PROJECT DOCUMENTATION

1. Title Page:

Project Title:

ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data

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2. Introduction:

This project focuses on analyzing toy manufacturer data using modern data visualization techniques. The aim is to convert raw manufacturing data into meaningful insights through interactive dashboards and story views. By using visualization, users can easily understand yearly trends, manufacturer distribution, state-wise performance, and top manufacturing regions. This project improves decision-making by presenting complex data in a simple graphical format.

3. Objectives of the Project:

- ➢ To collect and organize toy manufacturer dataset.
- ➢ To store and manage data in a structured database.
- ➢ To clean and prepare the dataset for analysis.
- ➢ To create meaningful visualizations and dashboards.
- ➢ To design an interactive story explaining insights.
- ➢ To integrate dashboards into a web interface.
- ➢ To provide clear analytical results for users.

4. Project Methodology / Flow:

- ▪ The project follows a structured step-by-step process:
- ▪ Data collection from reliable sources.
- ▪ Storing data into database tables.
- ▪ Performing SQL operations for filtering and aggregation.
- ▪ Cleaning and preparing the dataset.
- ▪ Creating visualizations for analysis.
- ▪ Designing dashboard layout with filters.
- ▪ Developing story scenes for explanation.
- ▪ Integrating dashboard into a web page.
- ▪ Testing performance and responsiveness.
- ▪ Preparing final documentation and presentation.

5. Data Collection and Database Operations

Toy manufacturer data is collected from available datasets.
The dataset includes important attributes such as:

- index
- State
- Year
- Number of Manufacturers
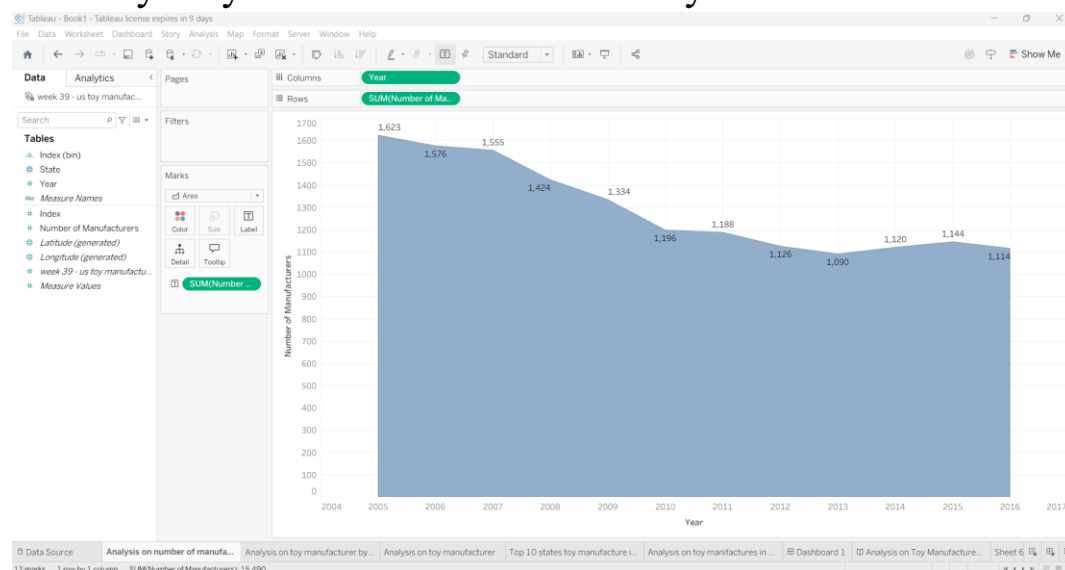
The collected data is stored in database tables.

6.Tools and Technologies:

Data Visualization : Tableau Desktop
Data Source : Excel / CSV
Data Preparation : Tableau Prep
Database : MySQL
Platform : Windows OS
Load : Publish cleaned datasets to Tableau server

7. Data Visualization and Analysis

7.1 Number of Manufacturers by Year

Shows yearly increase or decrease in toy manufacturers.

