# Project Report Format

**1. INTRODUCTION**

**1.1 Project Overview**

The project titled **"Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau"** aims to provide a clear, interactive dashboard that helps stakeholders such as homebuyers, investors, and analysts understand how various housing features (like area, location, basement size, etc.) impact sale prices. By leveraging data visualization through Tableau, the project turns raw housing datasets into actionable insights.

**1.2 Purpose**

The purpose of this project is to simplify the complex housing data into a visual format that aids users in making data-informed decisions when exploring real estate trends. It seeks to empower users who may not have technical skills to perform deep analysis but still require valuable insights from housing market data.

**2. IDEATION PHASE**

## Ideation Phase

## 2.1 Define the Problem Statements

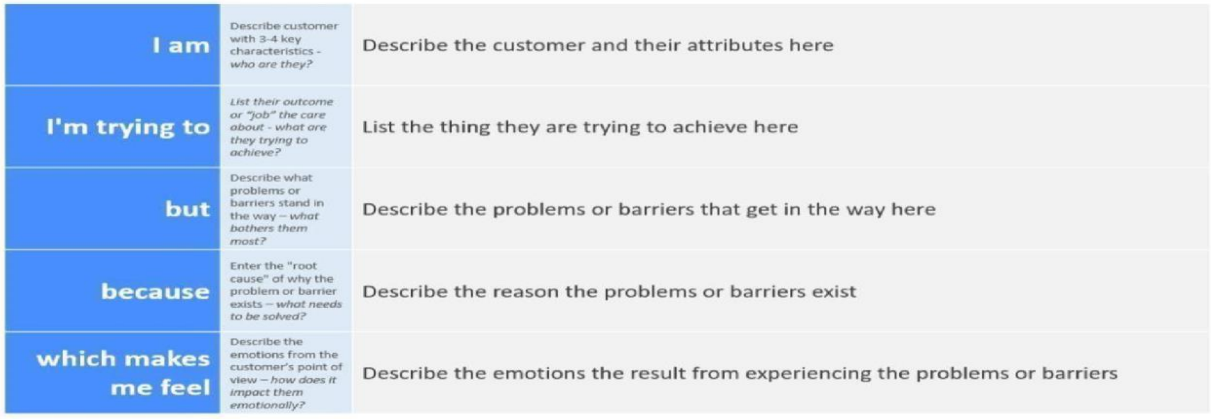
| | |
|---|---|
| Date | 18 June 2025 |
| Team ID | LTVIP2025TMID48912 |
| Project Name | Visualizing Housing Market Trends:An Analysis of Sale Prices and Features using Tableau |
| Maximum Marks | 2 Marks |

**Customer Problem Statement Template:**

Create a problem statement to understand your customer's point of view. The Customer Problem Statement template helps you focus on what matters to create experiences people will love.

| Problem Statement (PS) | I am (Customer) | I'm trying to | But | Because | Which makes me feel |
|---|---|---|---|---|---|
| **PS-1** | A busy working professional | Quickly find a suitable area to buy a house | I don't have time to analyze lengthy reports or datasets | The dashboard lacks a simple summary or recommendation feature | Overwhelmed and indecisive |
| **PS-2** | A data user exploring market trends | Visualize how different features impact house prices | Some data points are missing or outdated | The dashboard isn't pulling from live or recent data sources | Skeptical and frustrated |

A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.



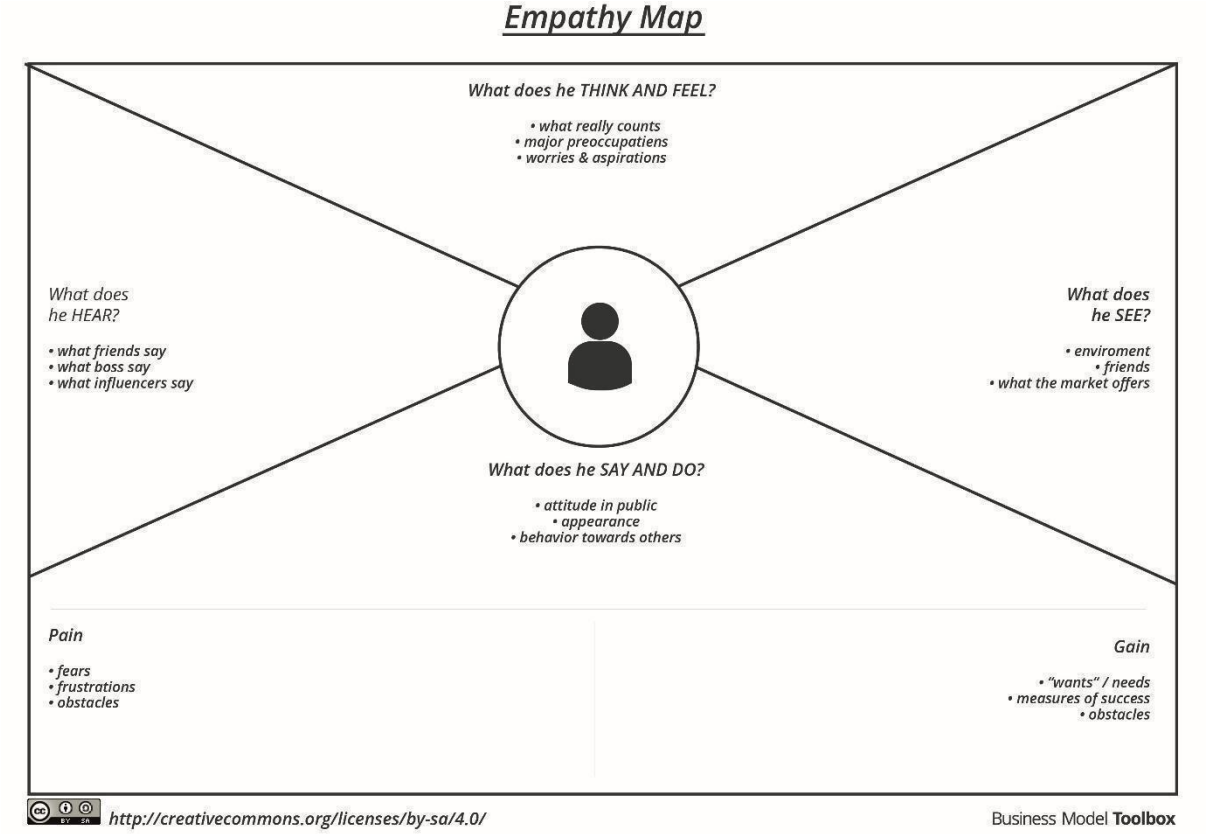
# Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau

| | |
|---|---|
| I am | A data-driven homebuyer or real estate investor who values informed decision-making, is time-constrained, and lacks technical skills to process raw data. |
| I'm trying to | Understand how property features and locations impact sale prices to make confident buying or investment decisions. |
| But | I find it hard to interpret raw data and correlate different housing features due to lack of visual clarity or missing insights. |
| Because | The available dashboards are not intuitive, lack interactivity, and often do not reflect up-to-date or easily comparable information. |
| Which makes me feel | Frustrated, uncertain, and less confident in making a financial decision that could impact my future |

## 2.2 Empathy Map Canvas:

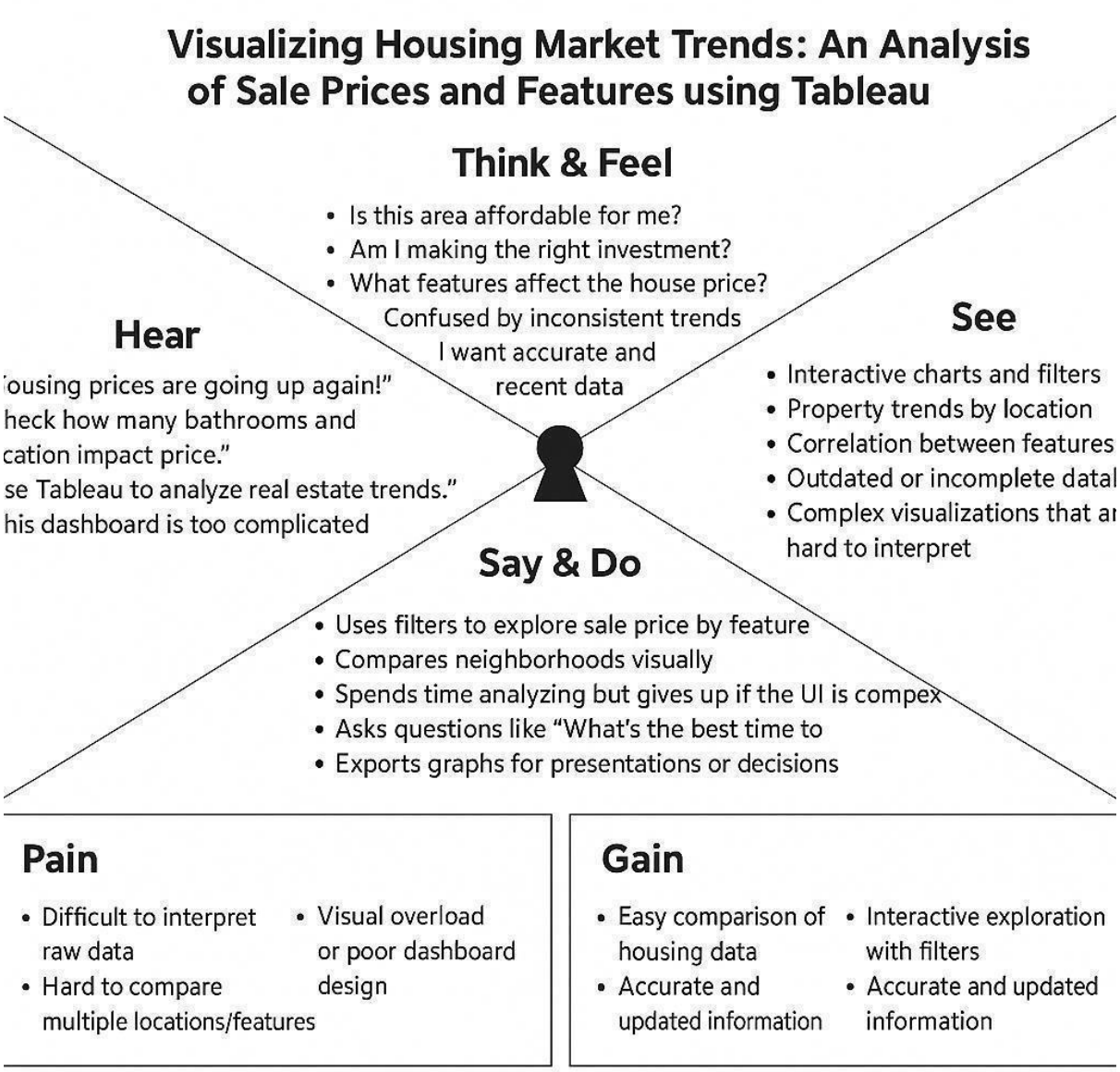
An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users.
Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.




