ARIGNAR ANNA GOVERNMENT ARTS COLLEGE, MUSIRI-621 211

Affiliated to Bharathidasan University, Thiruchirapalli

NAAN MUDHALVAN PROJECT

PROJECT NAME:

DATA LITERACY WITH TABLEAU

Topic:

Analysing Housing Prices in Metropolitan Areas of India

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INTODUCTION:

House price prediction in a metropolitan city in India is a valuable solution for potential home buyers, real estate agents, and investors. By leveraging historical sales data, property details, and location-specific information, a predictive model can accurately estimate house prices. The model's scalability, real-time updates, user-friendly interface, and transparency ensure it meets the needs of stakeholders. Integration capability, data privacy, and cost-effectiveness are also important considerations. By addressing these requirements, the prediction model provides reliable insights, empowering stakeholders to make informed decisions in the fast-paced real estate market
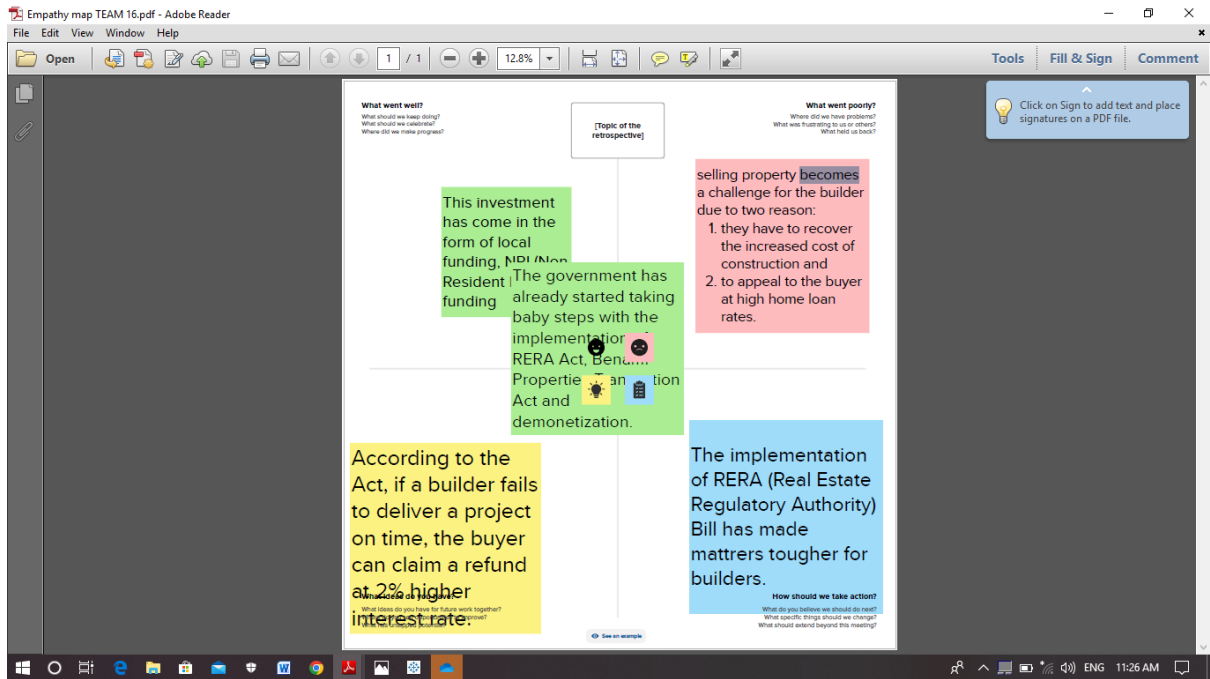
TABLEAU ARCHITECTURE:
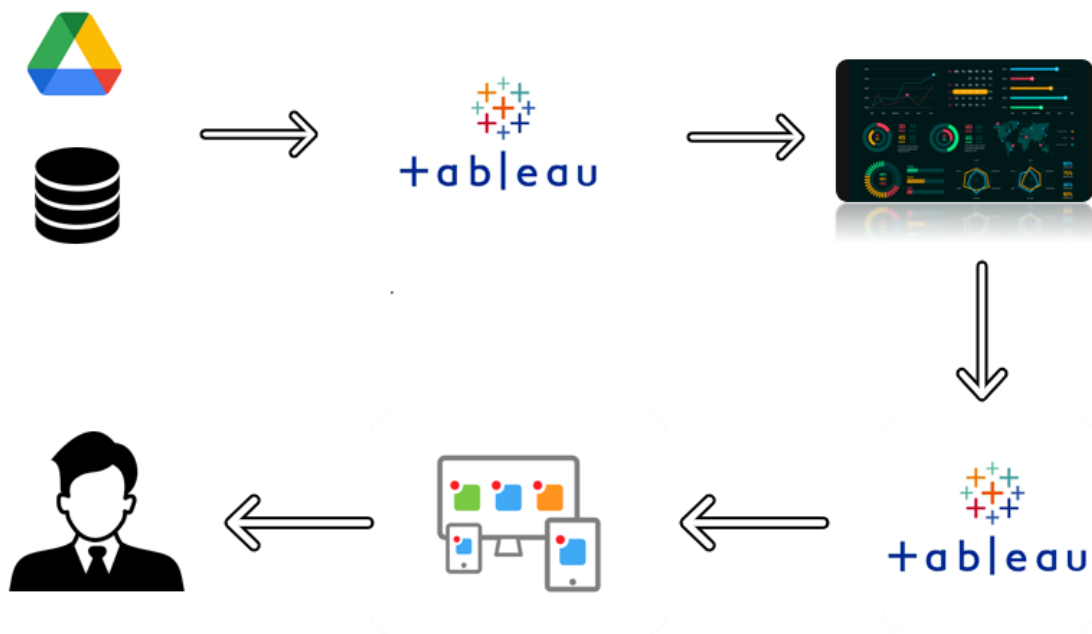
PROJECT FLOW:

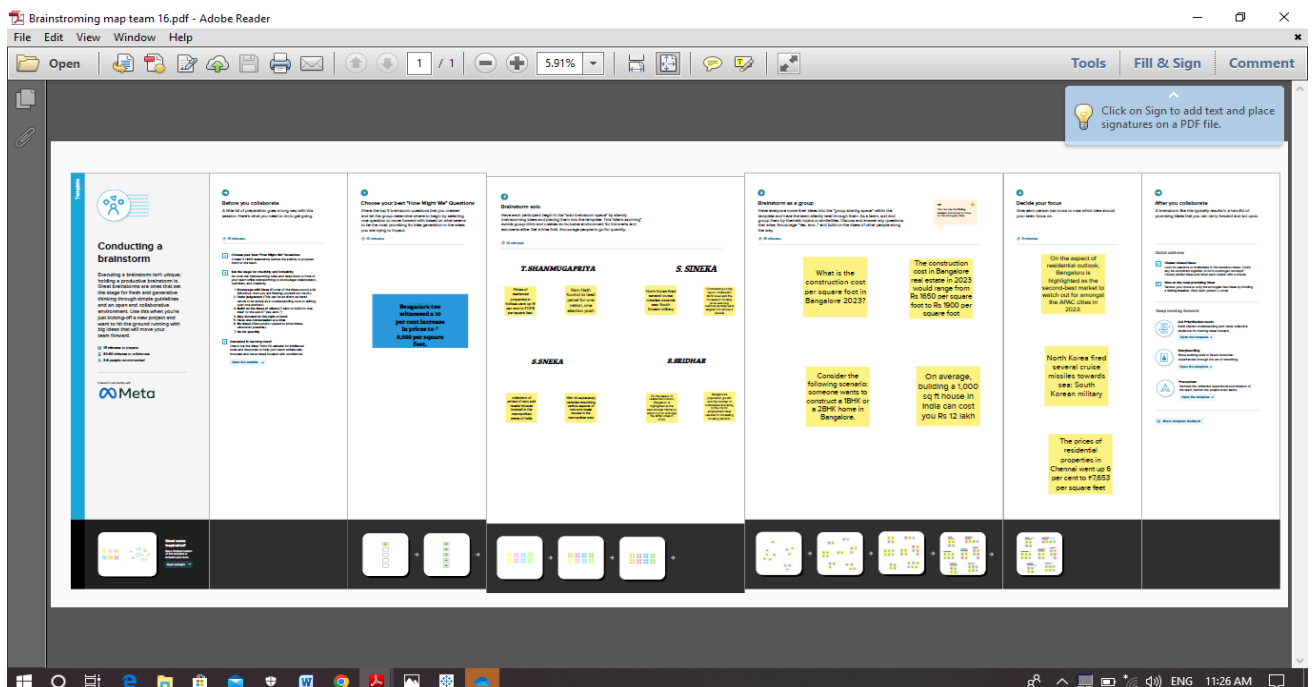To accomplish this, we have to complete all the activities listed below,
- **Define Problem / Problem Understanding Specify the business problem**
- **Business requirements**
- **Literature Survey**
- **Social or Business Impact.**
- **Data Collection & Extraction Collect the dataset**

