Final Project Report Template

1. Introduction

1.1. Project overviews

This project focuses on analyzing housing market trends using Tableau to help real estate analysts make data-driven decisions. Since raw real estate data is complex and difficult to interpret, the proposed solution involves interactive visualizations that simplify pricing trends, property features, and market influences.

1.2. Objectives

The project uses Tableau to visualize housing market trends, analyzing sale prices and key factors to simplify real estate data for better decision-making.

2. Project Initialization and Planning Phase

2.1. Define Problem Statement

The project uses Tableau to visualize housing market trends, analyzing sale prices and key factors to simplify real estate data for better decision-making.

2.2. Project Proposal (Proposed Solution)

Using Tableau for dynamic dashboards, interactive filters, predictive modeling, and real-time data integration to analyze housing trends.

2.3. Initial Project Planning

Use the below template to create a product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
Sprint-1	Data Collection & Extraction from Database	VSPFUT-2	As a user, I have collected and downloaded the data from Kaggle database	2	High	A.Manasa	28/02/2025	02/03/2025
Sprint-2	Data Visualizations	VSPFUT-4	As a user, I created visualizations using tableau	2	High	A.Manasa	03/03/2025	04/03/2025
Sprint-3	Dashboard	VSPFUT-7	As a user, I created dashboard of visualizations clearly	2	Low	A.Manasa	06/03/2025	08/03/2025
Sprint-4	Story	VSPFUT-9	As a user, I have created visual representation of a sequence of events	2	Medium	A.Manasa	09/03/2025	12/03/2025

3. Data Collection and Preprocessing Phase

3.1. Data Collection Plan and Raw Data Sources Identified

I collected the data from Kaggle and ensured its quality by handling missing values, removing duplicates, and standardizing formats. Additionally, I validated data

consistency, integrated relevant external datasets, and created derived variables like house age to enhance analysis accuracy.

3.2. **Data Quality Report**

The Data Quality Report for this project will highlight data issues within the housing market dataset, including missing values, duplicates, and inconsistencies. It will categorize issues by severity and outline resolution strategies to ensure accurate and reliable analysis for better insights.

3.3. **Data Exploration and Preprocessing**

For the housing market dataset, data sources were identified from Kaggle. Quality issues such as missing values in total bedrooms and potential duplicates were assessed. Data cleaning techniques, including imputation and removal of inconsistencies, were applied to ensure accurate and reliable analysis.

4. **Data Visualization**
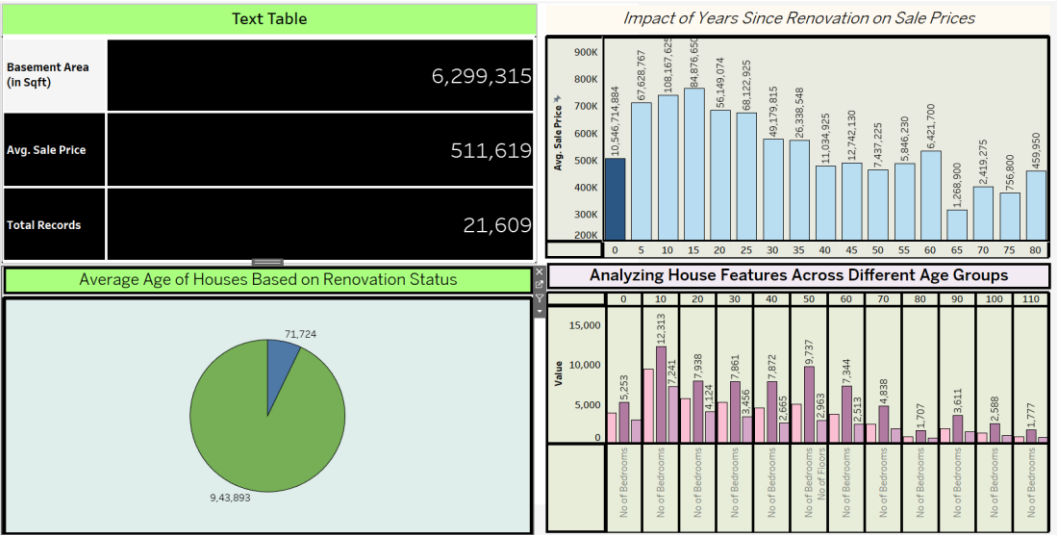
4.1. **Framing Business Questions**

The process involves defining specific business questions to guide the creation of meaningful and actionable visualizations in Tableau. Well-framed questions help in identifying key metrics, selecting relevant data, and building visualisation that provide insights.

