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

## Project Title

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

## Project Objective

This project aims to provide a comprehensive analysis of housing market data to uncover patterns, pricing trends, and the impact of specific features like renovations, bathrooms, bedrooms, and house age on sales. Using Tableau Desktop, key metrics and visualizations have been created to help stakeholders such as real estate analysts and executives make informed strategic decisions.

## Tools Used

- Tableau Desktop: For creating dashboards and visualizations  
- Microsoft Excel: For initial data cleaning and calculations  
- Calculated Fields in Tableau:  
 - House Age (in Years) = 2024 - [Year Built]  
 - Years Since Renovation = 2024 - [Year Renovated]

## Dataset Overview

- Dataset Name: Housing\_Market\_Full\_Dataset\_21609.csv  
- Total Records: 21,609  
- Key Features:  
 - Year Built  
 - Year Renovated  
 - Number of Bathrooms, Bedrooms, Floors  
 - Sale Price  
 - Basement Area, Flat Area, Lot Area

## Scenarios & Visualizations

Scenario 1: Comprehensive Data Overview  
Visualization Type: Text Table  
- Count of Transformed Housing Data: 21,609  
- Average Sales Price: $511,619  
- Area of the House from Basement: 38,643,798 sqft  
  
Scenario 2: Total Sales by Years Since Renovation  
Visualization Type: Colored Bar Chart  
- Shows count of sales prices vs. years since renovation  
- Bars colored from red to green indicating renovation recency  
  
Scenario 3: Distribution of House Age by Renovation Status  
Visualization Type: Pie Chart  
- Each slice represents a house age group  
- Size of the slice based on count of houses in that age group  
  
Scenario 4: House Age Distribution by No. of Bathrooms, Bedrooms, and Floors  
Visualization Type: Grouped Bar Chart  
- Grouped by house age (in years)  
- Bars represent counts of features (bathrooms, bedrooms, floors)  
- Used Pivot Fields in Tableau to merge features into one axis

## Key Insights

- Recently renovated homes have significantly higher sale prices.  
- Majority of houses fall into the 50-70 years age range.  
- Most homes with 2–3 bedrooms and 1–2 floors were built 10–20 years ago.  
- House age and number of renovations are positively correlated with pricing.

## Challenges Faced

- Pivoting fields in Tableau for grouped charts  
- Correctly calculating and formatting pie chart angles and labels  
- Matching final visualization style with company branding

## Project Folder Structure (For GitHub)

Housing-Market-Analysis/  
├── README.md  
├── Housing\_Market\_Full\_Dataset\_21609.csv  
├── Tableau\_Workbook.twbx  
├── Documentation/  
│ ├── Project\_Report.pdf  
│ └── Screenshots/  
│ ├── Scenario1\_Overview.png  
│ ├── Scenario2\_Renovation.png  
│ ├── Scenario3\_PieChart.png  
│ └── Scenario4\_GroupedBar.png

## Timeline

| Task | Duration |  
|------|----------|  
| Data Cleaning | 1 day |  
| Calculated Fields Setup | 0.5 day |  
| Creating All Dashboards | 2 days |  
| Review and Final Touches | 0.5 day |

## Conclusion

This Tableau dashboard successfully visualizes critical factors influencing house prices and trends in the real estate market. With actionable insights derived from renovation age, house features, and construction year, the dashboard helps stakeholders make data-backed pricing and investment decisions.

## Contributors

- Madhavi Jaddu – Project Design, Analysis & Visualization

- Chennu Peshma Devi Sree – Data Cleaning & Dashboard Development

- Bokka Kavya Sri – Visualization Design & Report Writing

## How to Run This Project

1. Clone/download this GitHub repo  
2. Open Tableau\_Workbook.twbx using Tableau Desktop  
3. Ensure the dataset (.csv) is in the same folder  
4. Explore each scenario in separate sheets

## License

This project is licensed under the MIT License – see the LICENSE file for details.