- **Connect Dataset with Tableau**
- **Data Preparation Prepare the Data for Visualization**
- **Data Visualizations Number of Unique Visualizations**
- **Dashboard Responsive and Design of Dashboard**
- **Story Number of Scenes of Story**
- **Performance Testing Utilization of Data Filters**
- **Number of Visualizations/ Graphs**

- **Publishing Publishing Dashboard and Story on Tableau Public**
-
- **Project Demonstration & Documentation Record explanation Video for project end to end solution**
- **Project Documentation-Step by step project development procedure**

Milestone 1: Define Problem / Problem Understanding
Activity 1: Specify the business problem

What went well?
What should we keep doing?
What should we celebrate?
Where did we make progress?

[Topic of the retrospective]

What went poorly?
Where did we have problems?
What was frustrating to us or others?
What held us back?

This investment has come in the form of local funding, NRI (Non Resident funding

selling property becomes a challenge for the builder due to two reason:
1. they have to recover the increased cost of construction and
2. to appeal to the buyer at high home loan rates.

The government has already started taking baby steps with the implementation RERA Act, Benami Properties transaction Act and demonetization.

According to the Act, if a builder fails to deliver a project on time, the buyer can claim a refund at 2% higher interest rate.

The implementation of RERA (Real Estate Regulatory Authority) Bill has made mattrers tougher for builders.

How should we take action?
What do you believe we should do next?
What specific things should we change?
What should extend beyond this meeting?

What ideas do you have for future work together?

See an example

Activity 2: Business requirements

Activity 3: Literature Survey

1. Rosen, S. Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition. *J. Political Econ.* 1974, *82*, 34–55. [Google Scholar] [CrossRef]

2. Can, A. Specification and estimation of hedonic housing price models. *Reg. Sci. Urban Econ.* 1992, *22*, 453–474. [Google Scholar] [CrossRef]

3. Kang, Y.; Zhang, F.; Peng, W.; Gao, S.; Rao, J.; Duarte, F.; Ratti, C. Understanding house price appreciation using multi-source big geo-data and machine learning. *Land Use Policy* 2021, *111*, 104919. [Google Scholar] [CrossRef]

4. Yacim, J.A.; Boshoff, D.G.B. A Comparison of Bandwidth and Kernel Function Selection in Geographically Weighted Regression for House Valuation. *Int. J. Technol.* 2019, *10*, 58. [Google Scholar] [CrossRef]

5. Tobler, W.R. A Computer Movie Simulating Urban Growth in the Detroit Region. *Econ. Geogr.* 1970, *46*, 234–240. [Google Scholar] [CrossRef]

Activity 4: Social or Business Impact.

Social Impact: Houses with best facilities in India. By analysing the number of bed rooms and Services provided , may somebody with the dilemma to buy or not buy his/her own houses based on price and best facilities.

Business Model/Impact: Can make this visualization application available for people, for more insights and ideas can ask for payment and also can give these insights to make the understand and help in the sense of buying house.

Milestone 2: Data Collection

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, evaluate outcomes and generate insights from the data.

Activity 1: Downloading the dataset

Please use the link to download the dataset:
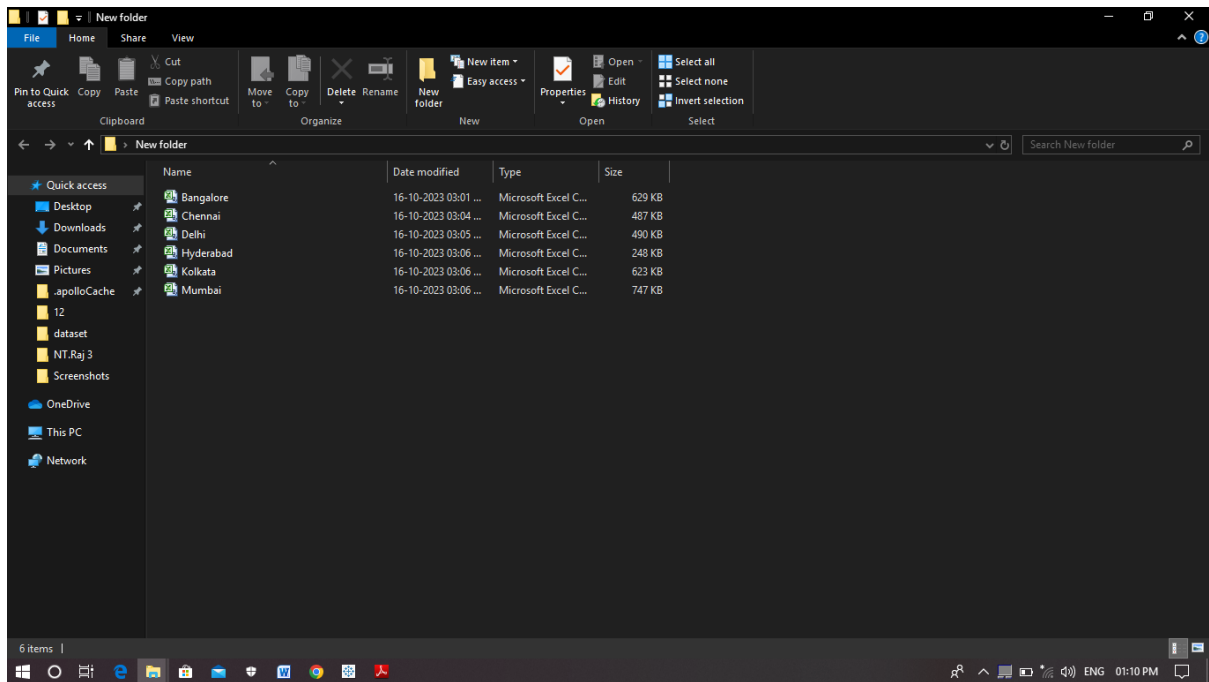
Activity 1.1: Understand the data

Data contains all the meta information regarding the columns described in the CSV files