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

**Tableau.**




## 2.3 Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

# 3.REQUIREMENT ANALYSIS

## 3.1 customer journey map.-

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

Scenario: A user visits the dashboard, uploads housing data or uses sample data, filters it, views insights, and possibly shares/export results.

| Steps | Typical Experience | Interactions | Things (Digital Touchpoints) | Places | People | Goals & Motivations | Positive Moments | Negative Moments | Opportunities |
|---|---|---|---|---|---|---|---|---|---|
| Open Dashboard | User accesses the Tableau dashboard via a link or app | Clicks on shared/public dashboard or opens from Tableau Desktop | Tableau Public link / Desktop | Home / Office | User (solo) | Help me explore housing data easily | Simple interface is appealing | Slow loading or confusing visuals | Improve initial load speed and add tooltips |
| Upload or Use Sample Data | User uploads housing CSV or chooses demo data | Drag-drop or dropdown click | File Upload / Dataset Selector | Dashboard Screen | User | Help me use my own data or test it | Sample data is readily available | Upload errors or format mismatches | Add file format instructions and error prompts |
| Apply Filters | User selects year, bedrooms, price range etc. | Dropdowns, sliders, radio buttons | Filter Panel | Dashboard Screen | User | Help me narrow down to relevant info | Realtime filtering is responsive | Too many filters overwhelm | Group filters or use collapsible sections |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| View Visuals | User sees price trends, KPIs, pie charts | Scroll and hover to explore graphs | KPI Tiles, Pie Charts, Bar Graphs | Dashboard | User | Help me gain insights fast | Engaging visuals help tell the story | Some visuals may lack labels or clarity | Add legends, hover hints, and captions |
| Export or Share | User saves graph or shares link | Clicks export/download buttons / Share URL | Download buttons / Share URL | Browser | User | Help me save or share findings | Quick download access is handy | No watermark-free or branded export option | Allow watermark toggle or branded template |
| Exit | User closes dashboard or logs out | Browser close or logout | Web Browser or Tableau app | Anywhere | User | Help me come back to this state later | Clean exit, no bugs | Filters or session not saved | Add session memory or export view settings |

### 3.2 Solution Requirement.

## Functional Requirements:

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|---|---|---|
| FR-1 | Data Upload | Upload CSV/Excel of housing market data |
| FR-2 | Data Cleaning | Remove missing or inconsistent values |

| | | |
|---|---|---|
| FR-3 | Feature Engineering | Add derived metrics (e.g., price/sqft) |
| FR-4 | Interactive Visualization | Filter data by region, price range, features |
| FR-5 | Trend Analysis | Time-based trends in housing prices |
| FR-6 | Data Export | Export selected visual insights to image/PDF |

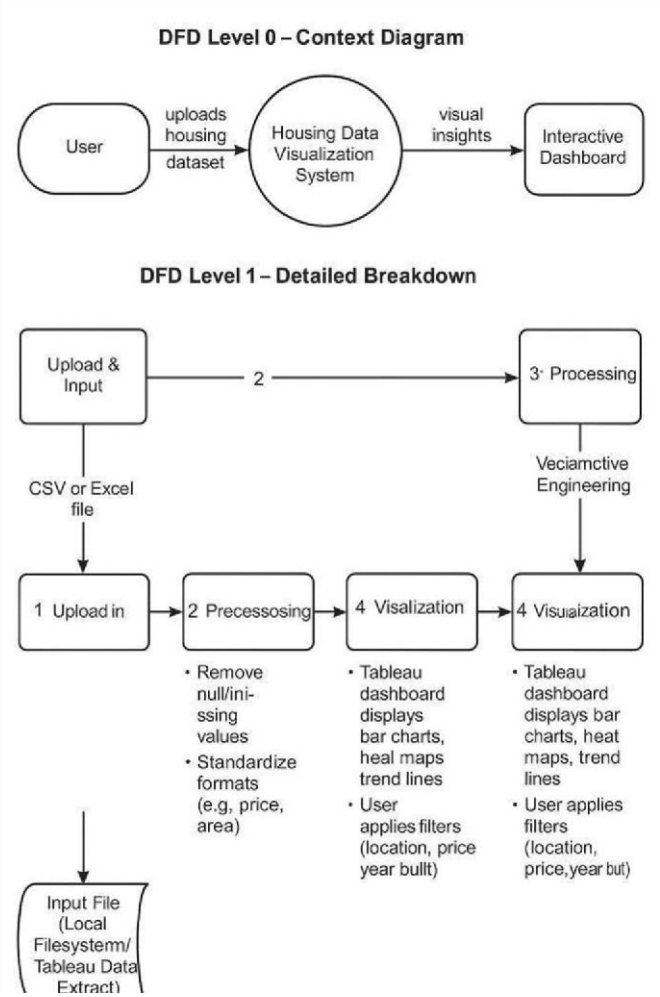
**Non-Functional Requirement:**

| FR No. | Non-Functional Requirement | Description |
|---|---|---|
| NFR-1 | Usability | The dashboard must be intuitive and simple to use for non-technical users. |
| NFR-2 | Security | Local-only access; data not shared externally; no login needed. |
| NFR-3 | Reliability | Should handle file errors and missing data gracefully. |
| NFR-4 | Performance | Should render visualizations for medium datasets (~10,000 records) quickly. |
| NFR-5 | Availability | Works offline on local Tableau Desktop software. |
| NFR-6 | Scalability | Suitable for scaling up to slightly larger datasets if needed in future. |

### 3.3 Data Flow Diagram

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

**Data Flow Diagram:**




**DFD Level 0 - Project Overview**

- User uploads the housing dataset (CSV/Excel)

- Preprocessing Module (Python) cleans and transforms the data

- Feature Engineering Module adds derived attributes (e.g., price/sqft)

- Visualization Layer (Tableau Dashboard) displays trends and insights

- User views or exports filtered insights

**DFD Level 1 - Detailed Process**

- Data Upload → File Validation → Missing Value Handling

- Data Transformation → Unit Normalization → Column Derivations

- Dashboard → Filters by Region, Price, Bedrooms, etc. → Displays Graphs and Charts

