Low Level Design (LLD)

Insurance Premium Prediction

Document Version Control

Date	Version	Description	Author
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Contents

1. Introduction

1.1 Why this Low-Level Design Document?

The goal of the Low-level design document (LLDD) is to give the internal logic design of the actual program code for the Food Sales Analysis dashboard. 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 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.
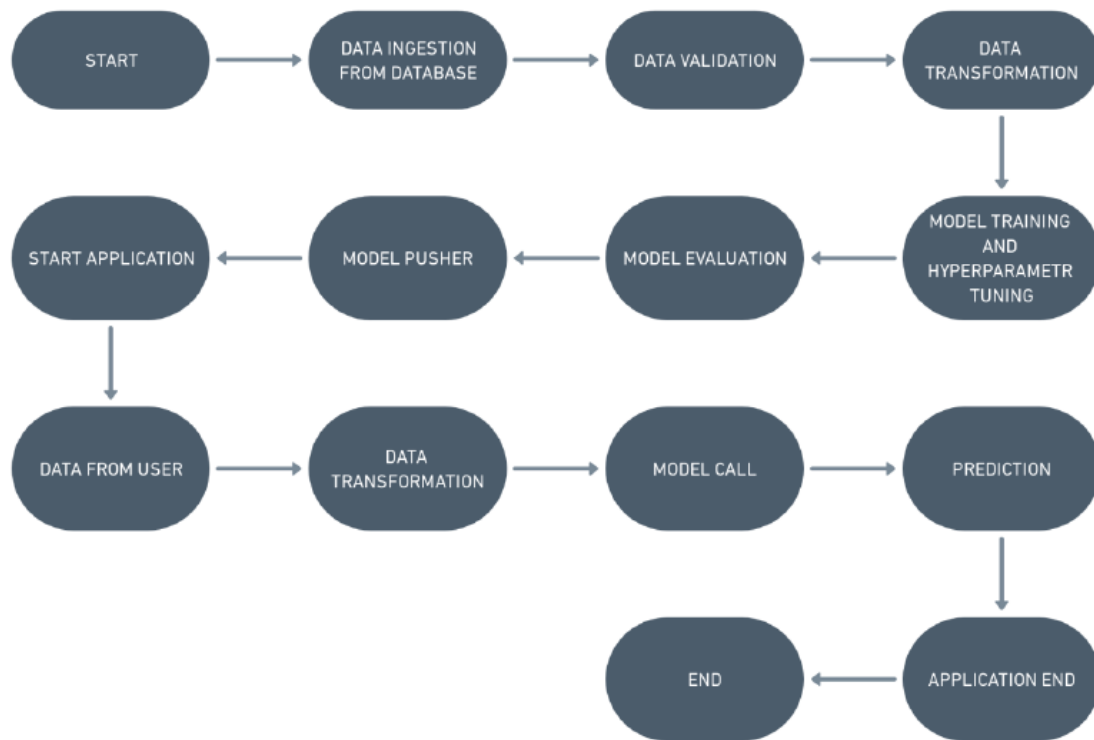
2. Architecture

Fig 1 – Process flow

3. Architecture Description

3.1. Raw Data Collection

The primary source of data for this project from Kaggle. The dataset is comprised of 1338 records with 6 attributes. The data is in structured format and stored in database.

3.2. Export Data from Database

Data Export from Database - The data in a stored database is exported as a CSV file to be used for Data Pre-processing and Model Training.

3.3. 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.
  a) Handling Null/Missing Values
  b) Outliers Detection and Removal

3.4. Data Cleaning

Data cleaning is the process of fixing or removing incorrect, corrupted, incorrectly formatted, duplicate, or incomplete data within a data set.
  a) Remove duplicate or irrelevant observations
  b) Filter unwanted outliers
  c) Renaming required attributes

3.5. 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 to check assumptions with the help of summary statistics and graphical representations.

3.6. Reporting

Reporting is a most important and underrated skill of a data analytic field. Because being a Data Analyst you should be good in easy 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
   f) Power Point Presentation

3.7. Modelling

Data Modelling is the process of analysing the data objects and their relationship to the 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 focus is on what data is needed and how we have to organize data rather than what operations we have to perform.

3.8. Data Validation

Here Data Validation will be done on the test set.

3.9. Deployment

The final model is deployed on Amazon web services by dockerizing using dockerhub, and using the tool GitHub Actions.

4. Unit test cases

Test Case Description	Pre-Requisite	Expected Result
Verify whether the Application URL is accessible to the user	Application URL should be defined	Application URL should be accessible to the user
Verify whether the application loads completely for the user when the URL is accessed.	1. Application URL is Accessible. 2. Application URL is Deployed.	Application URL should load completely for the user when URL is accessed.
Verify whether user can see input field after opening URL.	1. Application is accessible	User should be able to see input fields after opening URL
Verify whether user can edit all the input fields.	1. Application is accessible	User should be able to edit all the input fields.
Verify whether user has options to filter the inputs fields.	1. Application is accessible.	User should filter the options of input fields.
Verify whether user gets submit button to submit the inputs.	1. Application is accessible	User should get submit button to submit the inputs.
Verify whether user can see the output after submitting the inputs.	1. Application is accessible.	User should get outputs after submitting the inputs.