Activity 2: Connect Dataset with Tableau

Explanation video link:

https ://drive.google.com/file/d/11nyFJ7x2K6-GGWzsQ6S-i-n-sqePkgy/view?usp=sharing
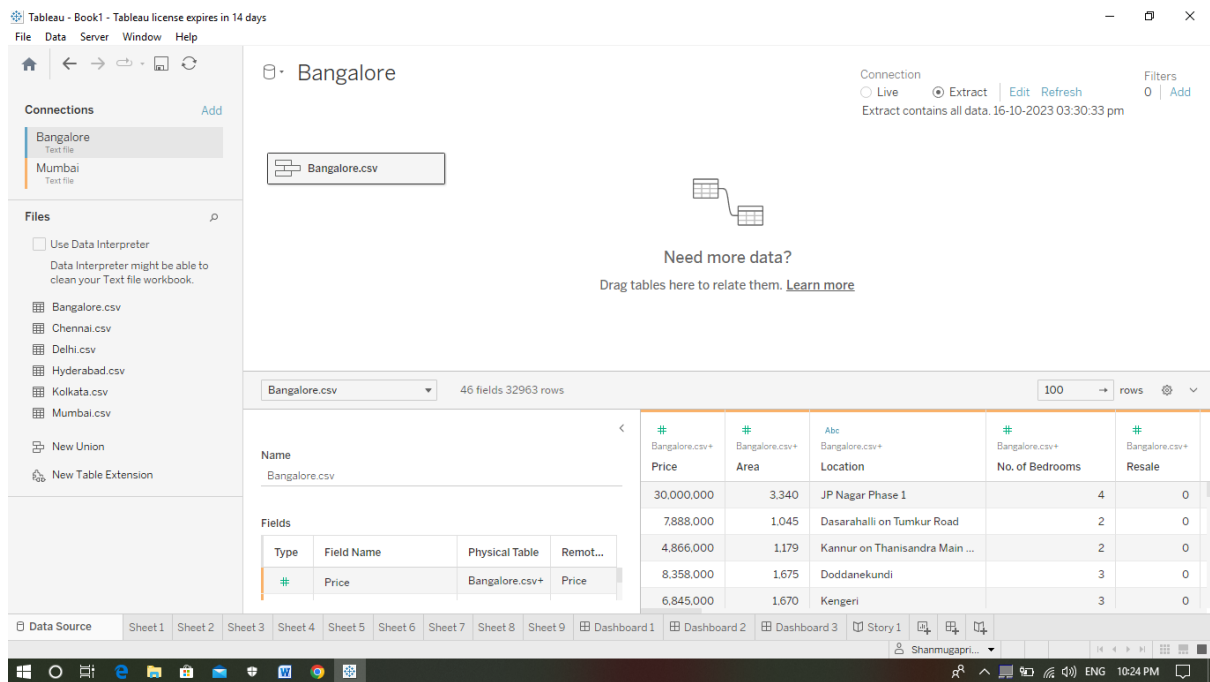
Milestone 3: Data Preparation

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into performance and efficiency.

Milestone 4: Data Visualization

Data visualization is the process of creating graphical representations of data to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

Activity 1: Number of Unique Visualizations

The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyze the performance and efficiency of Radisson Hotels include bar charts, line charts, heat maps, scatter plots, pie charts, Maps etc. These visualizations can be used to compare performance, track changes over time, show distribution, relationships between variables, breakdown of revenue and customer demographics, workload, resource allocation and location of hotels.

