High Level Design

(Swiggy Data Analysis)

Document Version Control

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Contents

Abstract

Food prepared by restaurants, food prepared by independent people, and groceries ordered online and picked up or delivered are all part of the online food ordering market. The process of ordering food from a website or other application is known as online food ordering. The product can be ready-to-eat or food that has not been specially prepared for direct consumption.

The food industry is advancing with the help of data science and analytics in the world of emerging new technology and innovation. By highlighting the weak points of the company, data analysis can help them understand their business from a very different perspective and enhance the level of service they provide. This study demonstrates how various analyses can be used to improve business decisions and analyse consumer trends and satisfaction, which can result in the development of fresh, improved goods and services. In order to extract the key insights from this data on the basis of which business decisions will be made, various analyses, such as exploratory data analysis and descriptive analysis, were performed on a variety of use cases.

1. Introduction

This document will be used for documenting High-level designs of project.

1.1 Purpose of the Document

The purpose of this plan is to

- Describe different design approaches.
- Describe different analysis approaches based on variety of Use Cases.
- Present complete Process Flow followed for this project.

1.2 Objective of HLD

1. To provide an overview of the entire system.
2. To provide introduction of Problem Perspective & Statement, Data Requirements, Tools used and many more.
3. To provide a module-wise breakup of the entire system.

1.3 Scope of HLD

This HLD covers all areas of system.

2. General Description

2.1 Product Perspective & Problem Statement

Since a few decades ago, the food industry has been a significant indicator of the state of the economy. The act of ordering food from a website or other application is known as online food ordering. Food that hasn't been specially prepared for directed consumption or food that is ready to eat can both be considered products.

In this project, we are examining a variety of Swiggy Food Delivery Service use cases and their various aspects. It aids in not only comprehending the significant connections between attributes but also enables us to conduct independent research and present our own conclusions.

The project's goal is to run an exploratory data analysis, do data pre-processing and cleaning, and then use various data visualisation techniques to extract insights from the provided data. This project will use some incredible Python libraries, like Plotly to improve our visual comprehension of the data.

2.2 Data Requirements

Data Requirement completely depend on our problem.

- In this project, to perform analysis, we are using datasets that are provided by iNeuron Intelligence Pvt. Ltd.
- The features which are taken into consideration are:
- Some of the important features are:

Name	Description
Shop_Name	Name of the Shop/Restaurants
Cuisine	Name of the different Cuisines provided by Restaurants.
Location	Restaurant Area/Location.
Rating	Rating given by the Customers out of 5.
Cost_for_Two (₹)	Approx. Cost of Two people w.r.t. Restaurants.

2.3 Tools Used

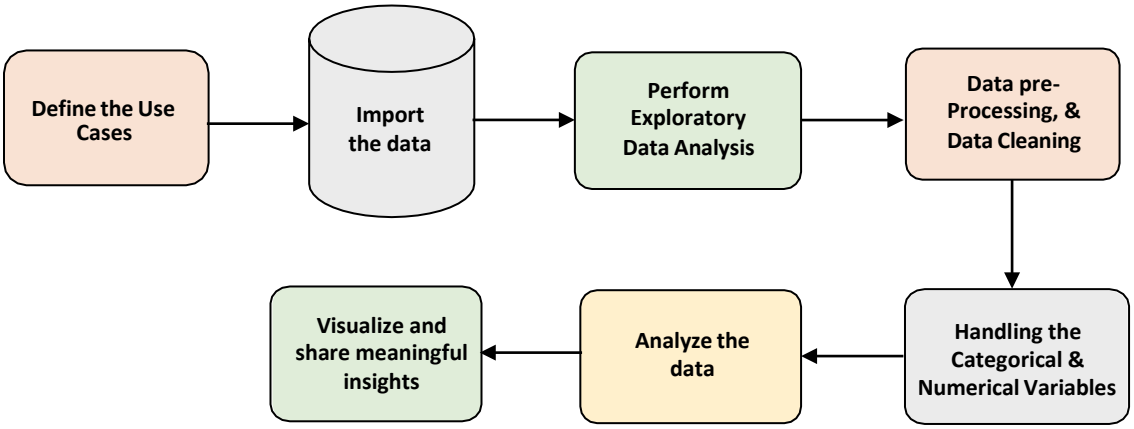
- Jupyter Notebook is used as IDE.
- Pandas and NumPy are used for Data Manipulation & Pre-processing and Mathematical functions respectively.
- Exploratory data analysis is automated by dataprep.
- For visualization of the plots, Matplotlib, Seaborn, Plotly are used.

