# Project Design Phase-II
# Data Flow Diagram & User Stories

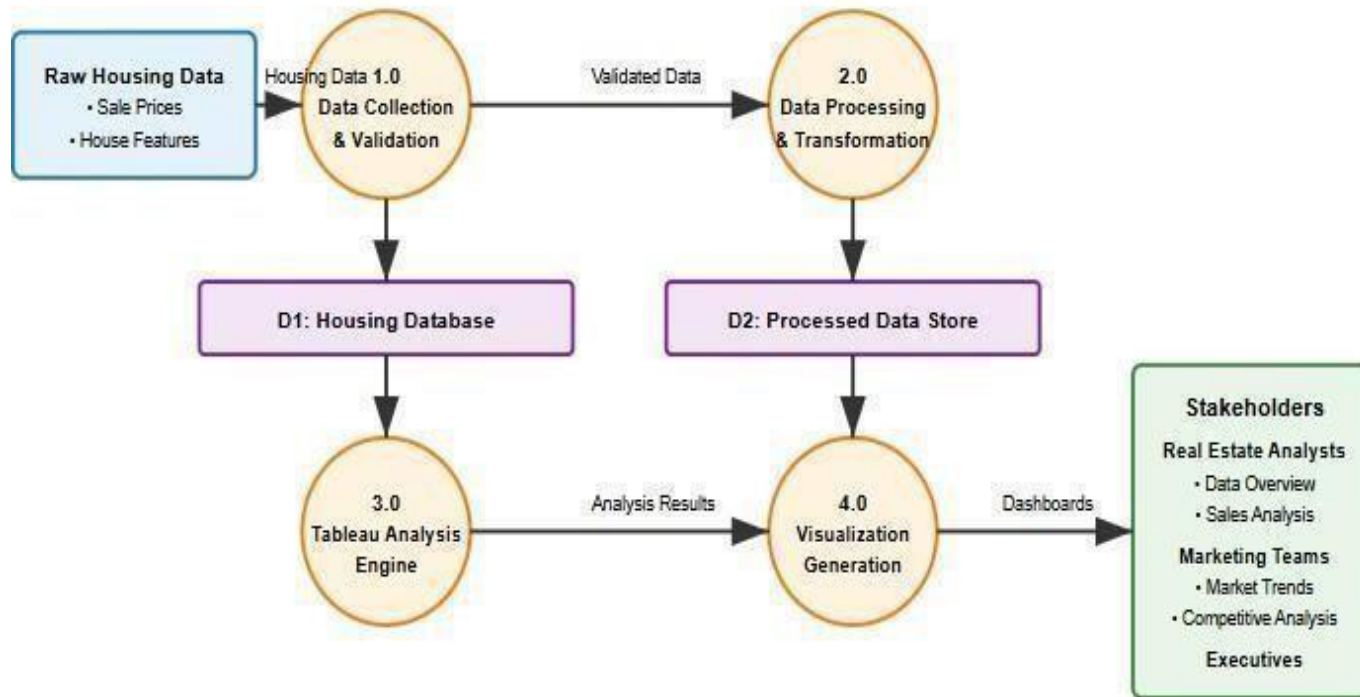| Date | 25 July 2025 |
|---|---|
| Team ID | PNT2025TMID10260 |
| Project Name | Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau |
| Maximum Marks | 4 Marks |