Activity 1.1: Latitude and Longitude based on Location
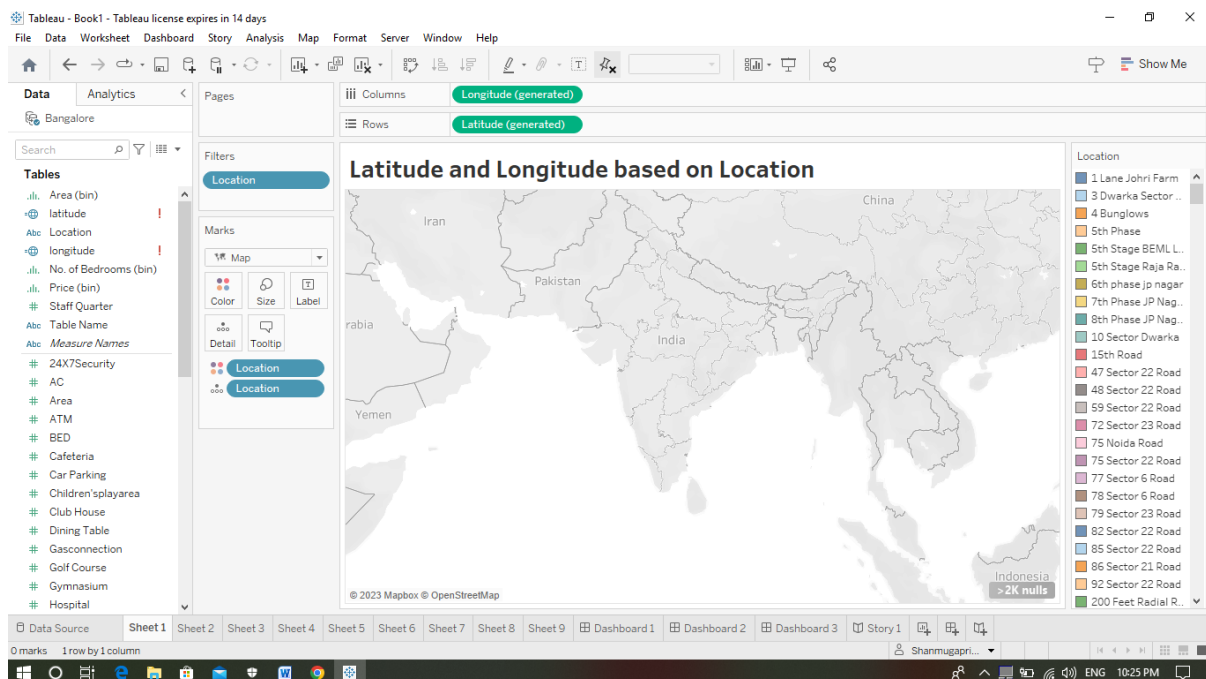
Activity 1.2: Number of houses based on area in sqf
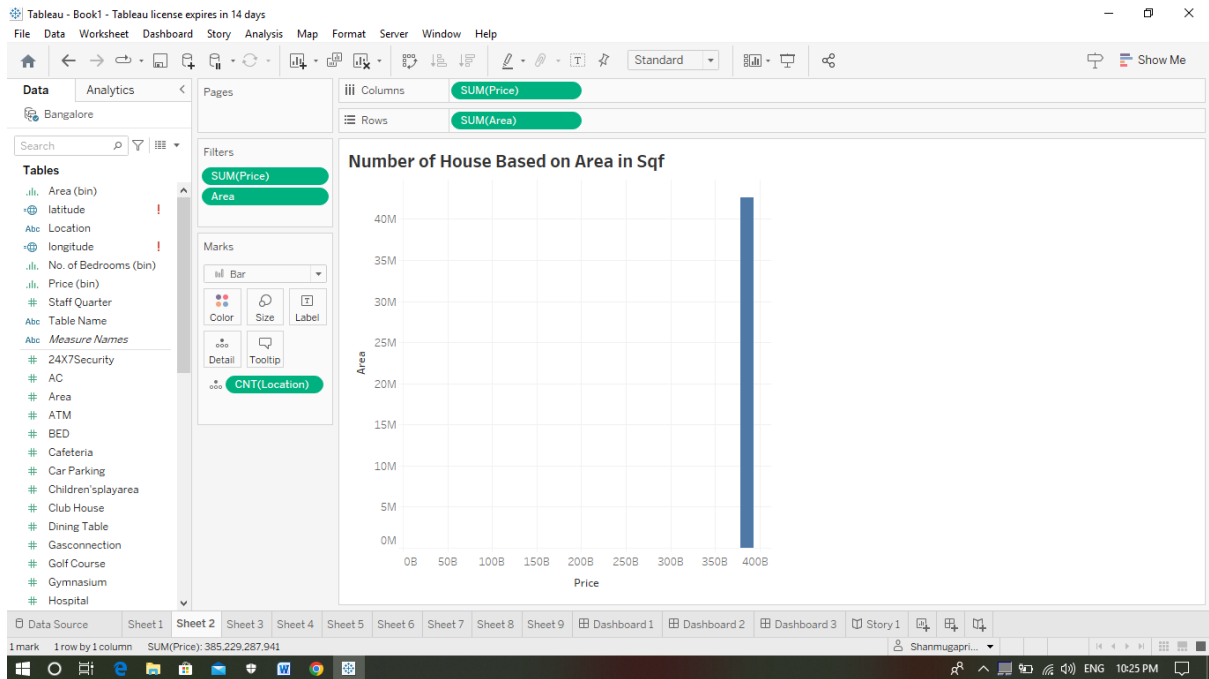
Activity 1.3: Houses price based on rainwater harvest pits
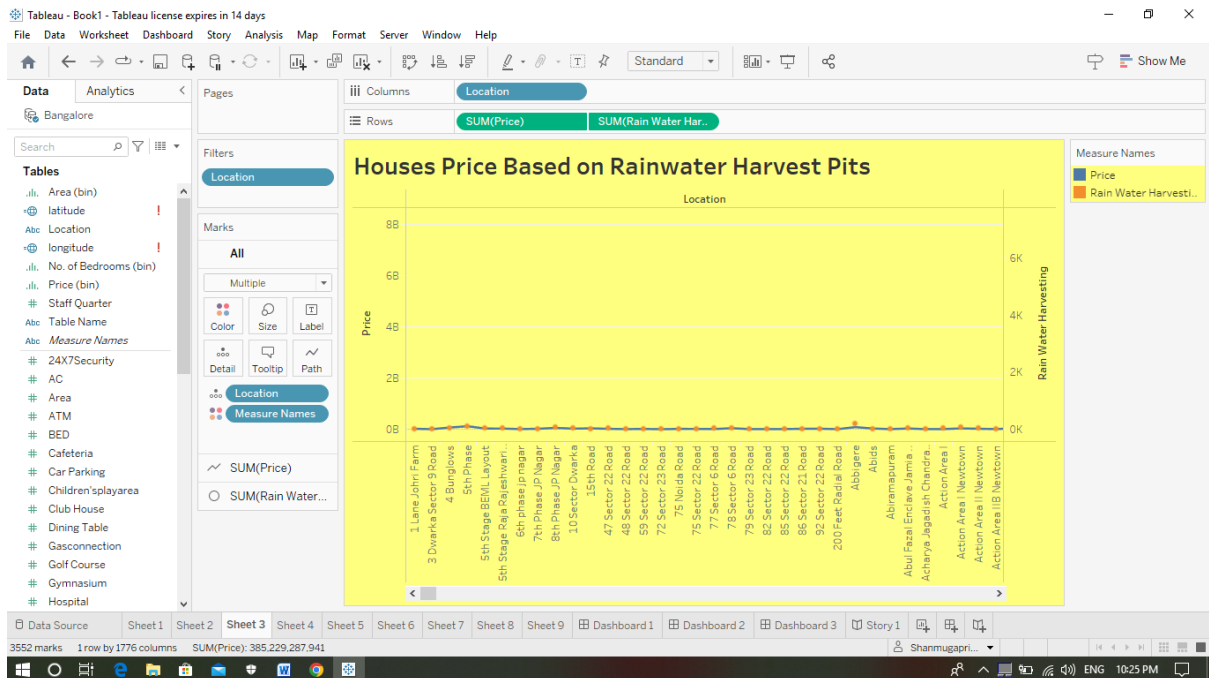
Activity 1.4: Vastu-complains based on location
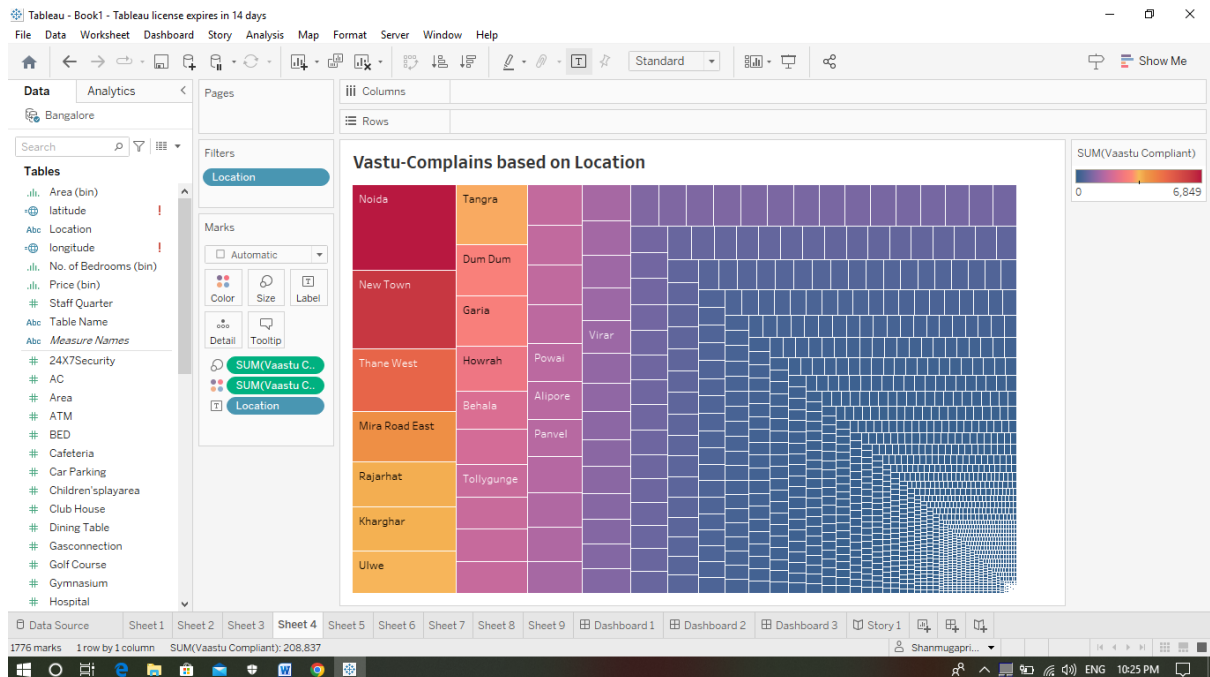
