Low Level Design

Budget Sales Analysis

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24-October-2023	1.0	Full Version of Complete LLD	Nikhil N

Contents

1 Introduction

1.1 Why this 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 Heart Disease Diagnostic-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.

1.3 Project Introduction

Budget and Sales estimates a company's total revenue in a specific period, so they are most important attributes that defines a business's success and failure by focusing on the number of products sold and the price at which they are sold to predict how the company will perform.

To keep a company's profit high it is important to keep track of budget and sales. Wrong budget allocation and ineffective marketing strategies can cause failure of company's business. Therefore, to keep track of budget and sales it is very important to track various features which contribute to increasing sales and to help allocate budget wisely and efficiently.

Thus, a company needs to study these features like customer behaviour, sales pattern, budget track, market friendly products, demands, demography etc to make effective data driven system to achieve business goals.

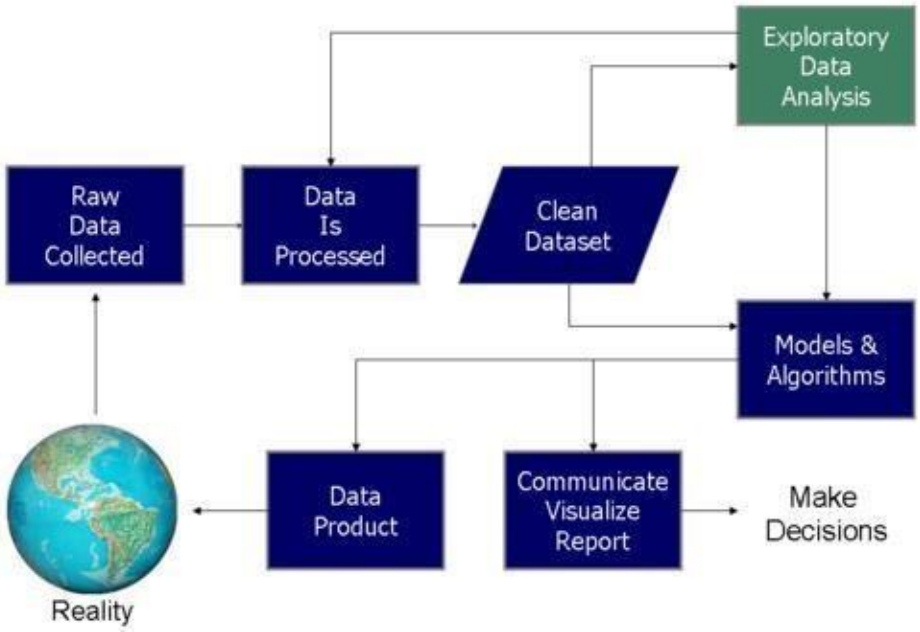
1.4 Problem Statement

Domain Sale process is structured to help potential buyers purchase the domain they want immediately without the hassle of contacting the seller directly. A seller lists a domain for sale at a specific price in our Marketplace. An interested buyer sees this domain for sale and decides to buy it.

Business Objectives:

- Extract various information such as Sales, budget, variance.
- You can even compare sales and budget with various attributes.
- Extract necessary information about Products and Customers.
- Make necessary dashboard with the best you can extract from the data.
- Use various visualization and features and make the best dashboard.
- Find key metrics and factors and show the meaningful relationships between attributes.

2 Architecture



3 Architecture Description

3.1. Data Description

The Dataset was taken from iNeuron's provided project description document.

Database list: AdventureWorks_Database.xlsx

Budget.xlsx

Link: https://drive.google.com/drive/folders/165Pjmfb9W9PGy0rZjHEA22LW0Lt3YQ8?usp=sharing

Various Excel files available in the dataset: **Customer Data, Product Data, Sales Data, Territory Data, Budget Data**

Dataset Information:

CustomerKey: Primary key for customer dataset
Birthdate: Birthdate of the customer
MaritalStatus: M- Married / S - Single
Gender: M – Male / F – Female
TotalChildren: Total number of children
NumberChildrenAtHome: Number of children staying along with their parents
Education: Education qualification
Occupation: Present occupation
HouseOwnerFlag: 1– Owns house / 0- Doesn't have a permanent address
NumberCarsOwned: Number of cars owned by the customer
DateFirstPurchase: First date of order by the customer
ProductKey: Primary Key for the product dataset

ProductName: Product name with colour of the product
Subcategory: Sub-category name of the product
Category: Category name of the product
ListPrice: Sale price of the product
DaysToManufacture: Days to manufacture the product after receiving the order
ProductLine: Product line name
ModelName: Model name of the product
ProductDescription: more details about the product
SalesTerritoryKey: Primary Key of the Territory dataset
Region: Region name of the order
Country: Country name of the order
OrderDate: Date of the order received
ShipDate: Date when the order left the factory for export
SalesOrderNumber: Invoice number of the order
OrderQuantity: Number of quantities ordered for a product
UnitPrice: Per unit sale price of the product
TotalProductCost: Cost of the product
SalesAmount: Total sales price of the product
TaxAmt: Tax collected for the product sold

3.2 Data Pre-Processing

Before finding insights from the given data, it is crucial to perform data pre-processing to feed the correct data to the model to learn and predict. Performance of the model depends on the quality of data used to train the model.

This Process includes:

- Handling Null/Missing Values
- Handling Skewed Data
- Outliers Detection and Removal

3.3 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

3.4 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 to check assumptions with the help of summary statistics and graphical Representations.

3.5. Reporting

Reporting is a most important and underrated skill of a data analytics field. Because of 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.

- High-Level Design Document (HLD)
- Low-Level Design Document (LLD)
- Architecture
- Wireframe
- Detailed Project Report
- PowerPoint Presentation

3.6. 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 models are created for the data to be stored in a database. 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.

3.7. Deployment

Created a Power BI dashboard.