**Data Flow Diagrams:**

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.
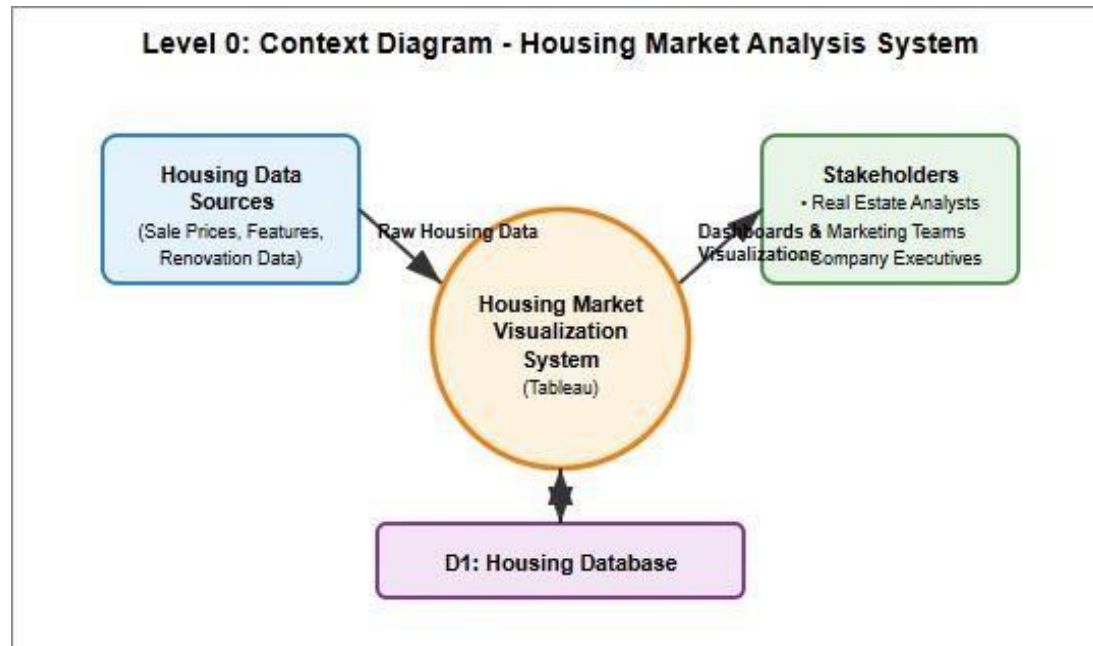
# Level 1: Detailed Data Flow Diagram - Housing Market Analysis

**Raw Housing Data**
- Sale Prices
- House Features

Housing Data → **1.0 Data Collection & Validation**

Validated Data → **2.0 Data Processing & Transformation**

**D1: Housing Database**

**D2: Processed Data Store**

**3.0 Tableau Analysis Engine**

Analysis Results → **4.0 Visualization Generation**

Dashboards →

**Stakeholders**

**Real Estate Analysts**
- Data Overview
- Sales Analysis

**Marketing Teams**
- Market Trends
- Competitive Analysis

**Executives**

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**Scenarios Supported:**

1. Overall Data Overview - Summary statistics and key metrics
2. Total Sales by Years Since Renovation - Histogram analysis
3. House Age Distribution by Renovation Status - Pie chart visualization
4. House Age by Bathrooms, Bedrooms, Floors - Grouped bar charts

Data Flows: Raw Data → Validation → Processing → Analysis → Visualization → Stakeholders

## User Stories

Use the below template to list all the user stories for the product.

| User Type | Functional Requiremen t (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
|---|---|---|---|---|---|---|
| Real Estate Analyst | Data analysis & Visualization | USN-1 | As a real estate analyst, I can view the overall data overview dashboard to understand the dataset scale and key metrics | I can see count of housing records, average sales price, and total basement area | High | Sprint-1 |
| Real Estate Analyst | Renovation Impact analysis | USN-2 | As a real estate analyst, I can analyze total sales by years since renovation through histogram visualization | I can identify correlation between renovation timing and price ranges | High | Sprint-1 |
| Real Estate Analyst | House Age Distribution | USN-3 | As a real estate analyst, I can view house age distribution by renovation status through pie chart | I can assess age characteristics and renovation prevalence | HIgh | Sprint-1 |
| Real Estate Analyst | Feature analysis | USN-4 | As a real estate analyst, I can analyze house age distribution by number of bathrooms, bedrooms, and floors | I can identify patterns in housing characteristics over time | High | Sprint-2 |
| Real Estate Analyst | Interactive dashboard | USN-5 | As a real estate analyst, I can access an interactive dashboard combining all visualizations | I can navigate between different views and filter data dynamically | Medium | Sprint-2 |