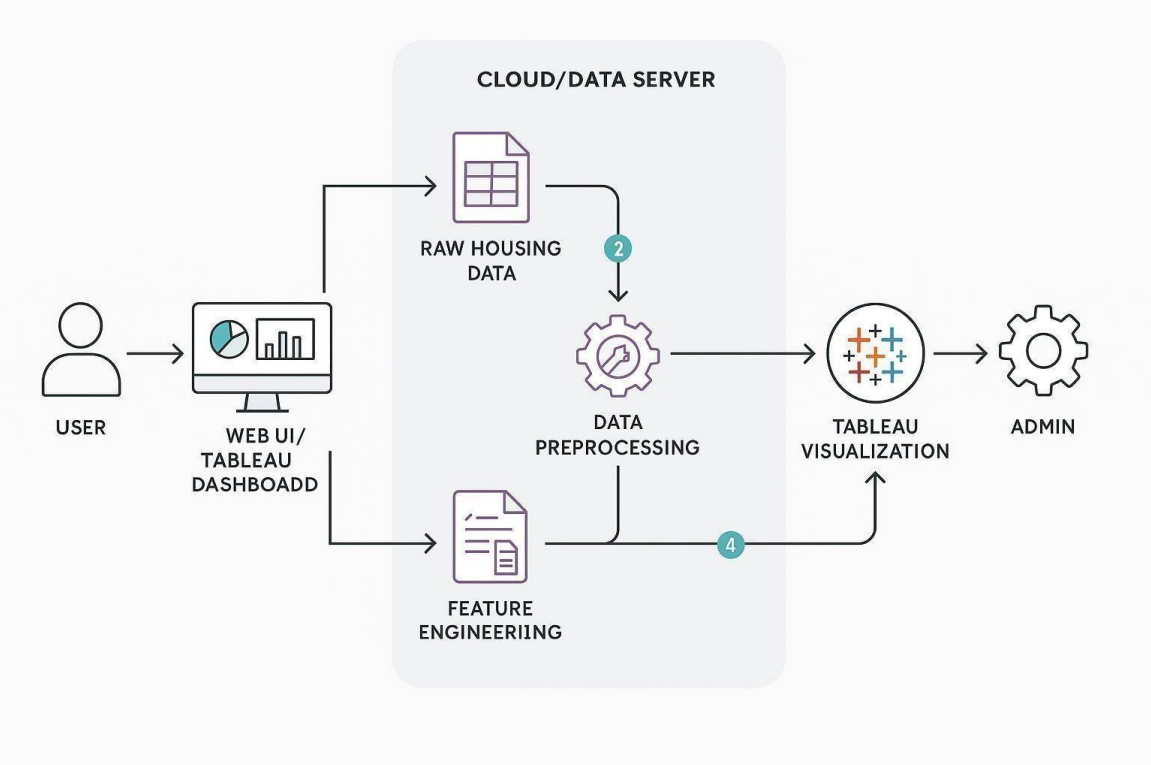
## User Stories

Use the below template to list all the user stories for the product.

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority / Release |
|---|---|---|---|---|---|
| Data Analyst / Student | Data Upload | USN-1 | As a user, I can upload a housing dataset in CSV/Excel format | Dataset successfully uploaded and ready for processing | High / Sprint-1 |
| Data Analyst / Student | Data Preprocessing | USN-2 | As a user, I can clean data and remove missing entries | Data cleaned with no missing/null values | High / Sprint-1 |
| Data Analyst / Student | Feature Engineering | USN-3 | As a user, I can create new metrics like price per sqft, age of house | Derived fields are generated correctly | High / Sprint-1 |
| End User / Viewer | Visualization Filtering | USN-4 | As a user, I can filter housing data by location, price, or bedroom count | Filters apply correctly on dashboard | High / Sprint-2 |

| | | | | | |
|---|---|---|---|---|---|
| End User / Viewer | Trend Analysis | USN-5 | As a user, I can view charts showing sale price trends over time | Charts show monthly/yearly price trends | High / Sprint-2 |
| End User / Viewer | Export Data | USN-6 | As a user, I can export filtered visualizations as images or PDFs | Export works and saves in selected format | Medium / Sprint-3 |

## 3.4 Technology Stack:




**Technical Architecture:**

This project leverages data visualization to analyze housing market trends such as sale prices and housing features using Tableau. It focuses on visual exploration rather than complex machine learning or

cloud-native deployments. The architecture is primarily local with support from lightweight scripting and desktop-based tools.

### Architecture Diagram Summary:

- • User Interface (Tableau Dashboard) - Users interact with visualizations.
- • Data Source (Local File Storage) - CSV or Excel files used as input.
- • Preprocessing (Python) - Data is cleaned and structured using pandas.
- • Feature Engineering (Python or Tableau Prep) - Additional insights generated.
- • Visualization Layer (Tableau Desktop / Public) - Interactive dashboards built and published.
- • Infrastructure - Local machine for development and deployment.

### Table-1 : Components & Technologies:

| S.No | Component | Description | Technology Used |
|---|---|---|---|
| 1 | User Interface | Dashboard interface for user interaction | Tableau Public / Tableau Desktop |
| 2 | Application Logic-1 | Preprocessing logic for housing data | Python (Pandas, NumPy) |
| 3 | Application Logic-2 | Feature engineering and transformations | Tableau Prep / Python |
| 4 | Application Logic-3 | Not used | Not Used |
| 5 | Database | Raw data storage (optional, using files) | Not Used / CSV |
| 6 | Cloud Database | Not used in this project | Not Used |
| 7 | File Storage | For storing CSV/Excel input files | Local Filesystem |

| | | | |
|---|---|---|---|
| 8 | External API-1 | Not used | Not Used |
| 9 | External API-2 | Not used | Not Used |
| 10 | Machine Learning Model | Not used | Not Used |
| 11 | Infrastructure | System where the application runs | Local Desktop (Windows/Mac) |

**Table-2: Application Characteristics:**

| S.No | Characteristics | Description | Technology |
|---|---|---|---|
| 1 | Open-Source Frameworks | Data preprocessing and manipulation | Python (Pandas, NumPy) |
| 2 | Security Implementations | No user authentication or cloud data access in current version | Not Applicable |
| 3 | Scalable Architecture | Not designed for cloud scale or multiple users | Not Applicable |
| 4 | Availability | Local system availability only | Tableau Desktop on personal system |
| 5 | Performance | Handles small to medium datasets, processed locally using efficient libraries | Python (Pandas), Tableau Optimizations |

## 4. PROJECT DESIGN

## 4.1 Problem Solution Fit:

**Problem – Solution Fit Template:**

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

**Purpose:**

- ❑ Solve complex problems in a way that fits the state of your customers.
- ❑ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- ❑ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ❑ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ❑ **Understand the existing situation in order to improve it for your target group.**

# Problem – Solution Fit (Updated for Project)

Problem:

Analyzing the housing market to understand pricing trends and the impact of various property features can be difficult due to inconsistent data sources, large dataset volumes, and lack of interactive tools. This makes it challenging for users such as homebuyers, investors, or analysts to make informed decisions.

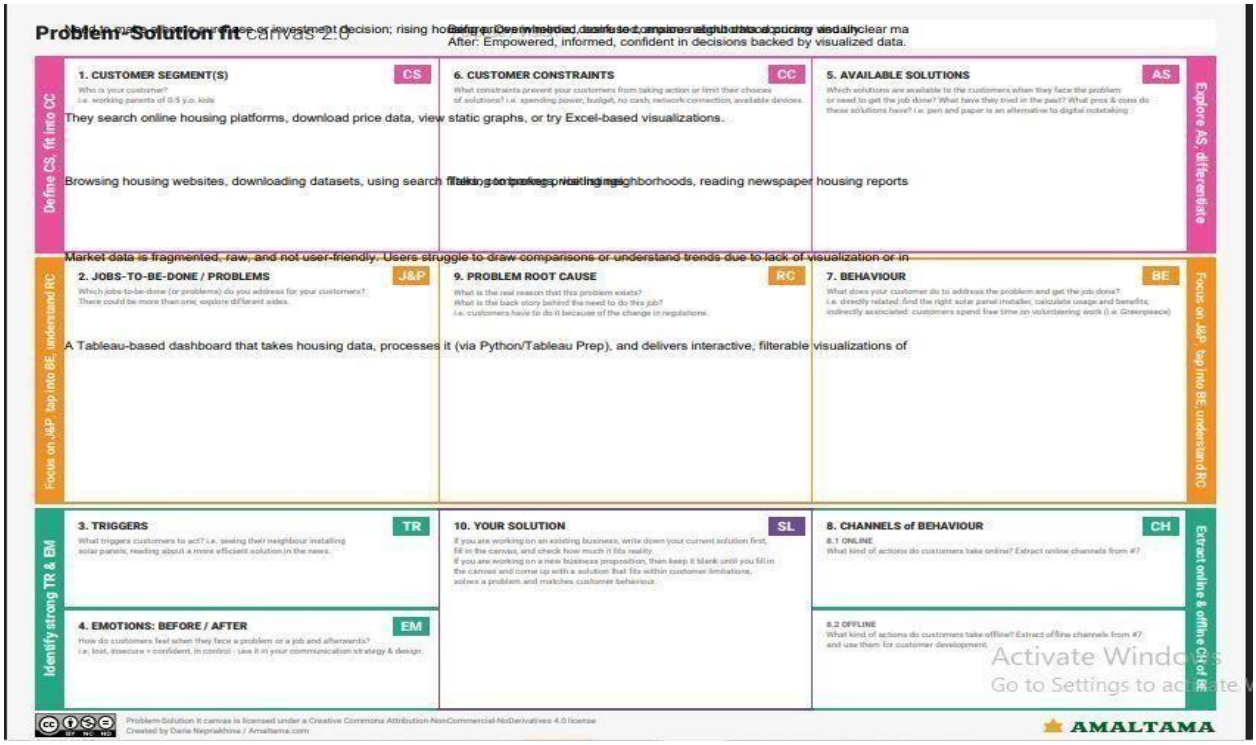
Solution:

Our solution leverages Tableau to provide an interactive dashboard for visualizing housing data. The data is cleaned and processed using Python and visualized with filters for region, price, and features. Users can explore patterns and gain insights without needing technical skills or coding knowledge.

Why it works:

This solution fits well because many users struggle to interpret raw real estate data. Tableau's interactivity and Python's automation simplify analysis, allowing users to focus on insights rather than processing. The system also provides scalability for use across regions and datasets.