Activity 1.5: House price based on Number of Bedrooms
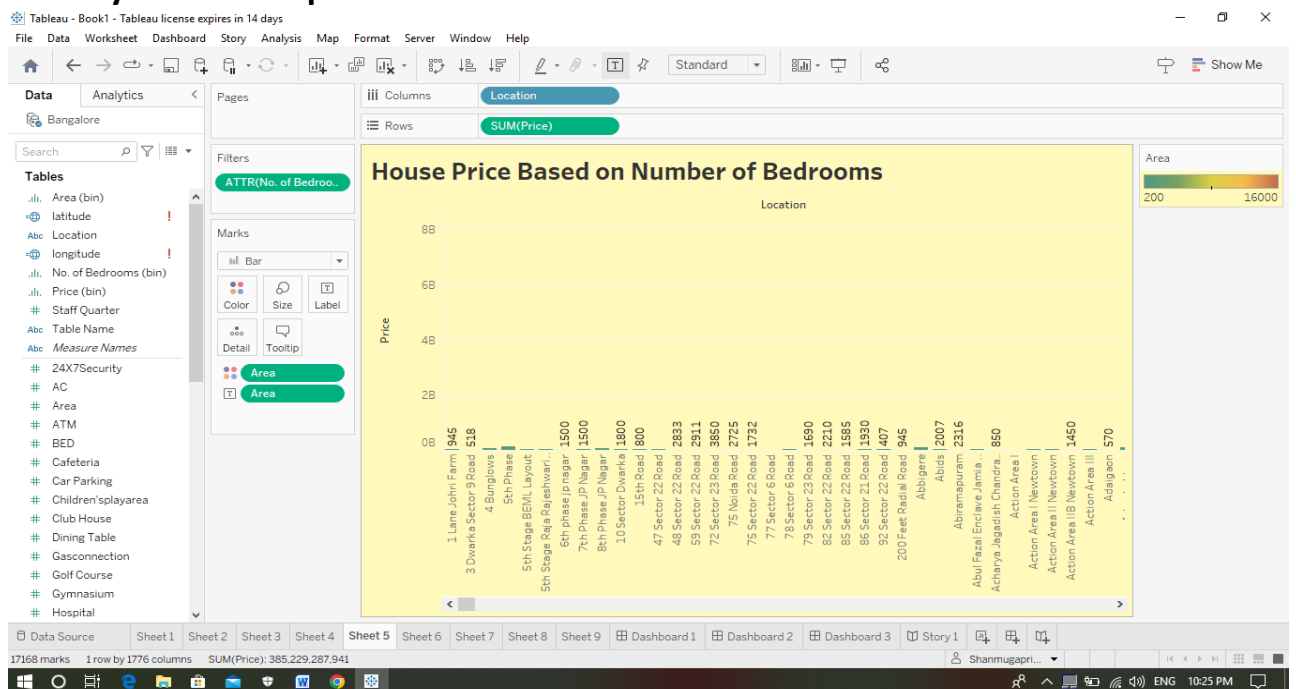
Activity 1.7: Maintains staff in houses prices
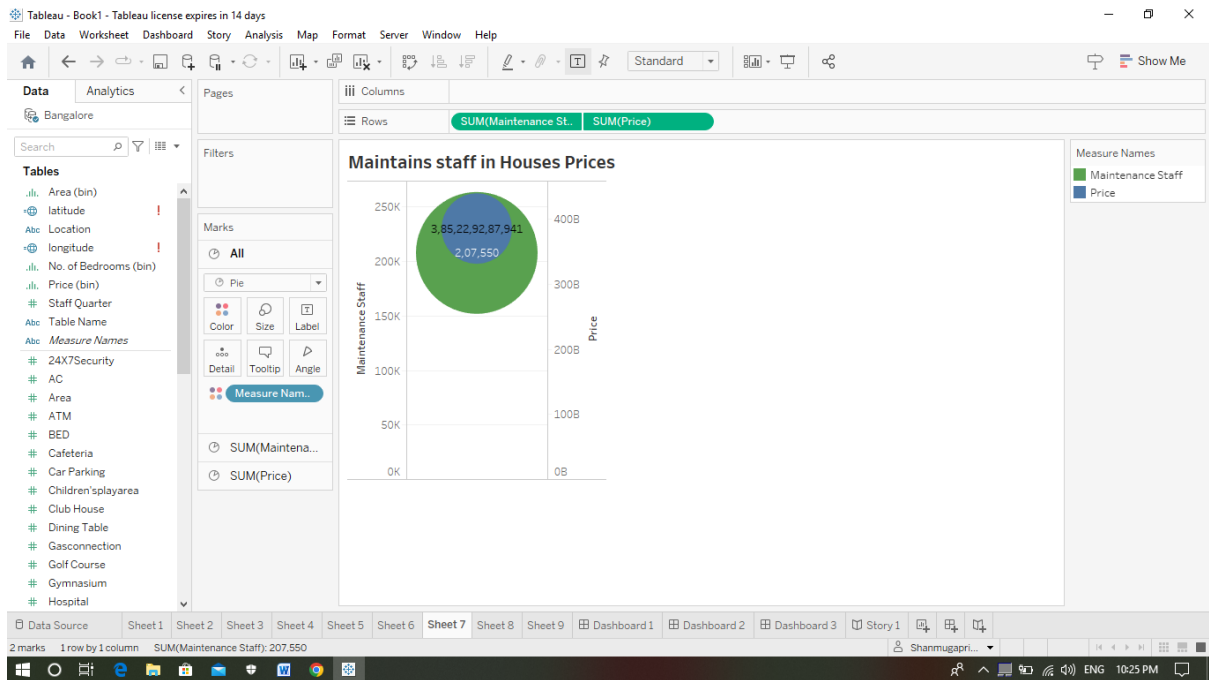
Activity 1.8 : House Price and Intercom
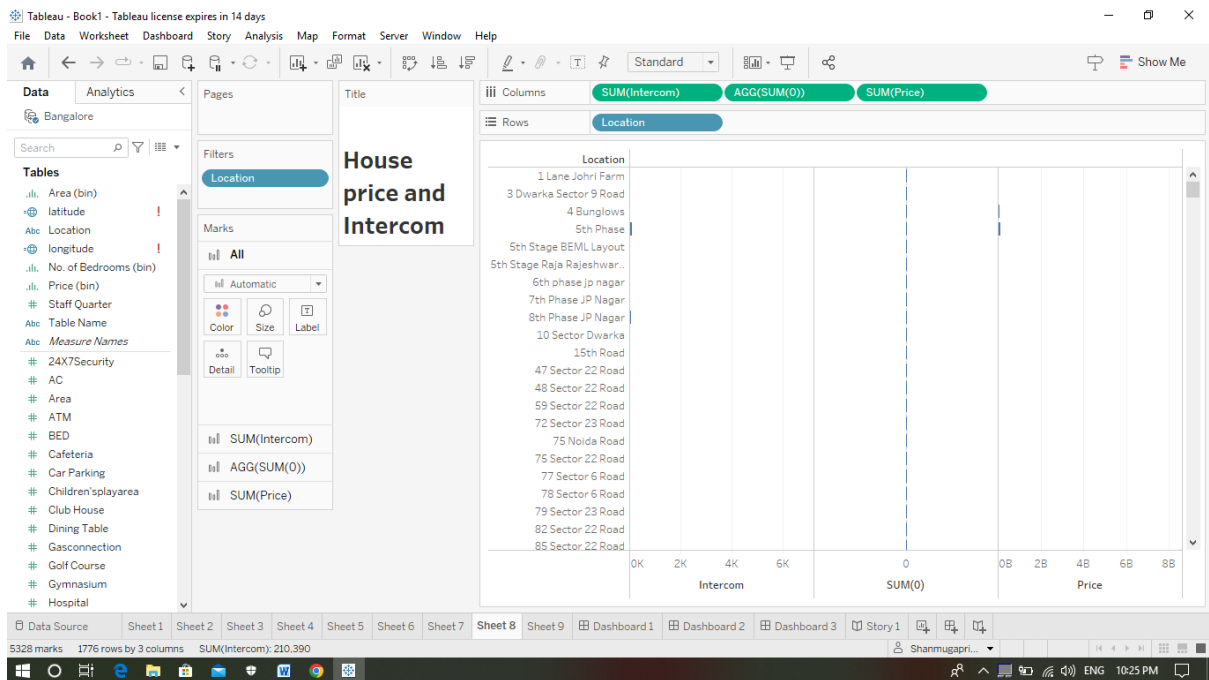
Activity 1.9: All Services based on locations
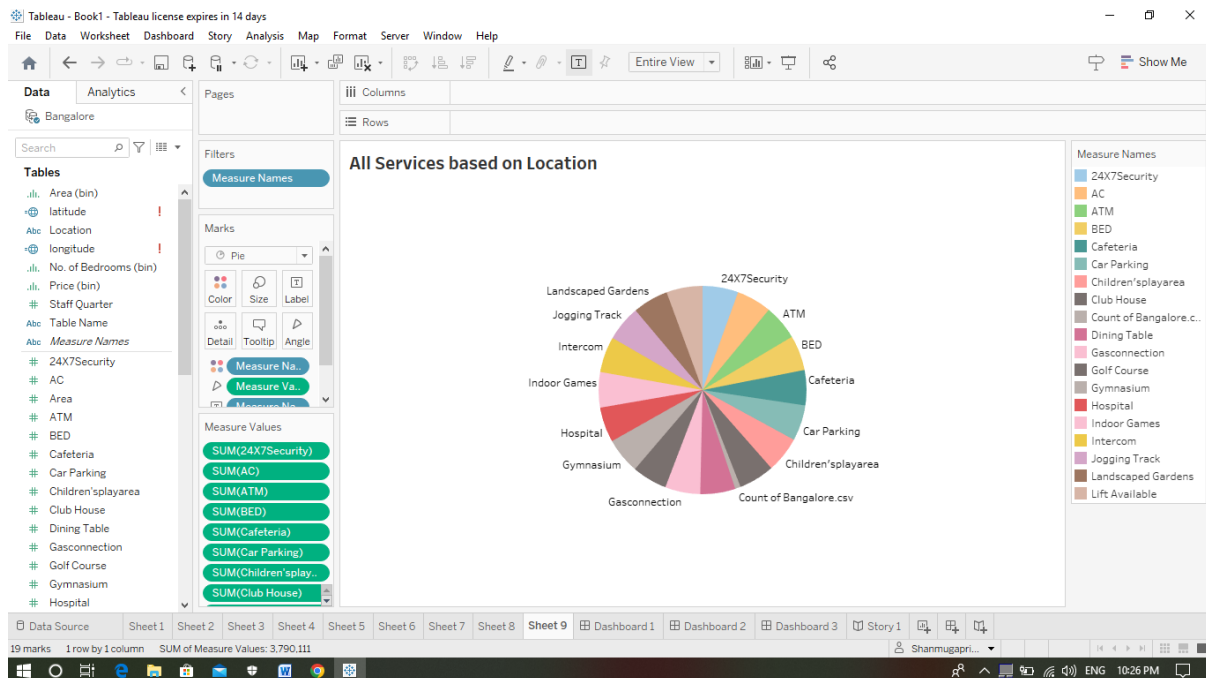
Milestone 5: Dashboard

