Low Level Design (LLD)

ZOMATO RESTAURANT ANALYSIS AND PREDICT THEIR RATINGS

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Document Control

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05/12/2022	1.0	Introduction, Problem Statement	Nazish
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1. Introduction

1.1 What is low level Design

The goal of the Low-level design document (LLDD) is to give the internal logic design of the actual program code for the Zomato Restaurant Analysis and predict their ratings. LLDD describes the class diagrams with the methods and relations between classes and programs specs. It describes the modules so that the programmer can directly code the program from the document

1.2 What is Scope ?

Low-level design (LLD) is a component-level design process that follows a step-by-step refinement process. The process can be used for designing data structures, required software architecture, source code and ultimately, performance algorithms. Overall, the data organization may be defined during requirement analysis and then refined during data design work.

1.3 Project Introduction

Low-level design (LLD) is a component-level design process that follows a step-by-step refinement process. The process can be used for designing data structures, required software architecture, source code and ultimately, performance algorithms. Overall, the data organization may be defined during requirement analysis and then refined during data design work.

2. Problem Statement

he number of restaurant are increasing day by day. Currently which stands at approximately 12,000 restaurants. With such an high number of restaurants. This industry hasn't been saturated yet. And new restaurants are opening every day. However it has become difficult for them to compete with already established restaurants. The key issues that continue to pose a challenge to them include high real estate costs, rising food costs, shortage of quality manpower, fragmented supply chain and over-licensing. . You are required to analyses the zomato restaurant and predict their ratings for better future preparation. A dataset is formed by taking consideration some of the information of approx 17,000 restaurants.

3. Dataset Information

url - contains the url of the restaurant in the zomato website.

address - contains the address of the restaurant in Bangalore.

name - contains the name of the restaurants.

online_order - whether online ordering is available in the restaurant or not

book_table - table book option available or not.

rate - contains the overall rating of the restaurant out of 5.

votes - contains total number of rating for the restaurant as of the above mentioned date.

phone - contains the phone number of the restaurants.

location - contains the neighborhood in which the restaurant is located

rest_type - restaurants type.

dish_liked - dishes people liked in the restaurants.

cuisines - food styles, separated by comma

approx_cost(for two people) - contains the approximate cost for meal for two peoples.

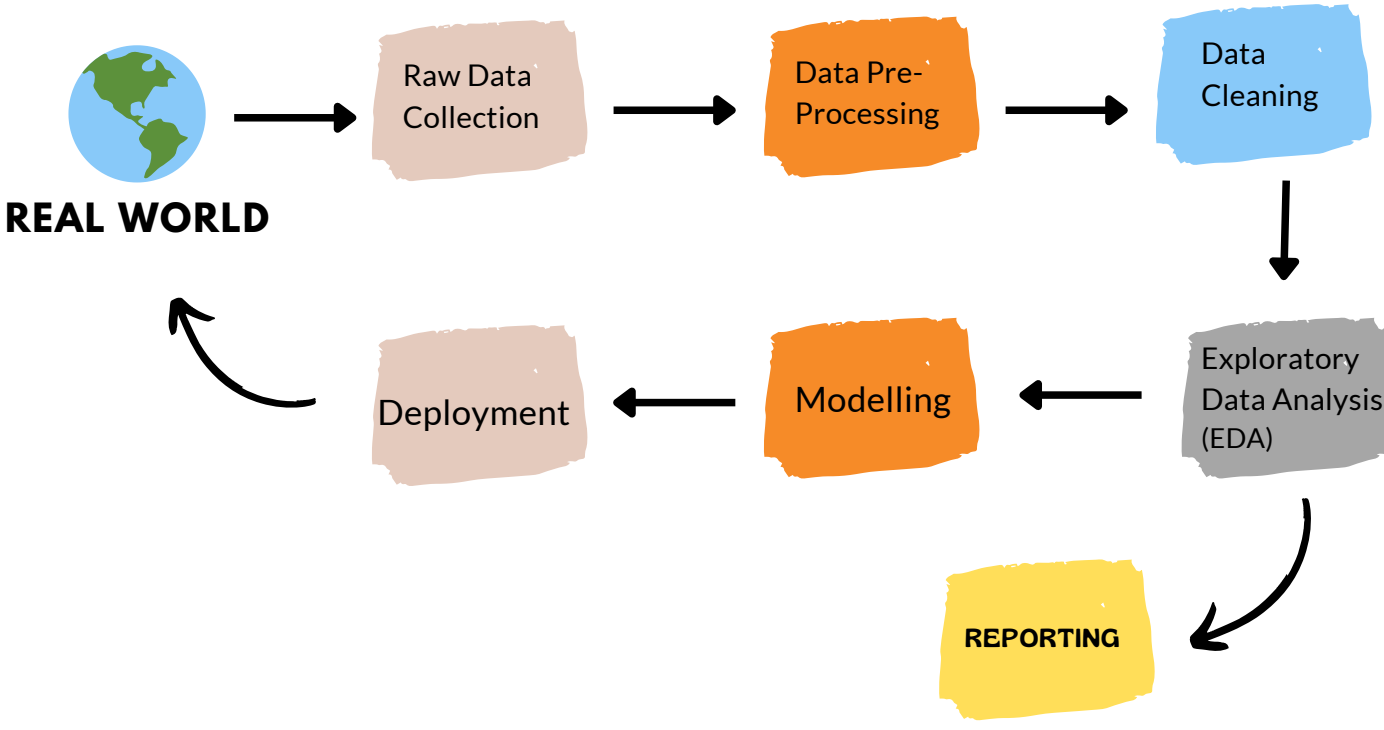
reviews_list - list of tuples containing reviews for the restaurant, each tuple.

menu_item - contains list of menus available in the restaurant

listed_in(type) - type of meals.

listed_in(city) - contains the neighborhood in which the restaurant is listed.

4. Architecture



4.1 Architecture Description

1. Raw Data Collection

The dataset was taken from iNeuron provided Project description Document.
Link - https://www.kaggle.com/datasets/himanshupoddar/zomato-bangalore-restaurants?resource=download

2. Data Pre-Processing

Before building any model, it is crucial to perform data pre-processing to feed the correct data to the model to learn and predict. Model Performance depends on the quality of data feeded to the model to train.
This Process includes-

a) Handling Null values / Duplicated values
b) Handling skewed values.
c) Outliers Detection and Removal

3. Data Cleaning

Data cleaning is the process of fixing or removing incorrect, corrupted, ` incorrectly formatted, duplicate, or incomplete data within a dataset.

a) Remove duplicate or irrelevant observations.
b) Filter unwanted outliers
c) Renaming required attributes.

4. Exploratory Data Analysis

Exploratory Data Analysis refers to the critical process of performing initial investigations on data to discover patterns, spot anomalies, test hypothesis and to check assumptions with the help of summary statics and graphical representations

5. Reporting

Reporting is a most important and understand skill of a data analytics fields. Because being a data analyst you should be good and self-explanatory report because your model will be used by many stakeholders. who are not from technical background.

a) High Level Design Document (HLD).
b) Low Level Design Document (LLD).
c) Architecture
d) Wireframe
e) Detailed Project Report.

6. Modelling

Data Modelling is the process of analysing the data objects and their relation-ship to other objects. It is used to analyse the data requirements that are required for the business processes. The data models are created for the data to be stored in a database. The Data Model's main focus on what data is needed and how we have to organize data rather than what operations we have to perform.