4.2. **Developing Visualizations**

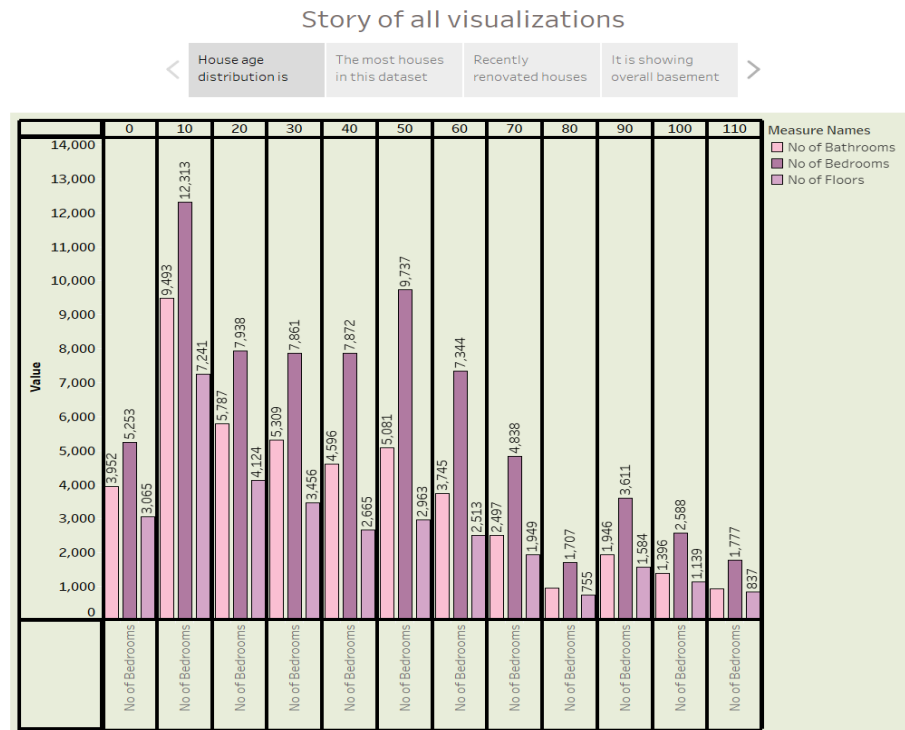Developed so many visualizations to analyze the dataset such as Line Chart, Bar Chart,Scatterplot etc.

5. **Dashboard**

5.1. **Dashboard Design File**

6. **Story**

6.1. **Story Design File**

Story of all visualizations

| House age distribution is | The most houses in this dataset | Recently renovated houses | It is showing overall basement |

7. **Performance Testing**

    7.1. **Utilization of Data filters**

        Yes , I have used data filters to showcase better visualizations

    7.2. **No of Calculation Field**

        There are more than 15 calculation fields

    7.3. **No of Visualization**

        I have created nearly 10 visualizations for both project and assignment

8. **Conclusion/Observation**

1. Renovation impact on price – Houses that have been renovated more recently tend to have a higher average sale price compared to those renovated a long time ago. This suggests that renovation can be a significant factor in increasing property value.

2. House age distribution – The majority of houses appear to be older, with a relatively small portion of homes being recently renovated or newly built. This indicates that the market might be dominated by older properties.

3. Structural features vary by age – The number of bedrooms and floors in houses seems to change across different age groups. Newer homes might have a different design approach compared to older ones, impacting their market value and buyer preferences.

4. Basements are a common feature – A large total basement area suggests that many houses include this feature, which could influence housing prices depending on buyer demand for additional space.

5. Renovation effectiveness over time – Houses renovated many years ago tend to have lower sale prices compared to more recent renovations. This indicates that the value added

by renovations may decline over time, making periodic updates crucial for maintaining higher property values.

9. **Future Scope**
10. **Appendix**
    10.1. **Source Code(if any)**
    10.2. **GitHub link**

    https://github.com/akkalasettimanasa/Visualizing-Housing-Market-Trends-An-Analysis-of-Sale-Prices-and-Features-using-Tableau

    10.3. Project Demo Link

    https://drive.google.com/file/d/1Wv8is2BAJkr8ou_9XWMQfdunzNO2nGYl/view?usp=drive_link