- *Figure 7.1 – Number of Toy Manufacturers by Year.*
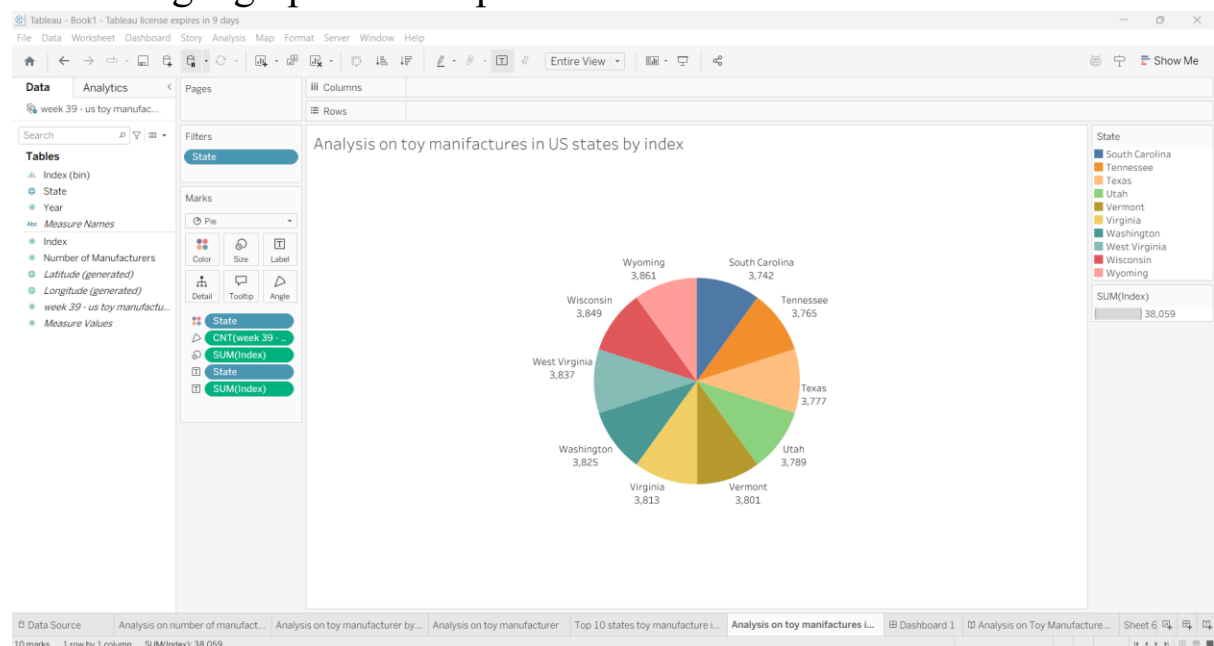
7.2 Manufacturer by Index

Displays ranking or performance level of manufacturers.

- *Figure 7.2 – Toy Manufacturer Analysis by Index.*
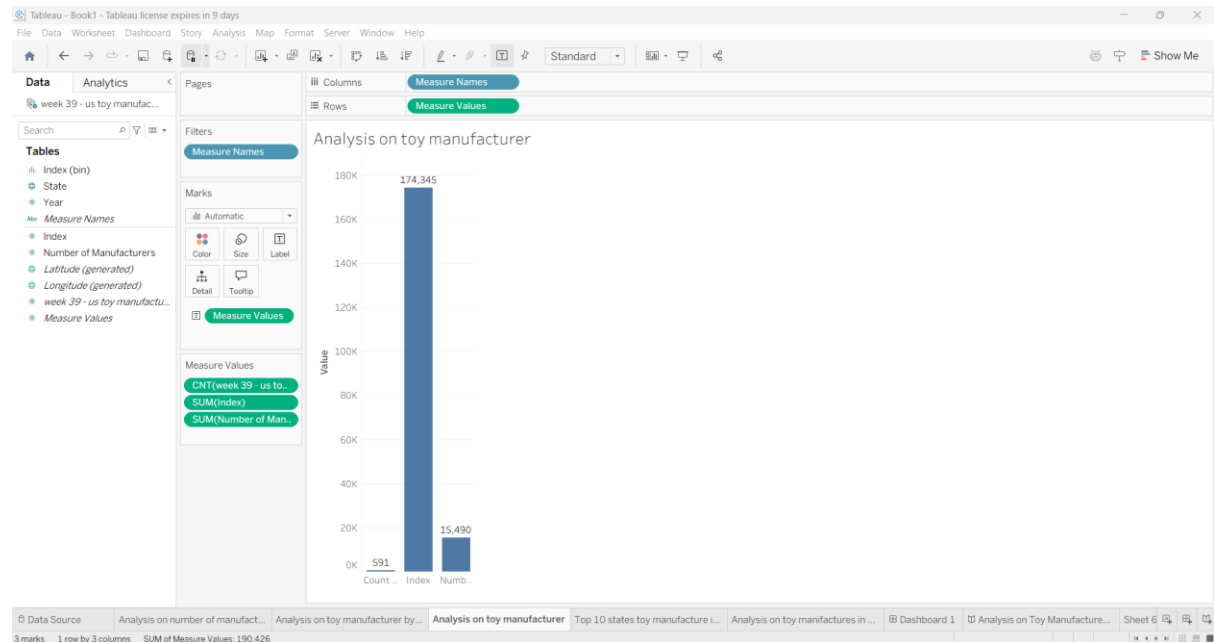
7.3 Manufacturer Distribution by US State