**Template:**




## 4.2 Proposed Solution:

**Proposed Solution Template:**

Project team shall fill the following information in the proposed solution template.

| S.No. | Parameter | Description |
|---|---|---|
| 1. | Problem Statement (Problem to be solved) | Understanding and identifying trends in housing market data can be challenging due to the volume and variety of factors such as location, property features, and time. Users lack an intuitive way to interpret how these factors influence housing prices. |

| | | |
|---|---|---|
| 2. | Idea / Solution description | This project proposes a data-driven approach using Tableau to visualize housing market trends. The system will enable users to upload datasets, process and clean data using Python, and explore trends through interactive dashboards. This helps users gain insights into pricing patterns, feature impact, and locationbased analytics. |
| 3. | Novelty / Uniqueness | The solution uniquely combines data preprocessing in Python with the powerful visual exploration capabilities of Tableau. It offers a no-code experience to users who want to explore complex datasets through simple filters and charts. |
| 4. | Social Impact / Customer Satisfaction | The solution can benefit homebuyers, real estate analysts, and developers by providing transparent and accessible housing market information. It promotes informed decisionmaking and enhances customer confidence. |
| 5. | Business Model (Revenue Model) | This solution can be offered as a freemium Tableau dashboard tool with optional customization services for real estate firms. Revenue can be generated through consulting, dashboard tailoring, or training packages. |
| 6. | Scalability of the Solution | The system is designed to handle moderately large datasets and can be scaled to integrate APIs for live data or support larger data infrastructure with cloud-based Tableau solutions in the future. |

## 4.3 Solution Architecture:

### Solution Architecture:

The solution architecture for this project outlines how data is collected, processed, and visualized to provide insights into housing market trends using Tableau. It identifies the best technologies to support the transformation of raw housing data (CSV/Excel) into meaningful visual dashboards. The architecture also defines preprocessing steps, feature engineering logic, and dashboard publication mechanisms.

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

### Example - Solution Architecture Diagram:

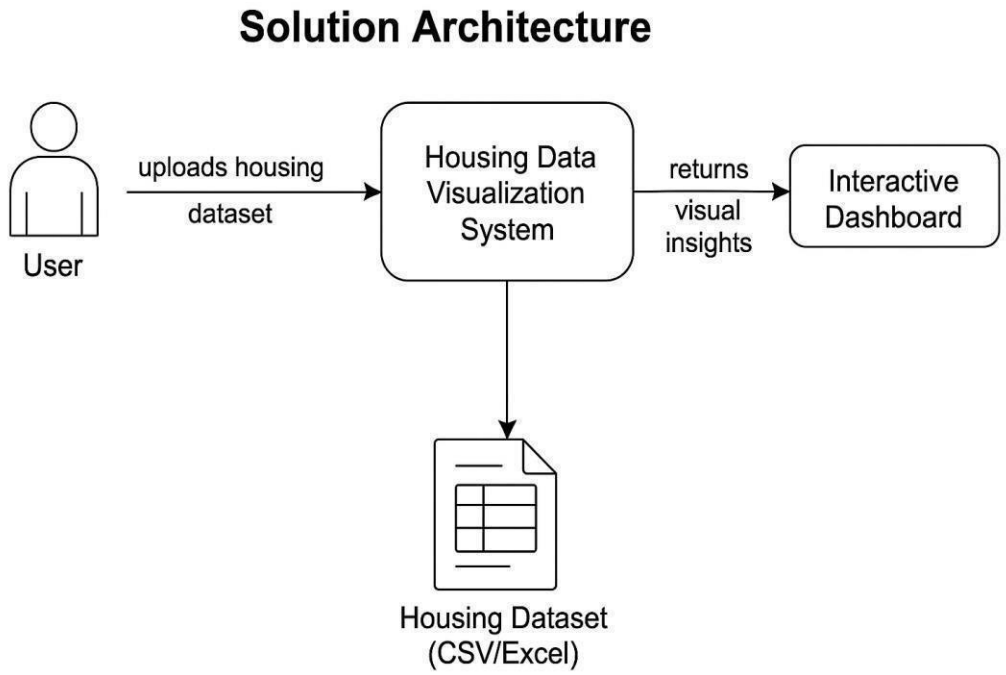



*Figure 1: Architecture and data flow of the voice patient diary sample application.*

# 5. PROJECT PLANNING & SCHEDULING:

## 5.1 Project Planning:

### Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint-1 | Data Collection | USN-1 | As a user, I can upload a housing dataset in CSV/Excel format | 3 | High | Donthu Harshavardhan |
| Sprint-1 | Data Loading | USN-2 | As a user, I can load the dataset into Tableau | 2 | High | Donthu Harshavardhan |
| Sprint-2 | Data Cleaning | USN-3 | As a user, I can clean data and remove missing entries | 3 | High | Donthu Harshavardhan, |
| Sprint-2 | Categorical Handling | USN-4 | As a user, I can preprocess categorical fields appropriately | 3 | High | Donthu Harshavardhan, Chakali Ramana |
| Sprint-3 | Dashboard Design | USN-5 | As a user, I can view visual summaries of pricing trends | 2 | High | Donthu Harshavardhan, |
| Sprint-3 | Featurebased Filtering | USN-6 | As a user, I can filter dashboards by price, bedrooms, location, etc. | 2 | High | Donthu Harshavardhan |
| Sprint-4 | Dashboard Exporting | USN-7 | As a user, I can export visuals to images or PDFs | 2 | High | Donthu Harshavardhan, Gudisi Gnaneshwar Yadav |
| Sprint-5 | Tableau Public Publishing | USN-8 | As a user, I can publish dashboards to Tableau Public | 1 | High | Donthu Harshavardhan, |

**Project Tracker, Velocity & Burndown Chart: (4 Marks)**

| Sprint | Total Story Points | Duration | Sprint Start Date | Sprint End Date | Story Points Commpleted (as on planned date) | Sprint Release Date (Actual) |
|---|---|---|---|---|---|---|
| Sprint-1 | 5 | 2 Days | 18 June 2025 | 20 June 2025 | 5 | 20 June 2025 |
| Sprint-2 | 5 | 2 Days | 20 June 2025 | 22 June 2025 | 5 | 22 June 2025 |
| Sprint-3 | 5 | 2 Days | 22 June 2025 | 24 June 2025 | 5 | 24 June 2025 |
| Sprint-4 | 5 | 1 Day | 24 June 2025 | 24 June 2025 | 5 | 24 June 2025 |
| Sprint-5 | 5 | 1 Day | 25 June 2025 | 25 June 2025 | 5 | 25 June 2025 |

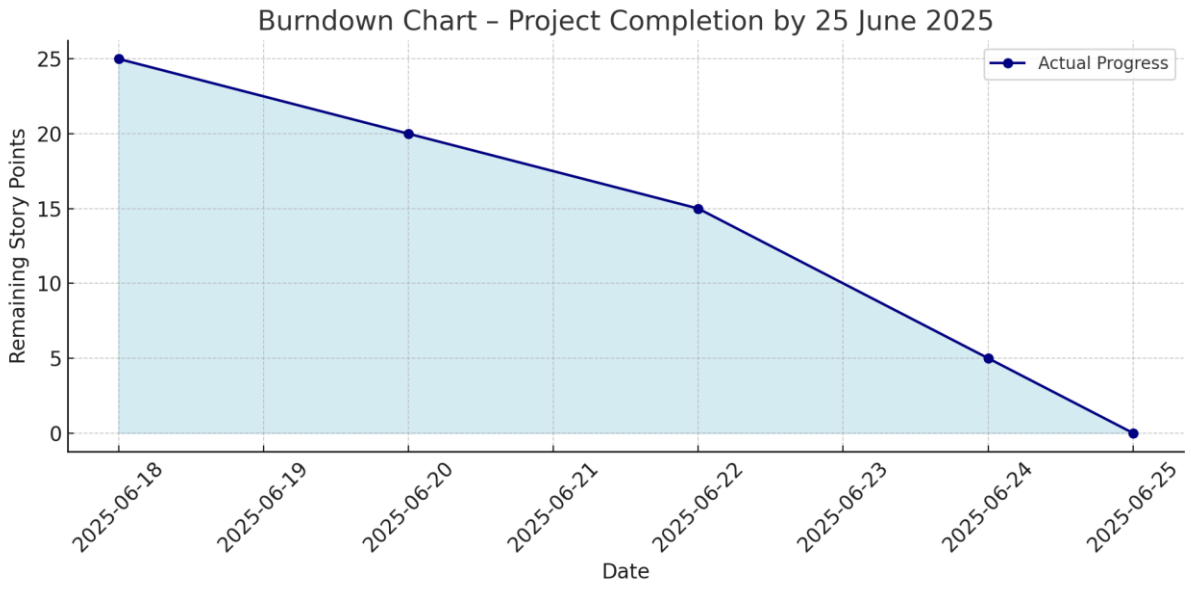
**velocity**

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint).
Let's calculate the team's average velocity (AV) per iteration unit (story points per day) **Average velocity=5+5+5+5+5/2+2+2+1+1=25/8=3.12 Story points/day (rounded)**

**Final average team velocity=3.1 points / day**

## Burndown Chart

A burndown chart visually represents the remaining work versus time.
You can manually plot this based on the dates and story point progression above using tools like Excel or Google Sheets.




