## Project Initialization and Planning Phase

# Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau

| **Project Overview** | |
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| Objective | The primary objective of this project is to analyze and visualize housing market trends by examining sale prices and key property features using Tableau. The project aims to provide insights into market patterns, price fluctuations, and factors influencing home values, helping stakeholders make data-driven decisions. |
| Scope | • **Geographical Coverage:** Focus on a specific city, region, or nationwide data.<br>• **Data Sources:** Utilize publicly available datasets (e.g., Zillow, Kaggle, government housing data).<br>• **Analysis Areas:** Price trends over time, location-based variations, property features affecting prices.<br>• **Visualization Methods:** Interactive dashboards, Story, Pie chart, Bar charts, and Histogram. |
| **Problem Statement** | |
| Description | The housing market is influenced by multiple factors, including location, property size, number of bedrooms, and economic trends. However, without effective visualization, identifying key trends and insights can be challenging. This project aims to bridge that gap by providing a clear, interactive representation of housing market data. |
| Impact | • Helps potential buyers and sellers make informed decisions.<br>• Assists real estate professionals in understanding pricing trends.<br>• Provides policymakers with insights into housing affordability and market fluctuations. |

| Proposed Solution | |
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| Approach | • Collect and preprocess historical housing market data.<br>• Use Tableau to create interactive visualizations.<br>• Apply data analysis techniques to identify patterns and correlations.<br>• Develop dashboards for easy interpretation of housing trends. |
| Key Features | • **Dynamic Visualizations:** Interactive dashboards showing trends over time.<br>• **Geospatial Analysis:** Heat maps highlighting price variations by location.<br>• **Comparative Analysis:** Charts comparing features like square footage vs. price.<br>• **Predictive Insights:** Basic forecasting of price trends using historical data. |

**Resource Requirements**

| Resource Type | Description | Specification/Allocation |
|---|---|---|
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | Standard CPU (intel i7) |
| Memory | RAM specifications | 16 GB |
| Storage | Disk space for data, models, and logs | 1 TB SSD |
| **Software** | | |
| Frameworks | Data Visualization Frameworks | Tableau |
| Libraries | Additional libraries | Flask Package |
| Development Environment | IDE, version control | Jira, GitHub |
| **Data** | | |
| Data | Source, size, format | Kaggle Dataset (Transformed Housing Data 2), 10MB |