's capabilities and reach a wider audience.
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Conclusion

The analysis reveals significant opportunities for growth and engagement through targeted strategies. By leveraging insights on user behavior, cooking preferences, and order trends, the business can enhance its offerings and solidify its position as a leader in AI-powered cooking assistance.

This report, along with the visualizations and dataset, is available in the project's GitHub repository for reference.