Final Project Report

1. INTRODUCTION

1.1 Project Overview

This project focuses on visualizing real estate housing data using Tableau. The primary goal is to enable users such as buyers, sellers, and analysts to gain insights from structured datasets using interactive and easy-to-understand visualizations.

1.2 Purpose

The purpose of the project is to simplify housing data analysis and support better decision-making using visual storytelling. The dashboard offers bar charts, scatter plots, histograms, and more to interpret housing trends.

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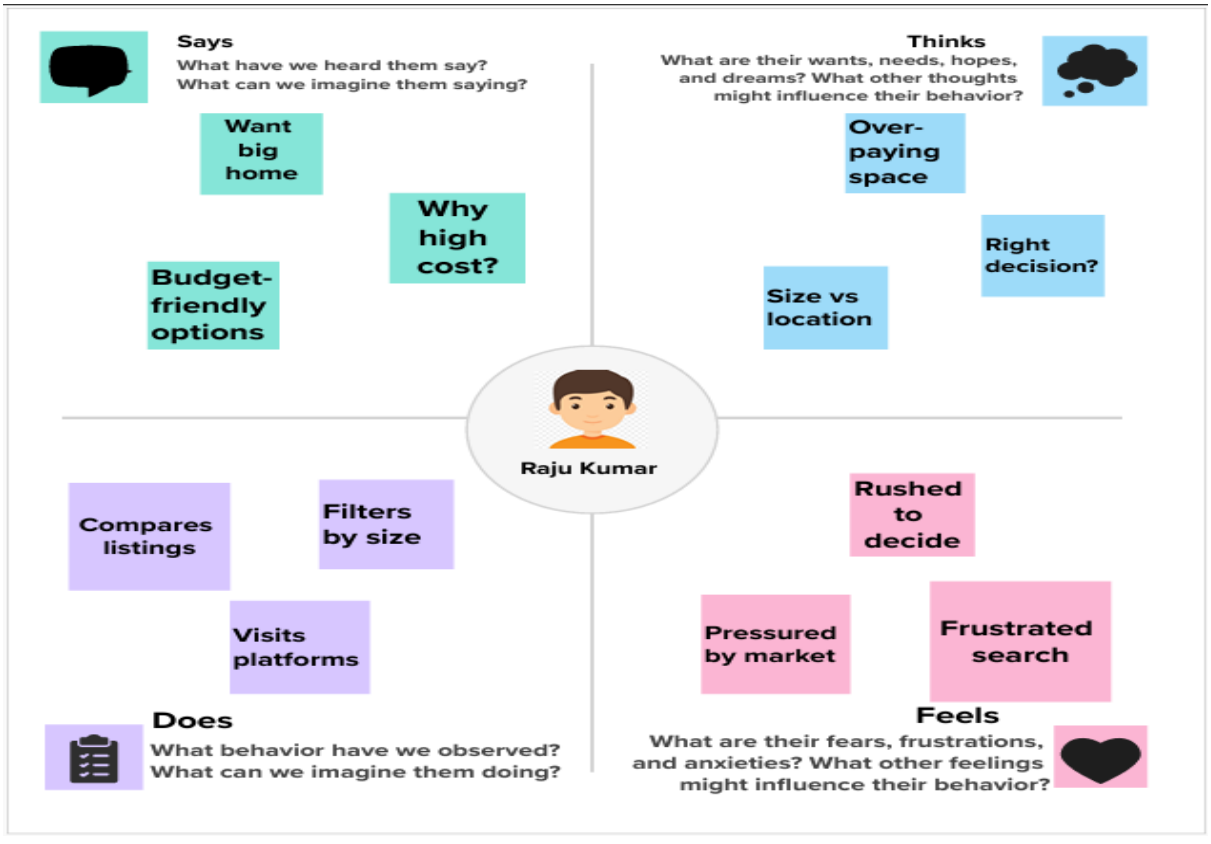
2. IDEATION PHASE

2.1 Problem Statement

Real estate customers often struggle with interpreting housing trends across regions due to lack of accessible data tools. This project addresses that gap by providing a visual dashboard built on actual housing data.

2.2 Empathy Map Canvas



Empathy map focuses on what the user sees, hears, thinks, and feels while navigating housing decisions.

2.3 Brainstorming
Initial brainstorming led to various ideas like real estate apps, price prediction tools, and data visualization dashboards. Tableau dashboard was selected for its interactivity and ease of use.

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3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map
User lands on the dashboard → Applies filters → Views property insights → Makes informed decision.