Provides geographical comparison of manufacturers.

- *Figure 7.3 – Toy Manufacturers in US States.*
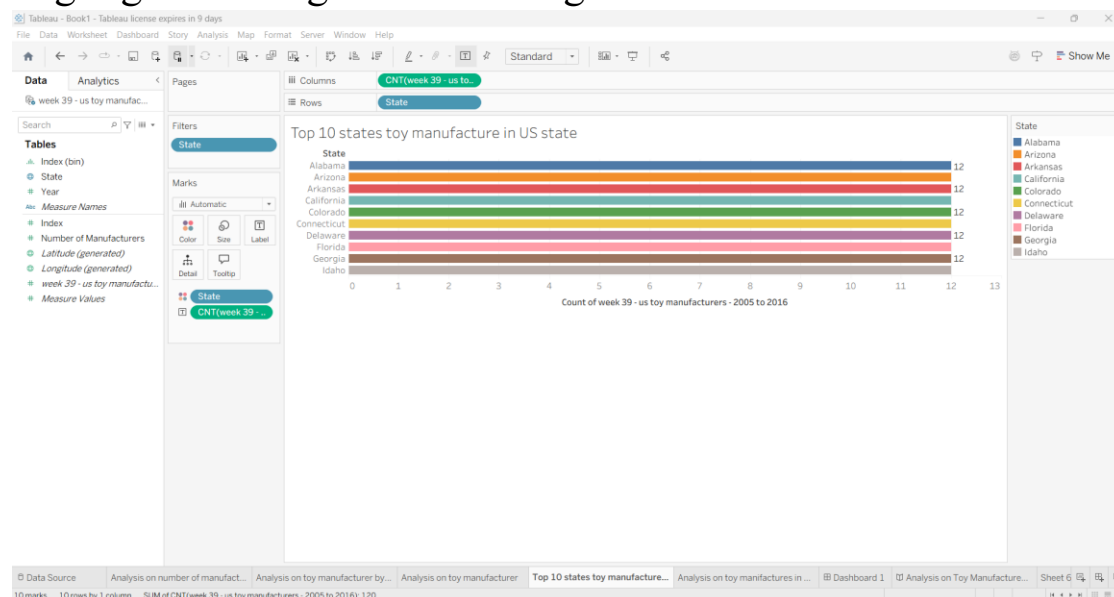
7.4 Analysis of Toy Manufacture

The process of examining production, sales, and quality data of toy manufacturing companies to evaluate performance and improve business decisions.

