### ***Data Analytics with Tableau Project Documentation***

### 1. Introduction

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

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### 2. Project Overview

**Purpose**:  
This project analyzes housing market data to understand how features such as renovation status, house age, and structural factors impact sale prices. The aim is to provide stakeholders with actionable visual insights.

**Features**:

* Interactive Tableau dashboard
* Sale price trends by renovation
* House age vs. structure analysis
* KPIs for total sales and average price
* Web deployment using Flask

### 3. Architecture

**Frontend**:  
HTML + CSS (index.html) — Embeds Tableau visualization

**Backend**:  
Python Flask (app.py) — Serves static content on local server

**Database**:  
Static dataset used via Tableau (dataset\_house.csv)

### 4. Setup Instructions

**Prerequisites**:

* Python 3.x
* Flask (pip install flask)
* Tableau Public account
* Web browser

**Installation**:

1. Clone the repository
2. Install Flask
3. Run python app.py
4. Open browser at http://localhost:5000

### 5. Folder Structure

housing-market-trends/  
├── app.py # Flask backend  
├── index.html # Frontend HTML  
├── dataset\_house.csv # Data used in Tableau  
├── README.md # Project overview

### 6. Running the Application

**Frontend**: Hosted via Flask at localhost  
**Backend**: Flask server (python app.py) serves HTML

### 7. API Documentation

*No APIs used — Data visualized using Tableau Public embed.*

### 8. Authentication

Not applicable — Public dashboard with no login or secure data access.

### 9. User Interface

* Dashboard title and summary text
* Tableau visualizations embedded in a styled container
* Responsive layout with footer

### 10. Testing

* Manual testing on browser and local host
* Validated Tableau filters, views, and KPIs
* Cross-browser check (Chrome, Edge)

### 11. Screenshots or Demo

Dashboard Screenshot:  
(Embed or screenshot from Tableau)  
<https://public.tableau.com/static/images/72/72FJNMZRY/1.png>

### 12. Known Issues

* Dashboard loads slower on low bandwidth
* No mobile optimization
* Tableau embed requires public link

### 13. Future Enhancements

* Add filters and dropdowns
* Use real-time housing datasets
* Connect to database and enable query-based filtering
* Add authentication for admin access