3.2 Solution Requirement
Functional and Non-functional requirements as discussed in Solution Requirements document.

3.3 Data Flow Diagram
DFD Level 0: User → Processed Dataset → Tableau Dashboard → Insights. *(Image inserted manually)*

3.4 Technology Stack
Python, Tableau, Local CSV, Google Maps API (optional), Tableau Public (for hosting).

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4. PROJECT DESIGN

4.1 Problem Solution Fit
Interactive dashboard using Tableau solves the challenge of interpreting complex housing data.

4.2 Proposed Solution
Clean housing data → Visualizations in Tableau → Public access for real estate users.

4.3 Solution Architecture
Data source → Python preprocessing → Tableau dashboards → Hosted via Tableau Public.

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5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning
Sprints planned for data setup, visualization design, user interactivity, and export/report generation.

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6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

Tested visualization load times and interactivity across different devices using Tableau Public.

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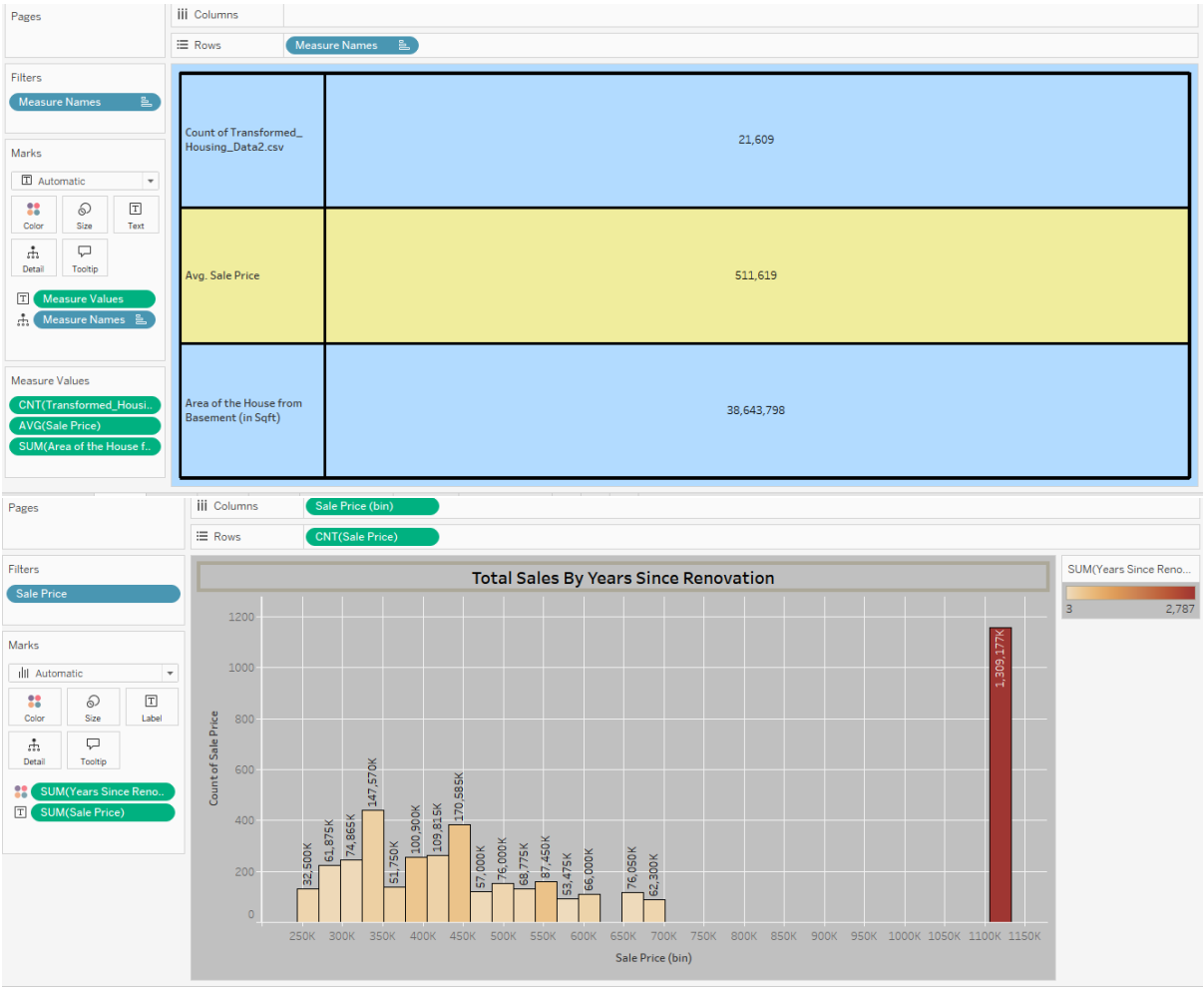
