Low Level Design

Churn Analytics

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**Document Version Control**

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**Contents**

* **Introduction**
* **What is Low-Level Design Document?**

The goal of the LDD or Low-level design document (LLDD) is to give the internal logic design of the actual program code for the House Price Prediction dashboard. LDD 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.

* **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

**2. Problem Statement:**

Churn Model helps identifying customers who are most likely to switch to different eCommerce website. Once identified the companies can take actions in order to keep its existing customers. Now the question is, how does Churn model identify these customers?

The model can be used to calculate the churn rate and depending on the nature of business, different metrics can be used. Few common metrics are –

Number of customers lost

Percent of customers lost

Value of recurring business lost

Percent of recurring value lost

**3. Dataset Information:**

The dataset focuses on customer feedback for various transit services provided by different agencies. This feedback can be either commendations or complaints, providing insights into customer satisfaction and areas for improvement.

1. Agency - The agency responsible for the service.

2. Commendation or Complaint - Indicates whether the feedback is a commendation or a complaint.

3. Subject Matter - The general category of the feedback.

4. Subject Detail - More detailed information about the subject matter.

5. Issue Detail - Specific details about the issue.

6. Year - The year when the feedback was given.

7.Quarter - The quarter of the year when the feedback was given.

8. Branch/Line/Route - The specific branch, line, or route the feedback pertains to.

**4. Architecture:**



4.1 Architecture Description:

1. **Raw Data Collection –**

The dataset was taken from Project Description Document.

DataSet Link -

<https://drive.google.com/file/d/15YWfd8mU4eGoAWFDAusjwPSSbI_rDJTc/view?usp=share_link>

**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 fed to the model to train.

This Process includes-

* Handling Null/Missing Values
* Handling Skewed Data
* 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.

* Remove duplicate or irrelevant observations
* Filter unwanted outliers
* Renaming required attributes
* Creating Month, Year features from Order Date feature

**4. Exploratory Data Analysis (EDA) –**

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

**5. Reporting –**

Reporting is a most important and underrated skill of a data analytics field. Because being a Data Analyst you should be good in the easy and self-explanatory report because your model will be used by many stakeholders who are not from technical background.

* High Level Design Document (HLD)
* Low Level Design Document (LLD)
* Architecture
* Wireframe
* Detailed Project Report

**6. Modelling –**

Data Modelling is the process of analyzing the data objects and their relationship to the other objects. It is used to analyze the data requirements that are required for the business processes. The Data Model’s main focus is on what data is needed and how we have to organize data rather than what operations we have to perform.

**7. Deployment–**

At the end, I created a Dashboard in PowerBI