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Activity 1- Responsive and Design of Dashboard
Once you have created views on different sheets in Tableau, you can pull them into a dashboard.

DASHBOARD 1:

Link:
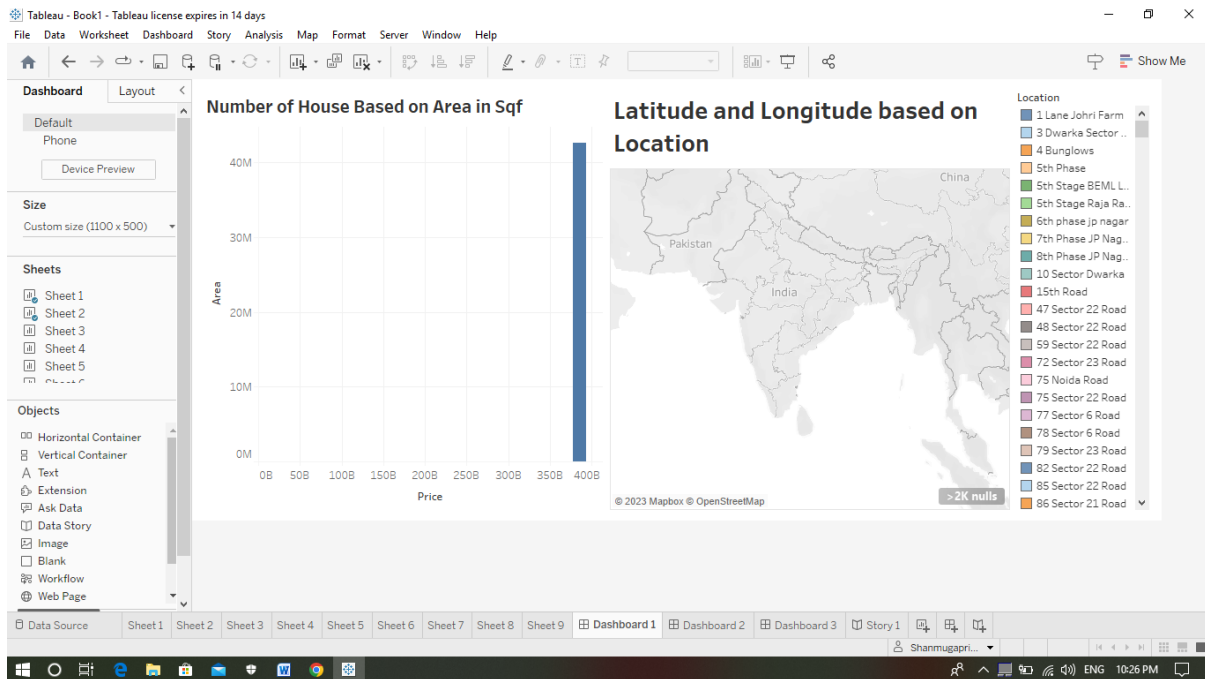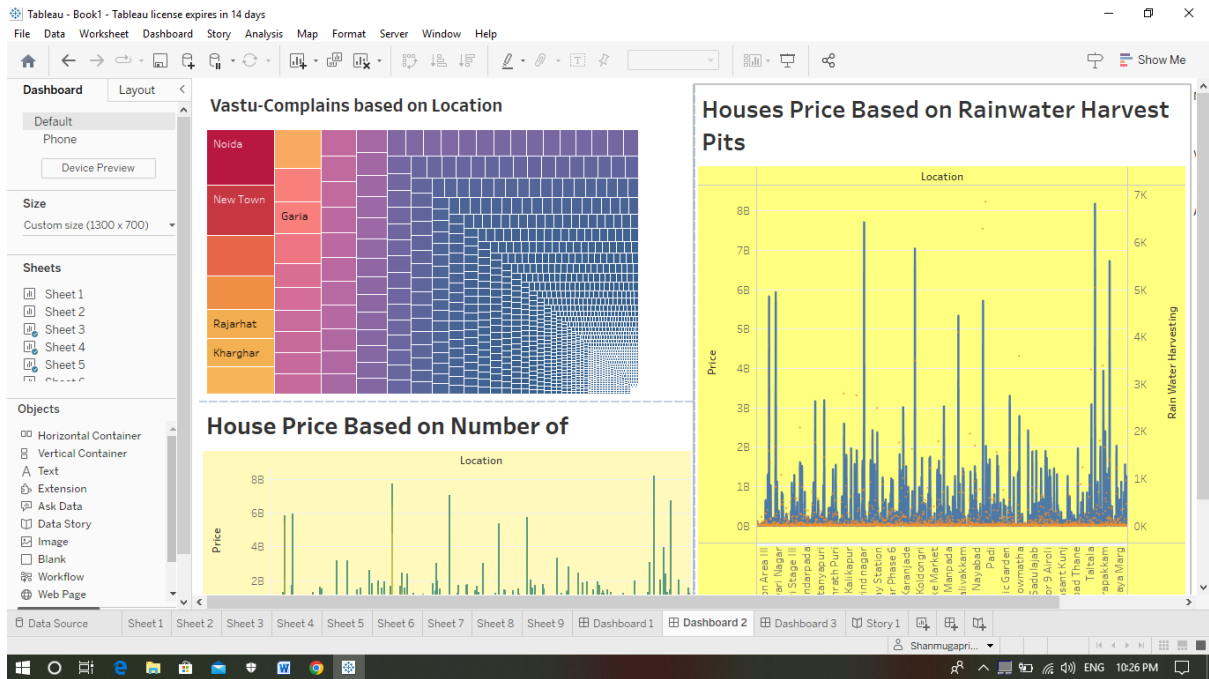
DASHBOARD 2:

Link:

DASHBOARD 3:

Link:

Milestone 6: Story

A data story is a way of presenting data and analysis in a narrative format, intending to make the information more engaging and easier to
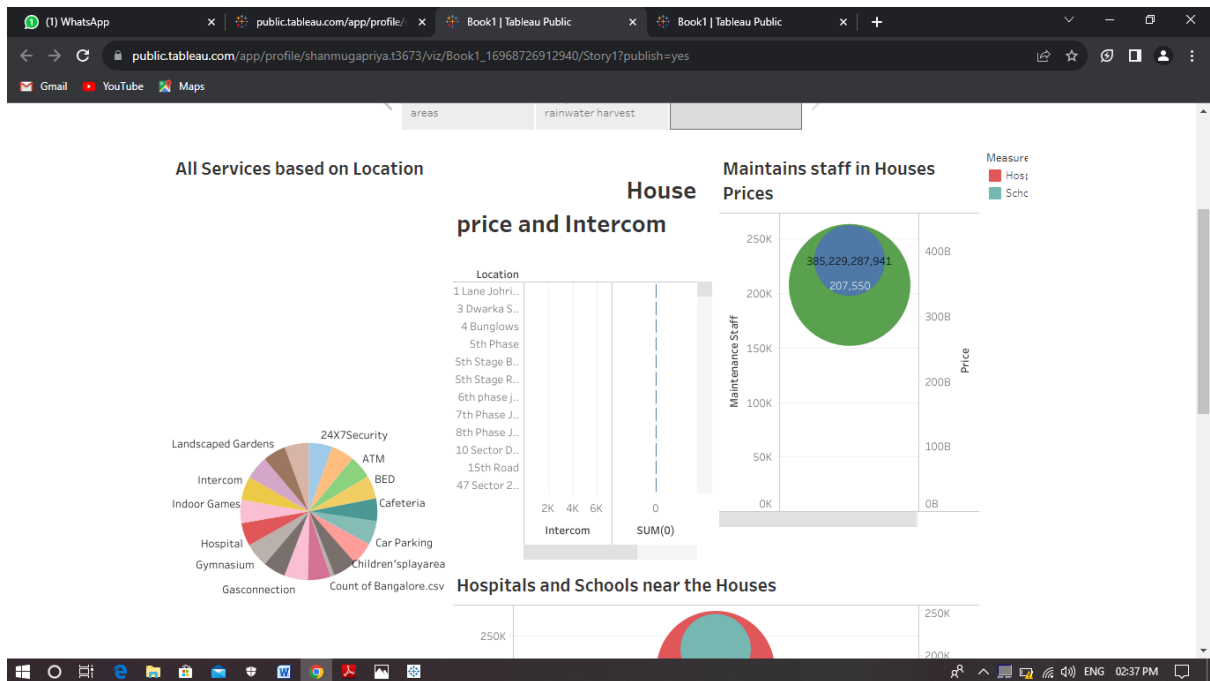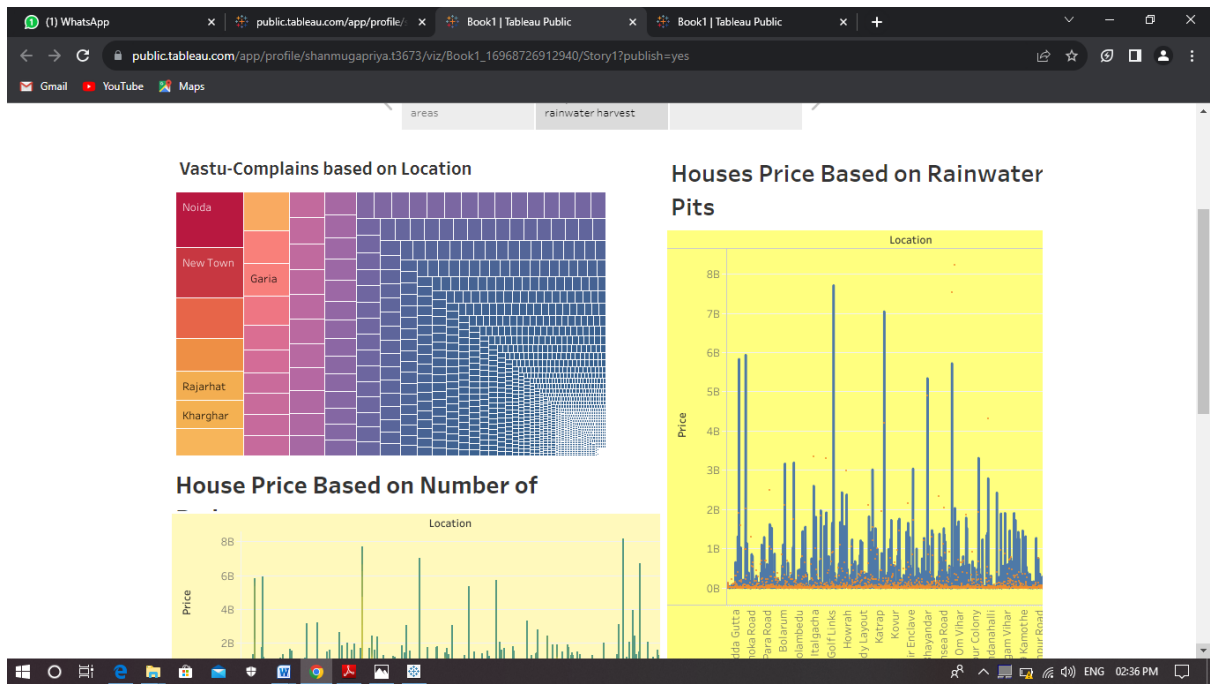
understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis logically and systematically, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

Activity 1- Number of Scenes of Story

The number of scenes in a storyboard for a data visualization analysis of the performance and efficiency of Radisson Hotels will depend on the complexity of the analysis and the specific insights that are trying to be conveyed. A storyboard is a visual representation of the data analysis process and it breaks down the analysis into a series of steps or scenes
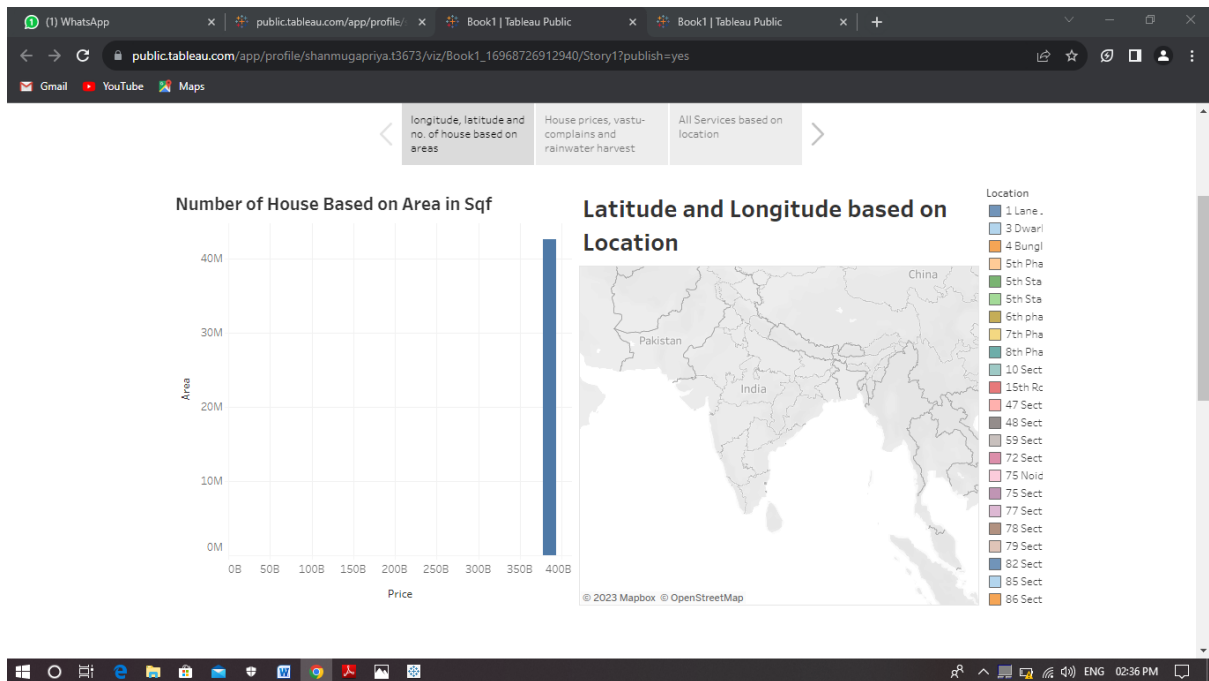
Link:https://public.tableau.com/app/profile/shanmugapriya.t3673/viz/Book1_16968726912940/Story1?publish=yes