- *Figure 7.4 – Analysis on Toy Manufacturers.*

7.5 Top 10 States with Toy Manufacturers

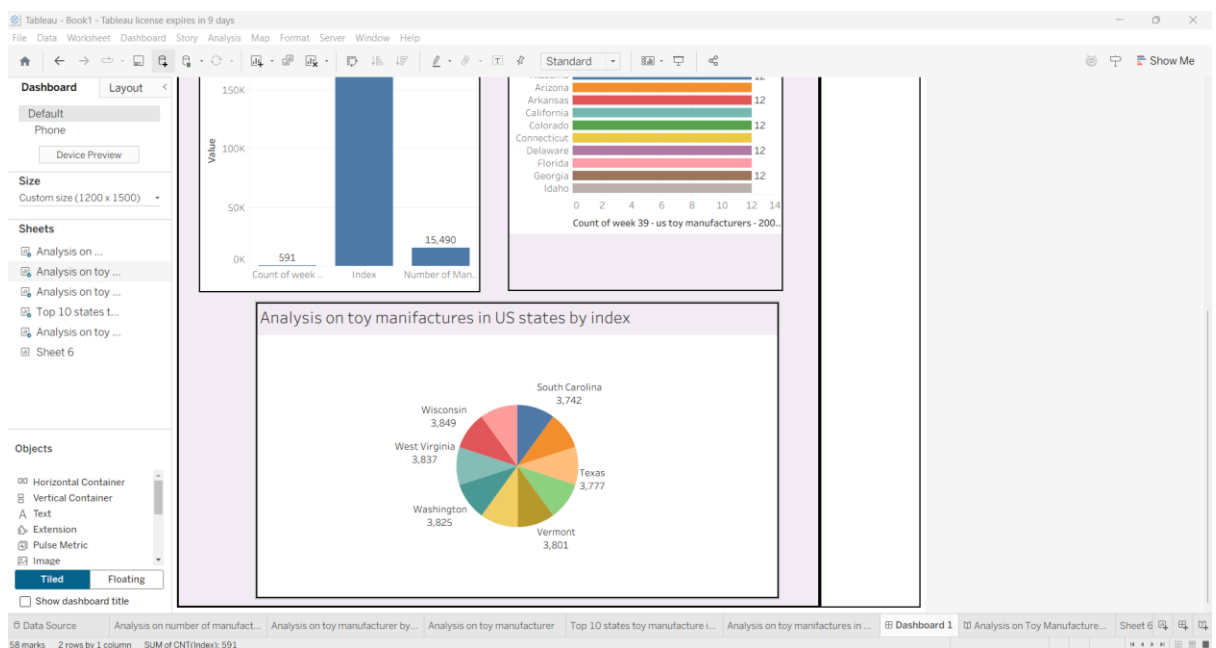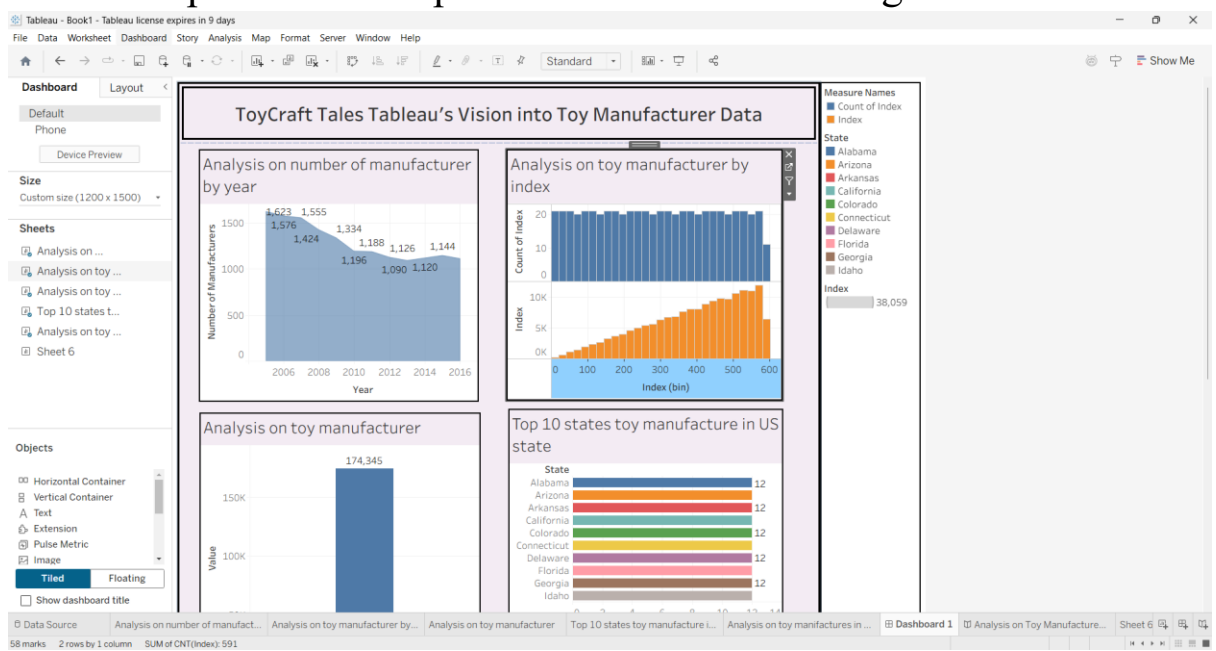Highlights leading states with highest manufacturer count.

