Project Design Phase-II

Data Flow Diagram & User Stories

Date: 26 July 2025

Project Name: Housing Price Analysis & Prediction

Team ID: PNT2025TMID08397

Problem Statement

ABC Company is facing challenges in understanding the factors that influence housing prices and sales trends. Without a clear view of how attributes such as house age, renovations, and structural features affect pricing and buyer behavior, it's difficult to make data-driven strategic decisions in pricing and marketing.

Data Flow Diagram (Textual Description)

This DFD represents the flow of housing data from raw ingestion to business insights:

1. External Entities:
   - Data Analyst: Uploads housing dataset.
   - Marketing Manager: Requests insight reports.
   - Buyer Feedback: Provides behavioral data.

2. Processes:
   - Data Ingestion & Cleaning
   - Feature Engineering (e.g., House Age, Renovation, Structure)
   - Model Training for Price Prediction
   - Insight Generation (Trend Analysis)

3. Data Stores:
   - Cleaned Housing Data
   - Model Outputs
   - Insight Reports

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Data Flow Diagram & User Stories

Graphical Data Flow Diagram

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User Stories

User Type	Functional Requirement	User Story #	User Story	Acceptance Criteria
Data Analyst	Housing Data Processing	USN-1	As a data analyst, I want to upload and clean the housing dataset to remove missing or inconsistent entries.	I can see a cleaned and formatted version of the dataset.
Marketing Manager	Strategic Decision Support	USN-2	As a marketing manager, I want to view visual trends in pricing affected by renovation and house age.	I can access graphical trend reports filters.
Data Scientist	Model Training	USN-3	As a data scientist, I want to train a regression model using cleaned features to predict housing price.	I can view training metrics and model outputs.
Business Analyst	Insight Extraction	USN-4	As a business analyst, I want to download reports on feature importance (e.g., structure type, renovation effect).	Reports are downloadable and read