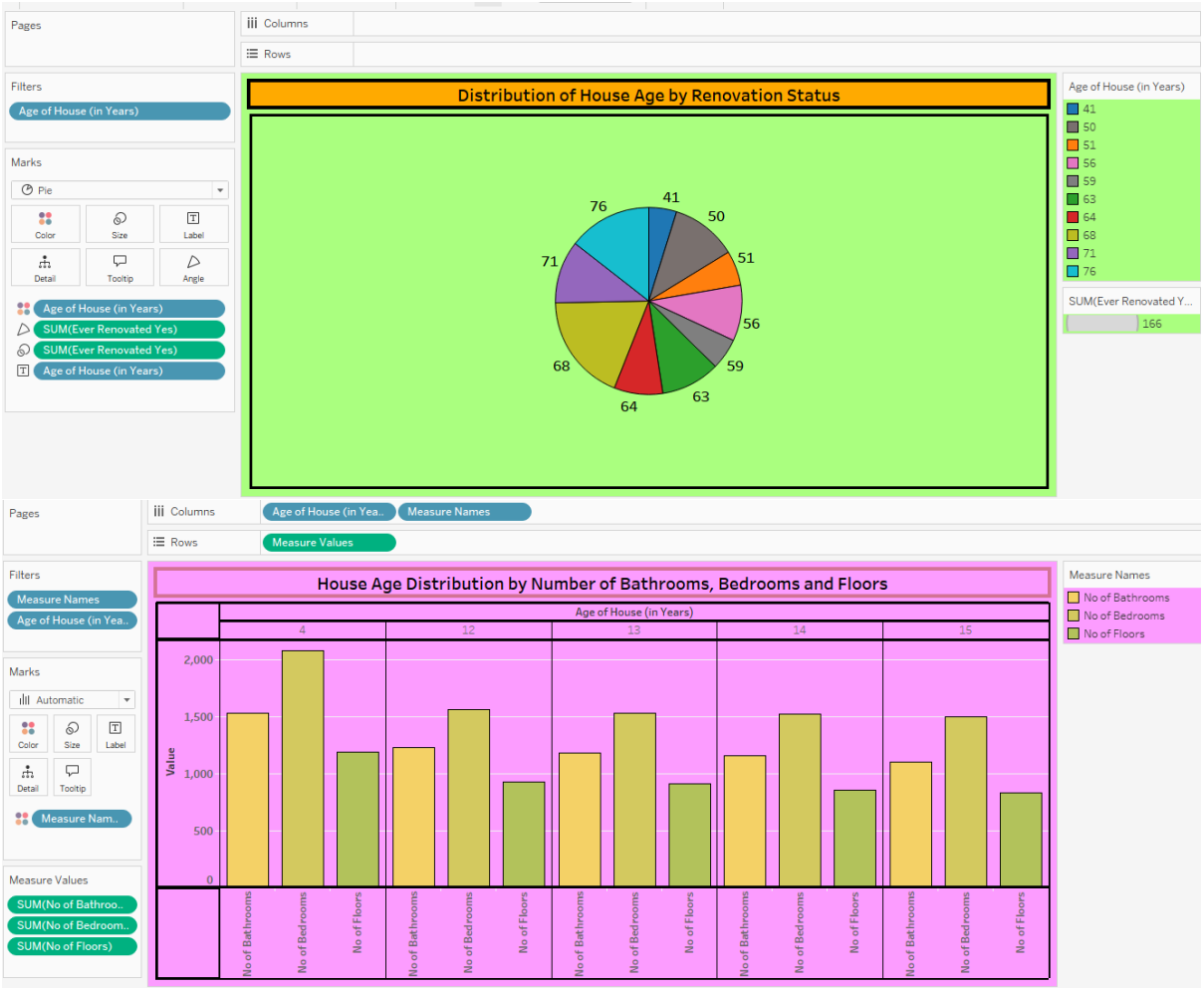
7. RESULTS

7.1 Output Screenshots

Screenshots of dashboard: average price chart, price distribution, area vs price scatter plot, etc.





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8. ADVANTAGES & DISADVANTAGES

Advantages

- Easy visual interpretation
- Filter-based exploration
- Fast and interactive

Disadvantages

- Relies on static data unless updated
- Requires internet for Tableau Public

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9. CONCLUSION

This project demonstrates how visual dashboards can make real estate analysis accessible to everyone. By leveraging Tableau, users can interact with the data, explore trends, and gain valuable insights.

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10. FUTURE SCOPE

Future versions may include dynamic data feeds, price prediction models using machine learning, and user-specific property recommendations based on preferences.

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11. APPENDIX

Source Code: *(if any)*
Dataset Link:
(https://drive.google.com/file/d/1GkWTTmxOeucXtLP8McuiOJM_Dr8coB0l/view?usp=sharing)
GitHub & Project Demo Link: *(https://github.com/saisuman-04/Visualizing-Housing-Market-Trends)*