Vastu-Complains based on Location

Houses Price Based on Rainwater Pits

House Price Based on Number of

All Services based on Location

House price and Intercom

Maintains staff in Houses Prices

Hospitals and Schools near the Houses
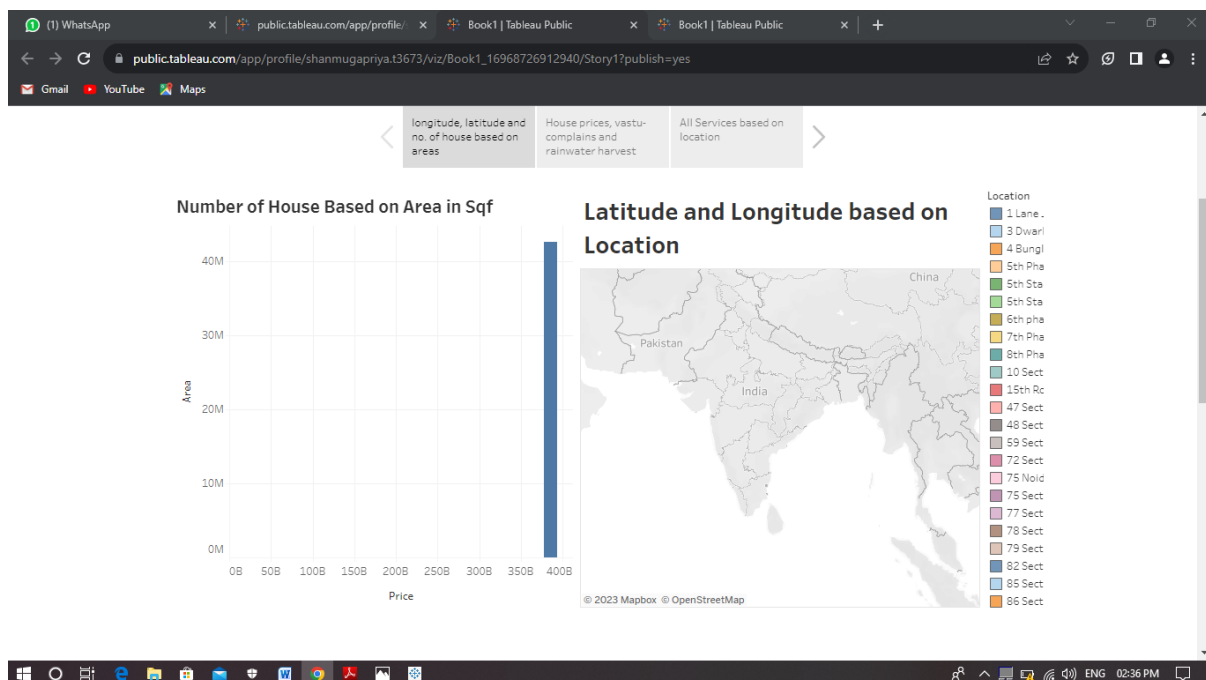
Milestone 7: Performance Testing
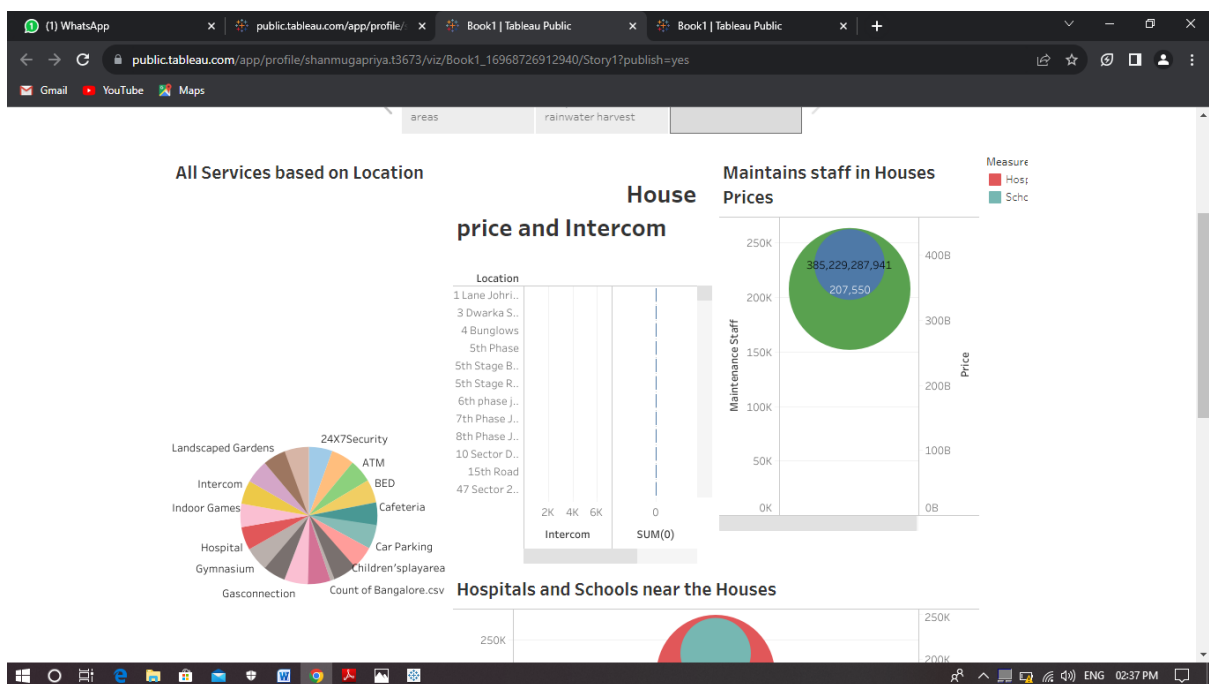
Activity 2: No of Visualizations/ Graphs

1. Latitude and Longitude based on Location
2. Number of houses based on area in sqf
3. Houses price based on rainwater harvest pits
4. Vastu-complains based on location

5. **House price based on Number of Bedrooms**
6. **Hospitals and schools near the Houses**
7. **Maintains staff in houses prices**
8. **House Price and Intercom**
9. **All Services based on locations**

Milestone 8: Publishing

Publishing helps us to track and monitor key performance metrics and to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others.

Publishing dashboard and reports to tableau public

Step 1 Go to data Source and Select Extract so that .hyper extension files are created and save it at your desktop.

Step 2: Go to Dashboard/story, click on the share button on the top ribbon

Give the server address of your tableau public account and click on connect.
Sign

PUBLISHING LINKS:

DASHBOARD1:

https://public.tableau.com/app/profile/shanmugapriya.t3673/viz/Book1_16968726912940/Dashboard1?publish=yes

DASHBOARD 2 :

https://public.tableau.com/app/profile/shanmugapriya.t3673/viz/Book1_16968726912940/Dashboard2?publish=yes

DASHBOARD 3:

https://public.tableau.com/app/profile/shanmugapriya.t3673/viz/Book1_16968726912940/Dashboard3?publish=yes

STORYLINK:https://public.tableau.com/app/profile/shanmugapriya.t3673/viz/Book1_16968726912940/Story1?publish=yes

REFERENCE VIDEO:https://drive.google.com/file/d/1s3lCSJi7GPpN-GK-tCehFNSLgHiyarRX/view?usp=drivesdk