- *Figure 7.5 – Top 10 US States by Toy Manufacturers.*

8. Dashboard Design
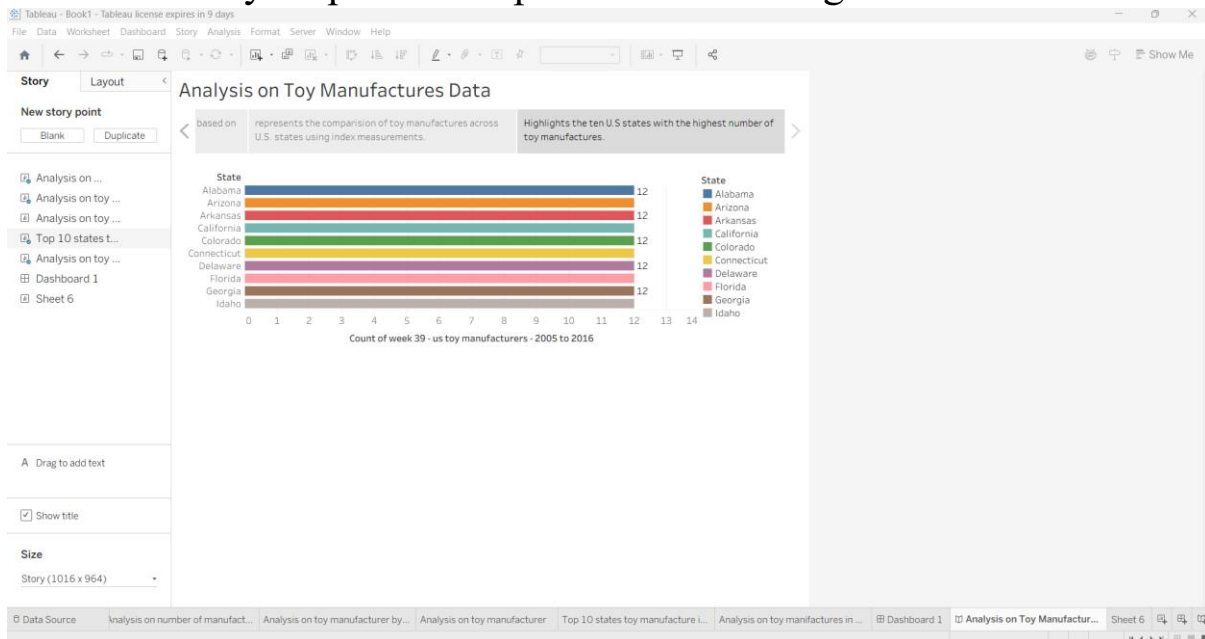
The dashboard is designed with:

- ✓ Clean and organized layout
- ✓ Multiple charts combined in one screen
- ✓ Interactive filters for user control
- ✓ Consistent colors, labels, and fonts
- ✓ Easy navigation and readability
- ✓ This improves user experience and understanding.

9. Story Creation

A story view is created to explain insights step-by-step.

❖ Each scene represents one analysis result.

❖ Scenes are arranged in logical order.

❖ Users can navigate through the complete data narrative.

❖ The story helps in clear presentation during demonstration.

10. Web Integration

The final dashboard and story are embedded into a web page.

Steps involved:

Generate embed link from visualization tool.

Create a web interface using Flask.

Display dashboard and story inside the webpage.

