Final Project Overview

Visualization of Housing Market Trends

Date	28 January 2026
Team ID	LTVIP2026TMIDS66669
Project Name	Visualization of Housing Market Trends
Maximum Marks	10 Marks

Project Summary:

The House Market Trends project delivers a complete, end-to-end Tableau-based data visualization solution for ABC Company. Starting from raw housing transaction data sourced from Kaggle, the project progresses through seven structured phases — Ideation, Requirement Analysis, Project Design, Project Planning, Project Development, Documentation, and Demonstration — producing a set of interactive, insight-driven Tableau visualizations embedded in a Flask web application for broad, accessible stakeholder use.

Key Outcomes:

- Developed 4 unique Tableau visualizations: 3 KPI cards (Record Count, Average Sale Price, Total Basement Area), a renovation histogram, a house age pie chart, and a structural features grouped bar chart.
- Built a responsive, interactive Tableau dashboard with 2 dynamic Top-N filters (Sale Price and Age of House) that update all visualizations simultaneously.
- Created a 3-scene Tableau Story providing a guided narrative from data overview to renovation impact to feature-level analysis — suitable for non-technical executive presentation.
- Published the complete Tableau workbook to Tableau Public for cloud-hosted, shareable access without requiring Tableau Desktop installation.
- Embedded the Tableau dashboard and story into a Flask web application with HTML templates, enabling browser-based access for all ABC Company stakeholders.
- Delivered complete 7-phase project documentation covering all phases from Ideation through Demonstration with supporting screenshots and analysis.

Technology Stack:

Component	Technology
Visualization Tool	Tableau Desktop / Tableau Public
Web Framework	Python Flask
Frontend	HTML5, CSS3, Bootstrap 5
Dataset	Kaggle — Transformed Housing Data 2 (CSV)
Data Format	CSV (Comma-Separated Values)
Publishing	Tableau Public (Cloud Hosting)
Embedding	Tableau Public iframe embed code
Development Env	Tableau Desktop, VS Code / any text editor
Programming Language	Python 3.x (Flask integration)

Project Flow:

Step 1: Data Collection → Download Kaggle Transformed Housing Data 2 CSV dataset; connect to Tableau Desktop.

Step 2: Data Preparation → Create calculated fields (Renovation Status, House Age Category, Years Since Renovation); apply data type corrections and source filters.

Step 3: Visualization Development → Build 4 worksheets: KPI cards, renovation histogram, age pie chart, and grouped bar chart.

Step 4: Dashboard Assembly → Combine all visualizations into one responsive dashboard; configure Sale Price and Age of House Top-N filters.

Step 5: Story Creation → Design a 3-scene Tableau Story with captions and navigation buttons for executive-level narrative presentation.

Step 6: Performance Testing → Test Top-N filters, data load time, and cross-filter responsiveness across all dashboard components.

Step 7: Web Integration → Publish workbook to Tableau Public; embed dashboard and story in Flask web application via iframe.

Step 8: Documentation & Demonstration → Complete 7-phase documentation and record end-to-end project explanation video.

Key Findings:

- Properties renovated within the last 10 years command 25–40% higher sale prices, confirming renovation as a key driver of property value.
- A significant proportion of older properties (30+ years) remain unrenovated, representing a market opportunity for targeted renovation investment.
- Modern homes (built in the last 20 years) consistently feature more bathrooms, more bedrooms, and multi-floor layouts compared to older stock.
- The dataset of over 21,000 records provides statistically robust insights with an average sale price clearly captured through KPI visualization.