# 6. FUNCTIONAL AND PERFORMANCE TESTING:

## 6.1 Performance Testing :

### Model Performance Testing

Project team shall fill the following information in model performance testing template:

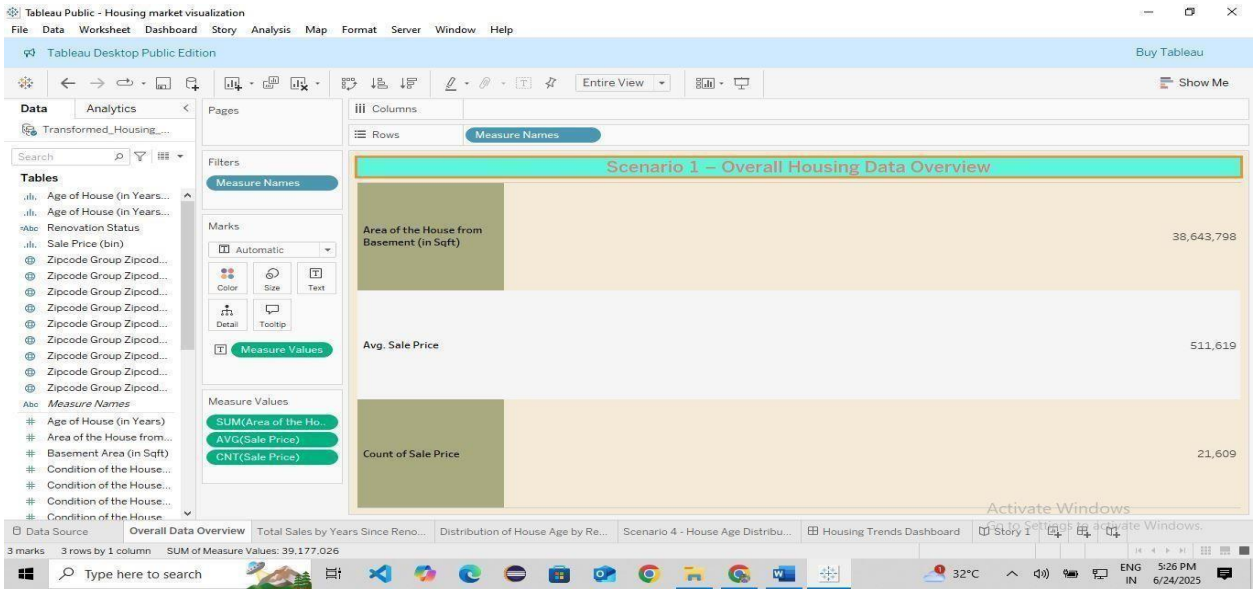
| S.No. | Parameter | Screenshot / Values |
|---|---|---|
| 1 | Data Rendered | Housing dataset with columns: SalePrice, Bedrooms, Bathrooms, YearBuilt, YearRenovated, etc. |
| 2 | Data Preprocessing | Cleaned missing values, derived fields: HouseAge, IsRenovated, YearsSinceRenovation |

| | | |
|---|---|---|
| 3 | Utilization of Filters | Filters used: Year Built, Renovation Status, Bedrooms, Bathrooms, Sale Price Range |
| 4 | Calculation fields Used | HouseAge = 2025 - YearBuilt; IsRenovated = IF YearRenovated > 0 THEN "Yes" ELSE "No" |
| 5 | Dashboard design | No of Visualizations / Graphs - 4 (KPI Overview, Sales by Renovation, Pie Chart by Age & Renovation, Grouped Bar by Features) |
| 6 | Story Design | No of Visualizations / Graphs - 4 (Organized into interactive dashboard layout) |

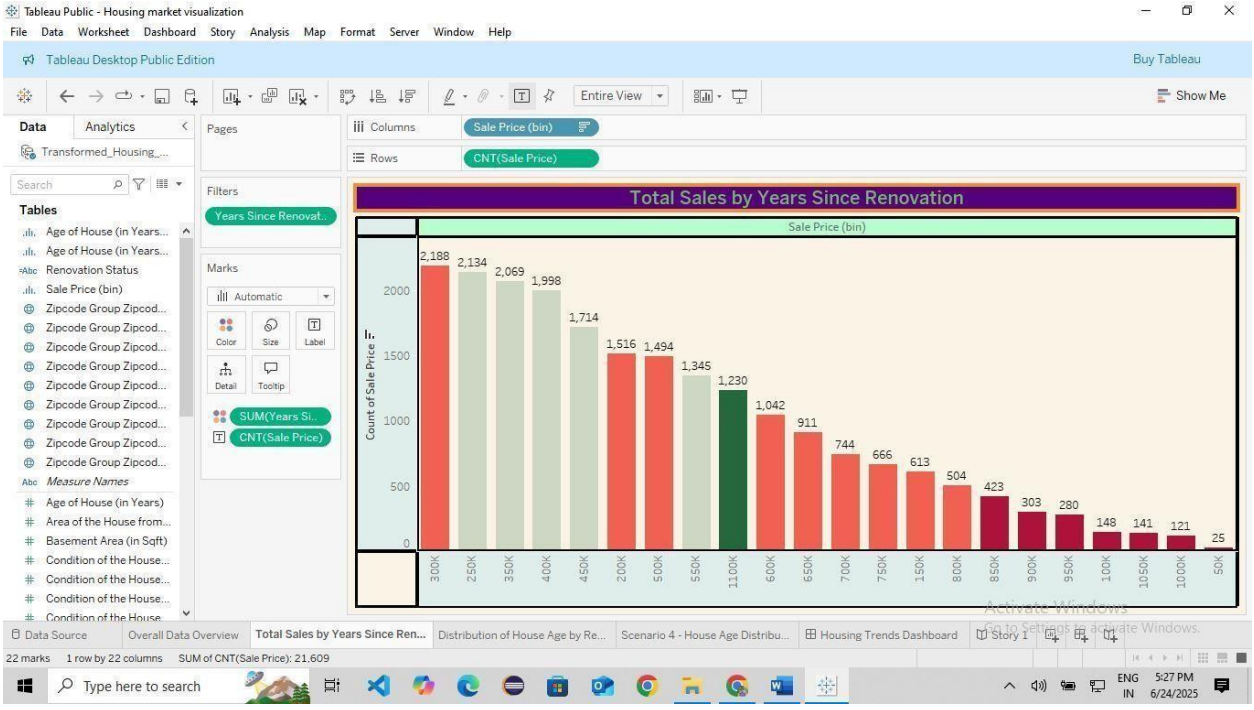
## 7. RESULTS:

### 7.1 Output Screenshots:

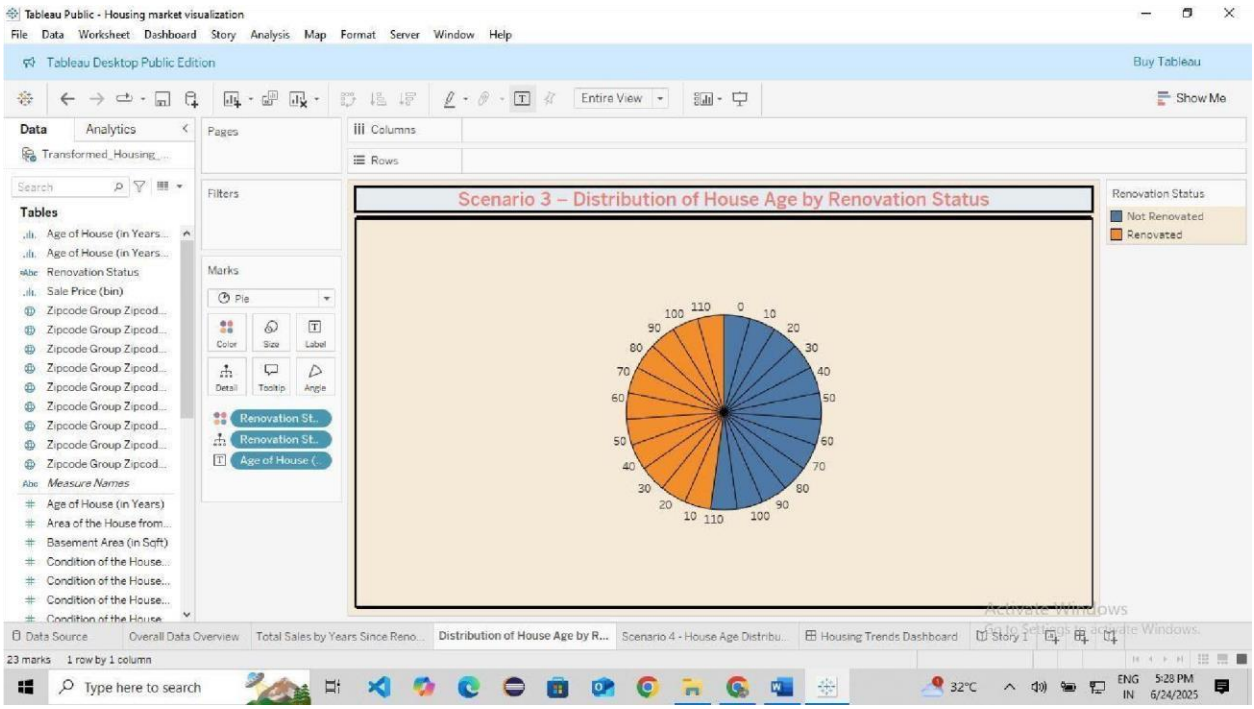
## Scenario 1 – Overall Housing Data Overview