Ensure proper alignment and responsiveness.

This allows users to access the project through a browser.

In this project, a simple web application is developed to present the dashboard and story in a user-friendly manner.

The website contains the following pages:

- **Home Page** – Introduces the project and purpose.
- **About Page** – Describes project details, tools, and objectives.
- **Dashboard Page** – Displays the embedded Tableau dashboard.
- **Story Page** – Shows the Tableau story for complete analysis.

The website is created using **HTML, CSS, and Flask framework**.
Navigation links allow users to move between pages easily.
This integration enables users to access visualization results through a
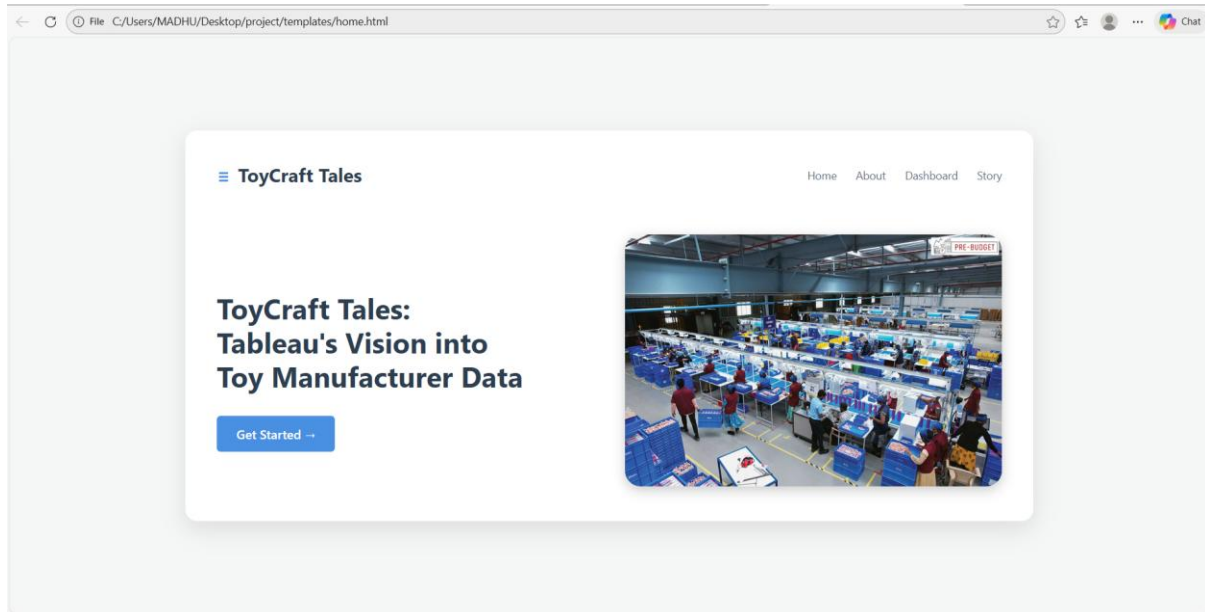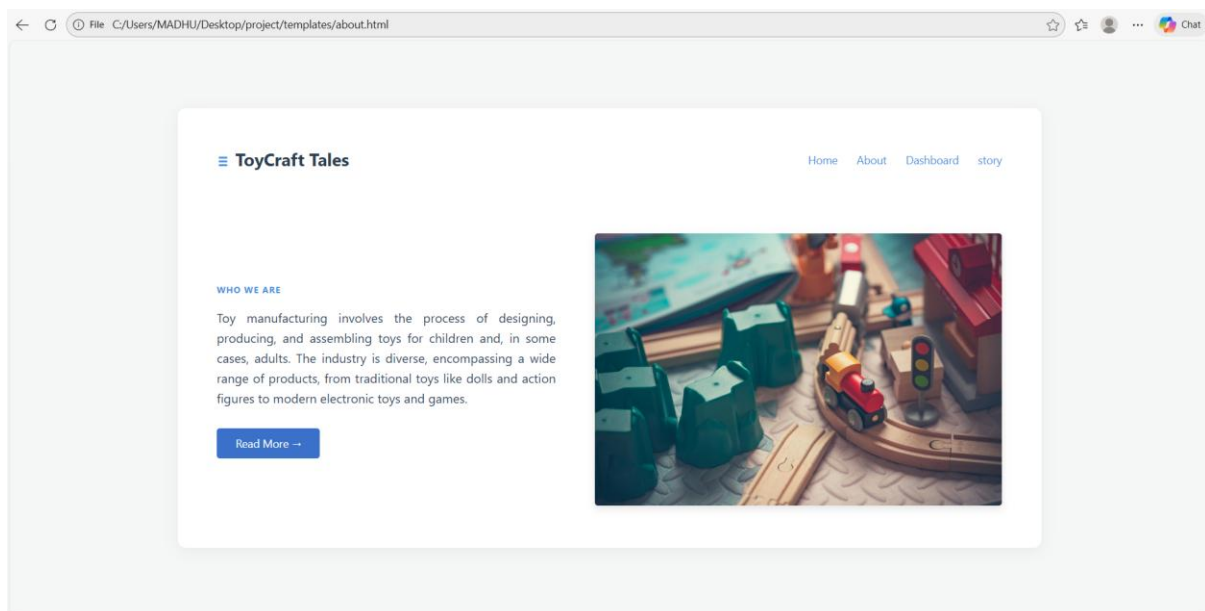web browser.

