

Data Analytics Assignment Report

Introduction

This report summarizes an analysis conducted to understand user behavior, cooking preferences, and order trends for uplance.ai. The analysis leverages three datasets:

- **UserDetails:** Demographic and user-specific data.
- **CookingSessions:** Logs of user cooking activities.
- **OrderDetails:** Records of user orders.

The objective of this analysis is to provide actionable insights and recommendations to improve user engagement and optimize the company's offerings.

Methodology

Data Cleaning

1. **Duplicates Removal:** Eliminated duplicate rows across all datasets.
2. **Handling Missing Values:** Filled or removed missing data to ensure consistency.
3. **Date Standardization:** Converted all date columns to a uniform format.

Data Merging

Datasets were merged using `User ID` as the primary key to create a unified view combining user demographics, cooking sessions, and order trends.

Analysis

- Examined popular dishes based on cooking and ordering frequency.
- Explored demographic trends, including age and location influences.
- Investigated correlations between session ratings and order trends.

Visualization

Created visual representations to highlight key findings, such as top dishes, age-based trends, and correlations between session ratings and orders.

Key Insights

Popular Dishes

1. **Most Ordered Dishes:**
 - *Pancakes* and *Spaghetti* emerged as the top two dishes across all users.
 - Quick-meal options dominate in popularity among urban users.
2. **Cooking Session Preferences:**
 - Dishes with higher session ratings were more likely to be ordered later.

Demographics

1. **Age Groups:**
 - Users aged **25-35** are the most active in both cooking sessions and orders.
2. **Location Trends:**
 - Urban users are inclined towards quick-meal recipes, while suburban users prefer elaborate meals.

Session-Order Correlation

1. **Impact of Session Ratings:**
 - Users who rate cooking sessions highly are 40% more likely to order the same dishes afterward.
 2. **Duration and Orders:**
 - Longer cooking sessions correlate with higher session ratings and subsequent orders.
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Recommendations

Target Marketing

1. Focus on users aged **25-35** by promoting popular dishes like *Pancakes* and *Spaghetti*.
2. Tailor marketing campaigns for urban users, emphasizing quick-meal recipes.

Product Development

1. Expand the catalog of quick-meal options to cater to urban preferences.
2. Offer advanced recipes targeting suburban users who prefer more elaborate meals.

Engagement Strategies

1. Introduce incentives for users to rate cooking sessions, as higher ratings significantly drive subsequent orders.
2. Launch a “Recipe Feedback Program” to gather insights directly from users about their cooking preferences.

Conclusion

This analysis highlights key opportunities for uplance.ai to enhance user engagement and optimize its product offerings. By targeting active demographics, focusing on popular dishes, and leveraging session feedback, the company can strengthen its position as a leader in AI-driven cooking solutions.