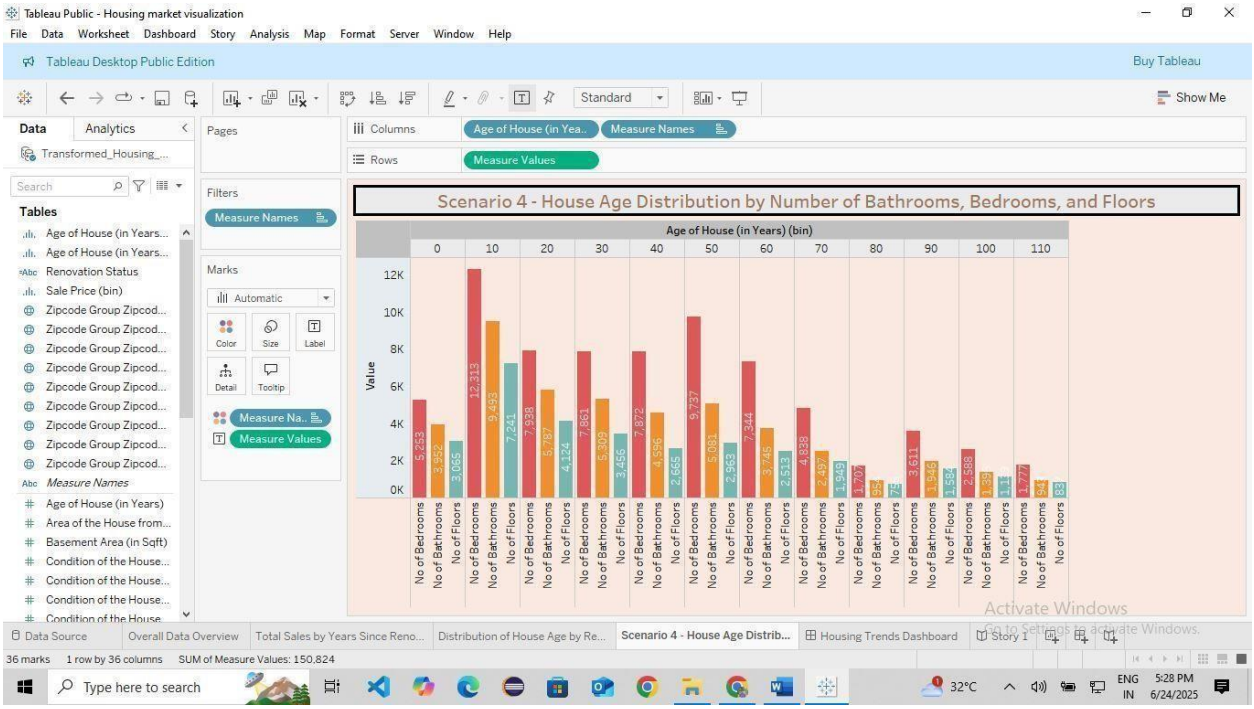

## Scenario-2 Total Sales by Years Since Renovation



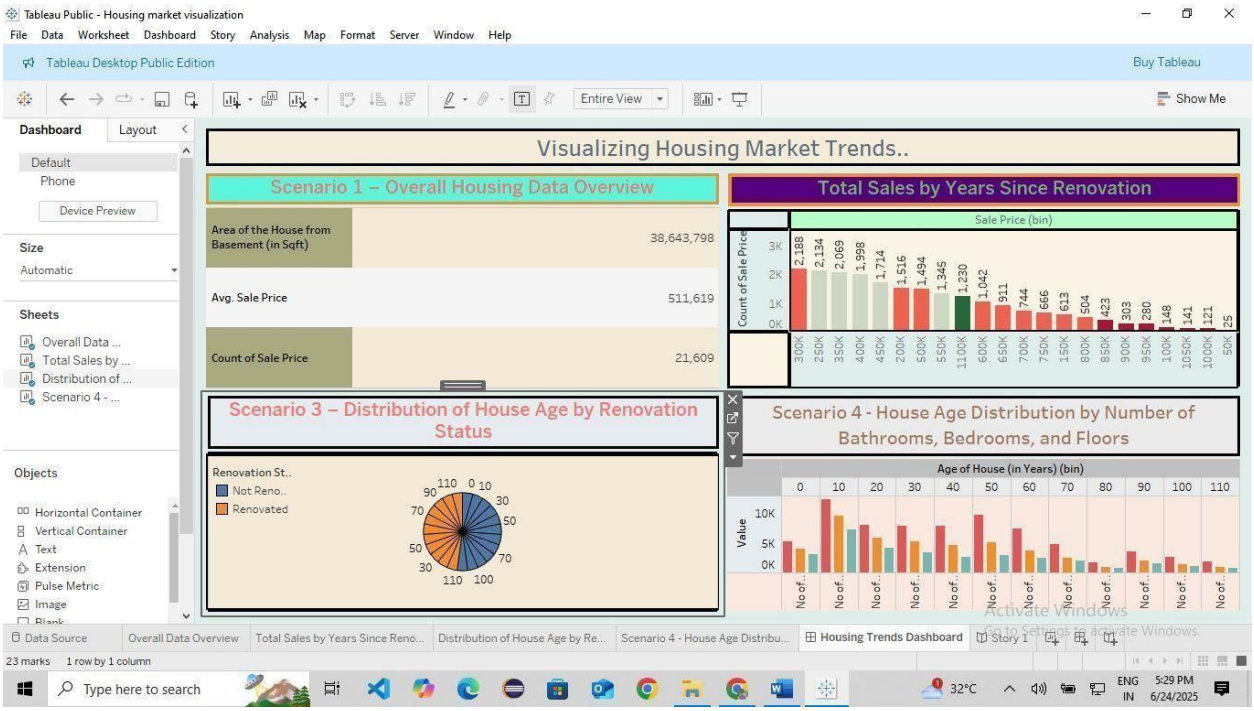

## Scenario 3 – Distribution of House Age by Renovation Status




## Scenario 4 - House Age Distribution by Number of Bathrooms, Bedrooms, and Floors




## Dashboard of Visualizing Housing Market Trends




# (Story)

# Visualizing Housing Market Trends

## By Donthu Harshavardhan

## Team ID: LTVIP2025TMID48912.

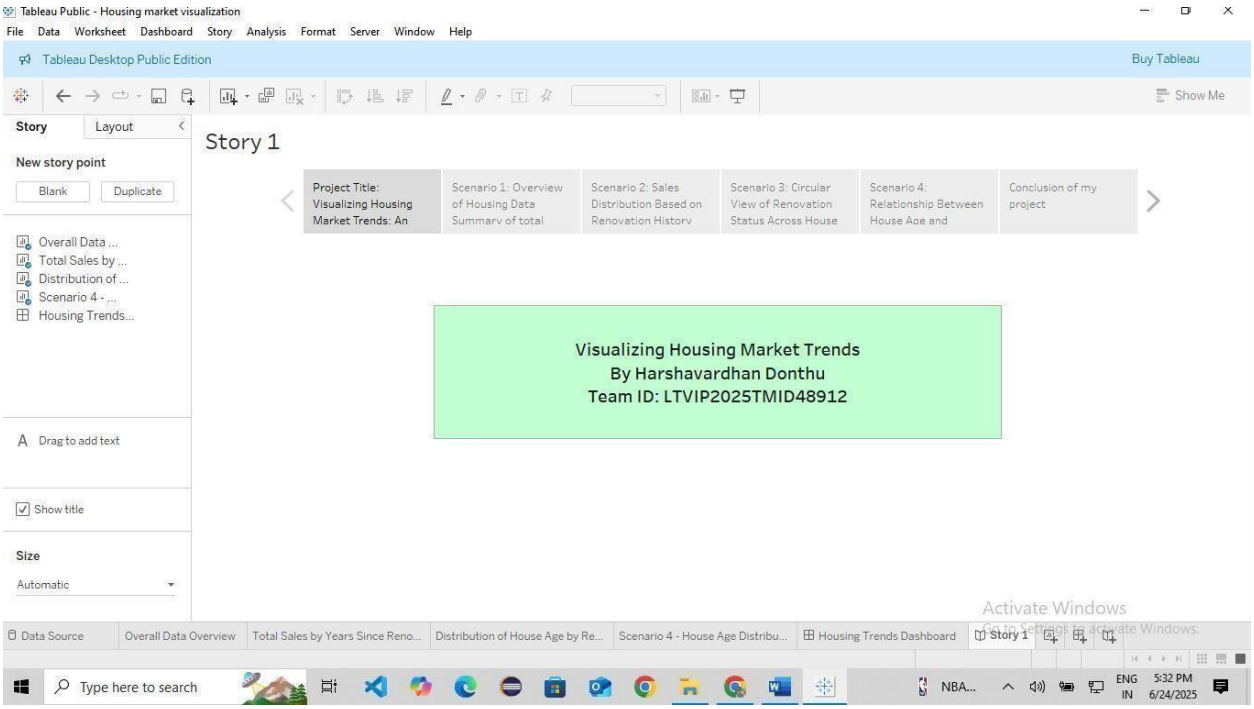


Tableau Public - Housing market visualization
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Tableau Desktop Public Edition
Buy Tableau
Show Me
Story
Layout
New story point
Blank
Duplicate
Overall Data ...
Total Sales by ...
Distribution of ...
Scenario 4 - ...
Housing Trends...
Drag to add text
Show title
Size
Automatic
Story 1
Project Title: Visualizing Housing Market Trends: An
Scenario 1: Overview of Housing Data Summary of total
Scenario 2: Sales Distribution Based on Renovation History
Scenario 3: Circular View of Renovation Status Across House
Scenario 4: Relationship Between House Age and
Conclusion of my project
Visualizing Housing Market Trends
By Harshavardhan Donthu
Team ID: LTVIP2025TMID48912
Activate Windows
Go to Settings to activate Windows.
Data Source
Overall Data Overview
Total Sales by Years Since Reno...
Distribution of House Age by Re...
Scenario 4 - House Age Distribu...
Housing Trends Dashboard
Story 1
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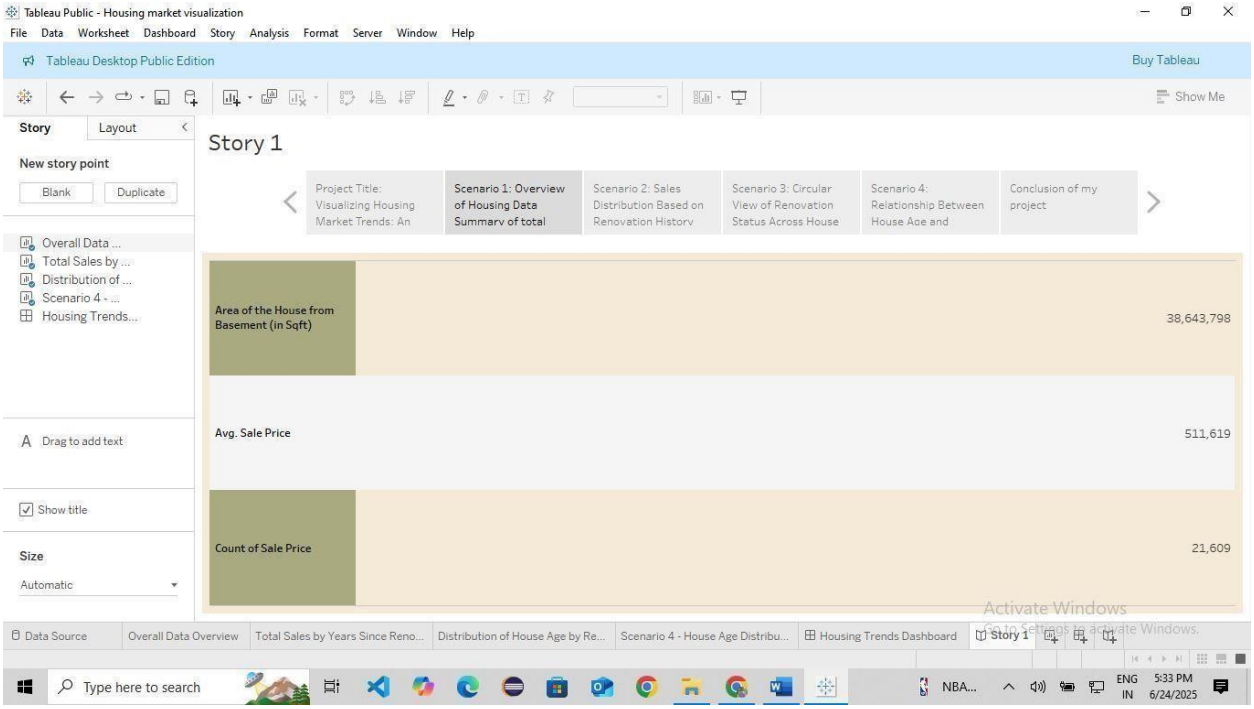
Tableau Public - Housing market visualization
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Tableau Desktop Public Edition
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Overall Data ...
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Scenario 4 - ...
Housing Trends...
Drag to add text
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Story 1
Project Title: Visualizing Housing Market Trends: An