2.4 Constraints

The analysis must be readable, code must be neat & clean, EDA must be automatedas much as possible because it will save huge amount of time. Moreover, users should not be required to have any of the coding knowledge as the insights they are looking for are mentioned in-detail with respective visuals.

3. Design Details

3.1 Process Flow



3.2 Error Handling / Exception Handling:

We have designed this project in such a way that, complete script is tested and runs multiple times to make sure that there is no error occurred during process flow.
Additionally, we have also dismissed the un-necessary warnings to avoid confusion by using filterwarnings class from warnings module.

4. Conclusion

In this analysis project, we have been analyzed several different use cases for the given dataset to make better business decisions and help analyze customer trends and satisfaction, which can lead to new and better products and services. It has been found that –

- In **BTM** Area: Most of the Restaurants has **4.0** to **4.2** Rating and Approx. Cost for Two People lies between **200** to **350**. (Max. Cost goes up to **600**)
- **HSR**: Most has **4** or above Rating and Approx. Cost for Two People lies between **300** to **400**. (Max. Cost goes up to **800**)
- **Koramangala**: Most has **4.0** to **4.3** Rating and Approx. Cost for Two People lies between **200** to **350**. (Max. Cost goes up to **600**)

With this we can conclude the Most Costly Area is **HSR**.

- We have also analyzed that, we have **Total "82"** which are the "Budget Restaurants" as well as they are "Affordable".
- On top of that, we have found-out, ***Most of the Affordable/Budgeted Restaurants*** are having ***Excellent Rating*** as well. Like, For ***Approx. Cost*** of **"200", "150", "250"**, and **"450"**, the ***Ratings*** were **"4.8", "4.6"**, and **"4.5"** respectively.
- This might be because *Most of the people prefer Affordable/Budget-Restaurants* which also provides ***good quality*** of ***Cuisines***.
- And On the other hand, there are ***few Expensive Restaurants*** who ***doesn't*** have that much ***Rating*** and they are ***Expensive*** *too*.
- Those ***Restaurants Costs*** around **"600"** to **"800"** for ***Two People*** are having the ***Ratings in between '4.0' to '4.1'*** which is ***too less*** as compared to ***Affordable/Budgeted Restaurants***.

In addition to that, we have also performed Analysis on the Cuisines w.r.t. different Areas/Location and We have found-out:

- In **BTM** Area, ***Most of the Restaurants*** sell **"Chinese"** which is around **'17.1%'** followed by **"North Indian"** & **"South Indian"** Cuisines which are around **'15.2%'** & **'9.52%'**.
- So, we can also infer that Most of the people are fond of these Cuisines.
- In **HSR** Area, **"North Indian"** Cuisines are dominated by around **'14.3%'** followed by **"Chinese"** & **"South Indian"** Cuisines **'9.52%'** & **'9.52%'** Restaurants respectively.
- In **Koramangala** Area, **"Chinese"** Cuisines are dominated by around **'10.3%'** followed by **"North Indian"** & **"South Indian"** Cuisines **'9.66%'** & **'7.59%'** Restaurants respectively.

- Furthermore, we have also been analyzed Cheapest/Expensive & Highest Rated Restaurants with Approx. Cost for 2 People and many more.

5. References

1. Swiggy Business Model | How Swiggy Works & Makes Money | Feedough
2. Swiggy - Wikipedia