Figure 10.1 – Home Page of Website
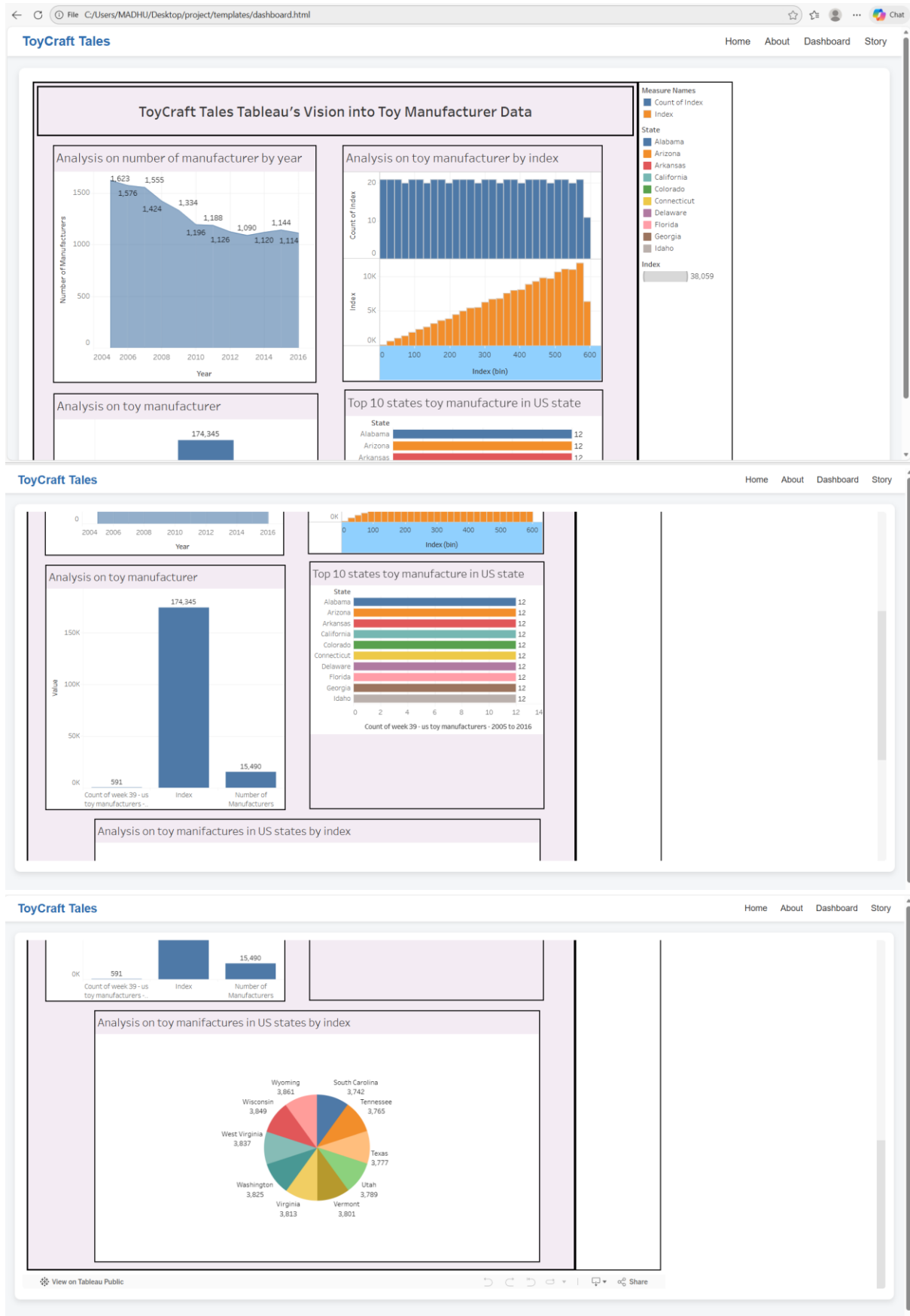

Figure 10.2 – About Page
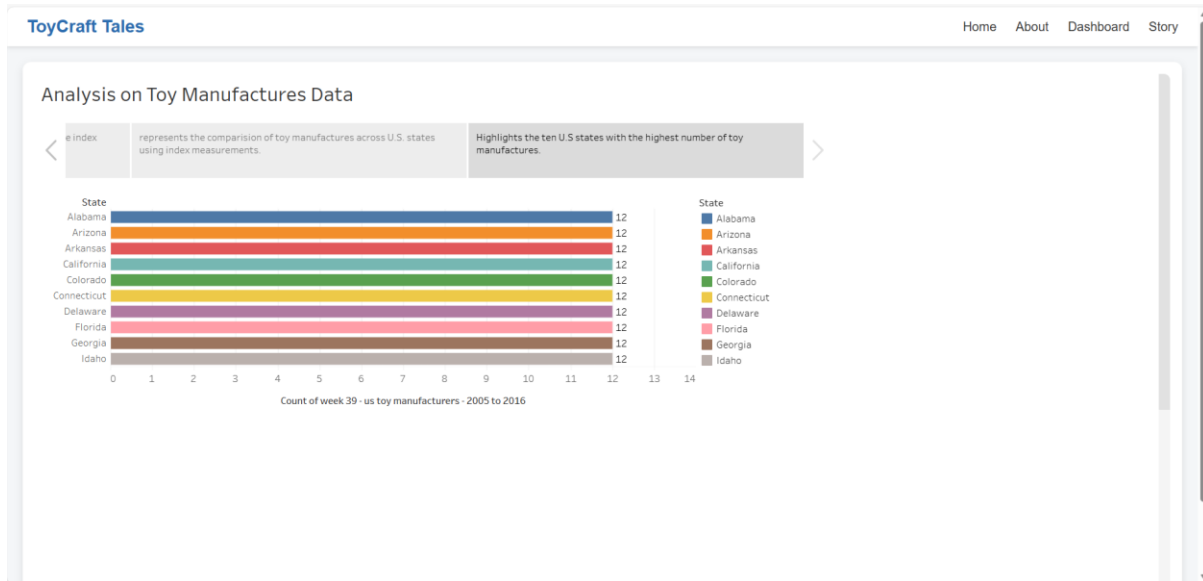
Figure 10.3 – Embedded Dashboard

Figure 10.4 – Embedded Story View

11. Performance Testing

Testing ensures smooth working of the system:
- o Dashboard loading speed is verified.
- o Filters respond quickly to user input.
- o Large dataset rendering is checked.
- o Web page responsiveness is confirmed.

12. Project Results

The project successfully provides:
- Clear visualization of toy manufacturer trends.
- Interactive dashboard for analysis.
- Story-based explanation of insights.
- Web-based access to visual data.
- Improved understanding of manufacturer distribution.

13. Conclusion

This project demonstrates how raw manufacturing data can be transformed into meaningful insights using visualization and web integration.
Interactive dashboards and stories make analysis simple and user-friendly.
The system can be further improved by adding real-time data, advanced analytics, and cloud deployment.