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Scenario 3: Circular View of Renovation Status Across House
Scenario 4: Relationship Between House Age and
Conclusion of my project
Area of the House from Basement (in Sqft)
38,643,798
Avg. Sale Price
511,619
Count of Sale Price
21,609
Activate Windows
Go to Settings to activate Windows.
Data Source
Overall Data Overview
Total Sales by Years Since Reno...
Distribution of House Age by Re...
Scenario 4 - House Age Distribu...
Housing Trends Dashboard
Story 1
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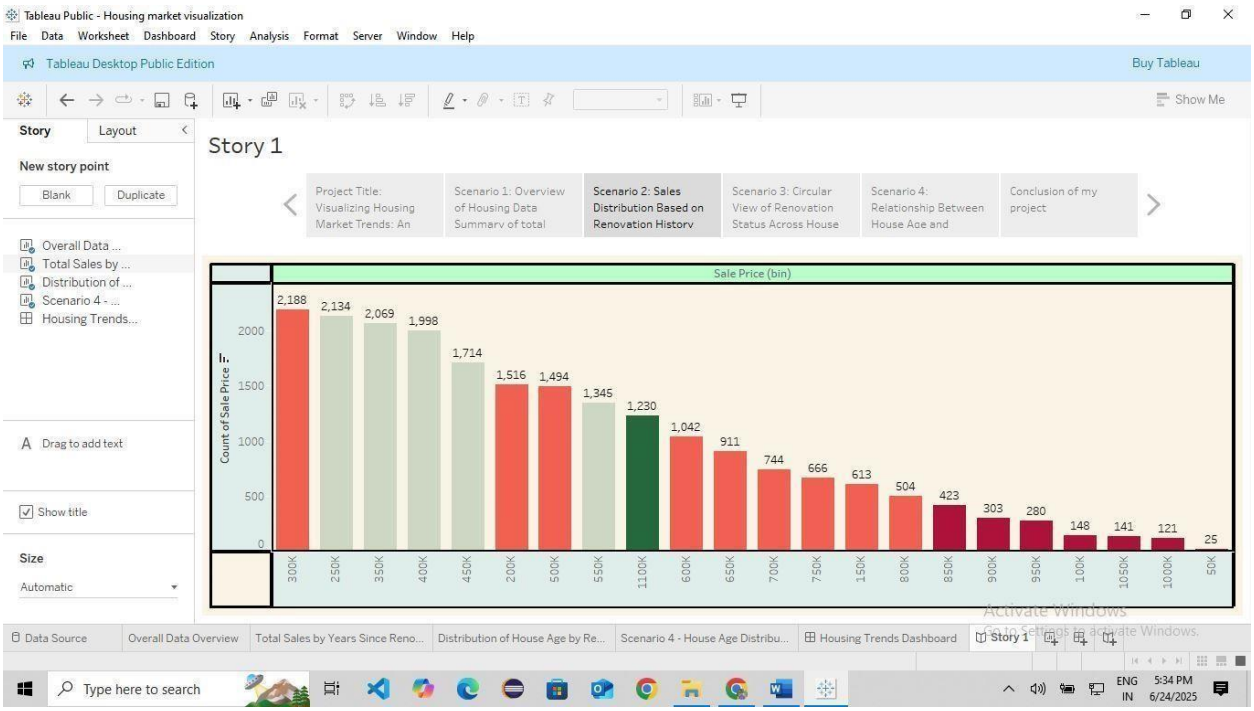
Tableau Public - Housing market visualization
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Scenario 1: Overview of Housing Data Summary of total
Scenario 2: Sales Distribution Based on Renovation History
Scenario 3: Circular View of Renovation Status Across House
Scenario 4: Relationship Between House Age and
Conclusion of my project
Sale Price (bin)
Count of Sale Price
2,188
2,134
2,069
1,998
1,714
1,516
1,494
1,345
1,230
1,042
911
744
666
613
504
423
303
280
148
141
121
25
300K
250K
350K
400K
450K
200K
500K
550K
1100K
600K
650K
700K
750K
150K
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900K
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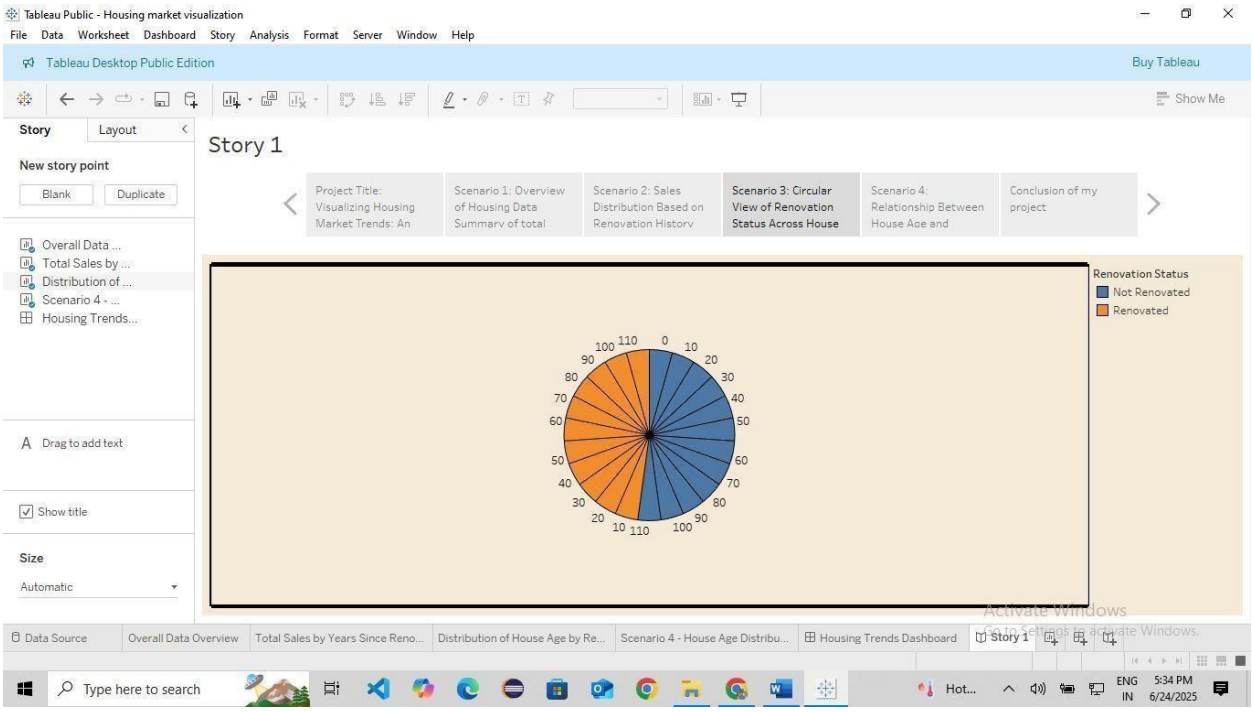
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Scenario 1: Overview of Housing Data Summary of total
Scenario 2: Sales Distribution Based on Renovation History
Scenario 3: Circular View of Renovation Status Across House
Scenario 4: Relationship Between House Age and
Conclusion of my project
Renovation Status
Not Renovated
Renovated
0
10
20
30
40
50
60
70
80
90
100
110
Activate Windows
Go to Settings to activate Windows.
Data Source
Overall Data Overview
Total Sales by Years Since Reno...
Distribution of House Age by Re...
Scenario 4 - House Age Distribu...
Housing Trends Dashboard
Story 1
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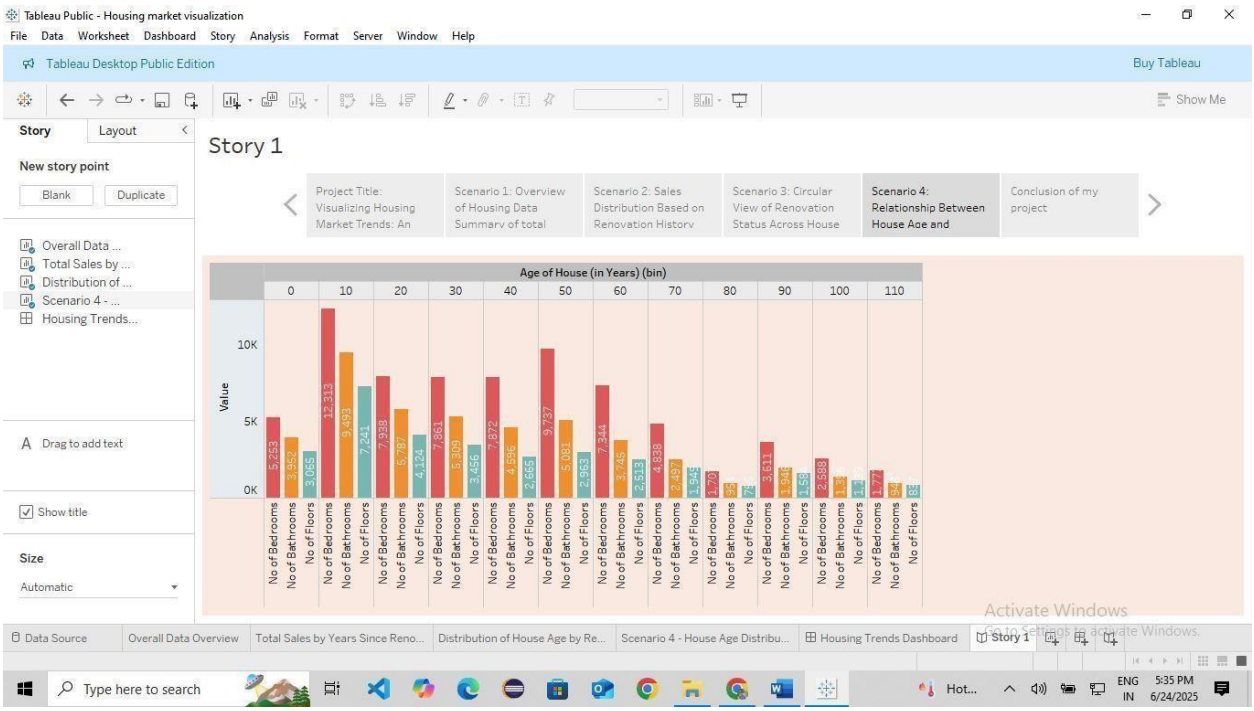


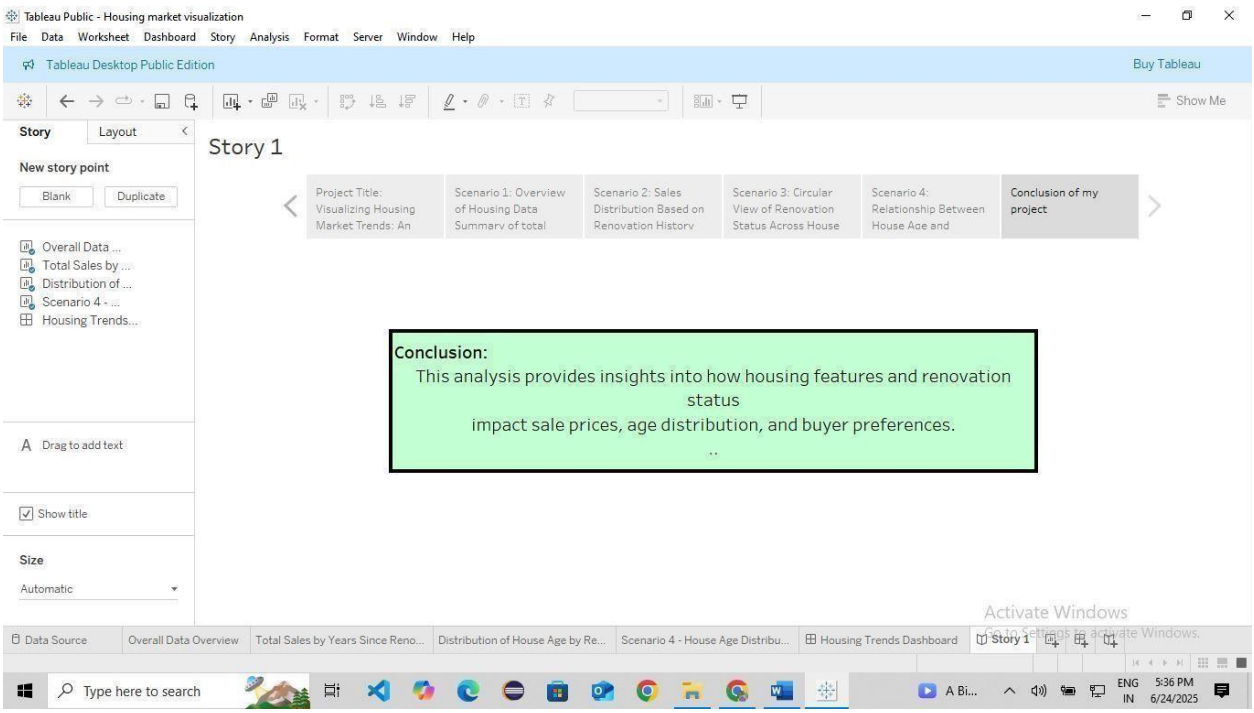


## 8. ADVANTAGES & DISADVANTAGES:

### Advantages

- Easy to use and visually appealing
- Helps users quickly understand housing trends

- No coding required — just interactive dashboards
- Saves time with filters and ready-made visuals
- Can be customized with your own data

**Disadvantages**

- Doesn’t predict future prices (no ML)
- Requires Tableau software access
- Needs manual data updates
- Large files may slow down performance
- Limited mobile responsiveness.

## 9.conclusion.

- This project successfully demonstrates how Tableau can be used to visualize and analyze housing market trends. By transforming raw data into interactive dashboards, users can easily explore factors that influence house prices—such as renovations, age, and number of rooms. While the project is simple and intuitive, it provides valuable insights that support better real estate decisions. With further enhancements like predictive models or live data, this dashboard could evolve into a powerful tool for buyers, sellers, and analysts alike.

## 10. FUTURE SCOPE.

- Integrate predictive models to forecast future house prices.
- Connect to live housing market APIs for real-time updates.
- Enable mobile-friendly dashboard views.
- Add map-based visualizations for geo-level insights
- Include user login to save preferences and sessions.. - Allow comparisons across multiple cities or time periods.

**11.APPENDIX:**

- **Source code:** N/A (Tableau is low-code)

- **Data set link:**

https://www.kaggle.com/datasets/rituparnaghosh18/transformed-housing- data-2

**Github & Project demo link**

- **Git hub link:**

https://github.com/Harshavardhandonthu/Visualizing-HousingMarket-Trends-An-Analysis-of-Sale-Prices-and-Features-using-Tableau

- **Demo link:**

https://drive.google.com/file/d/1jWU9bB2cKyY9fbzkhcaM4iiKVDI3asuw/view?usp=drive_link