

Art Of Centuries: Virat Kohli's 71 Masterstrokes Visualized with Tableau



Team-591178

Team Members

- 1. Vivek Vardhan Reddy**
- 2. Vishnu Vardhan Gande**
- 3. Surya Gowtham Varma**

1. INTRODUCTION

1.1 Project Overview

The "Art Of Centuries: Virat Kohli's 71 Masterstrokes Visualized With Tableau" project is a data visualization endeavor centered around the cricketing career of Virat Kohli, one of the world's finest batsmen. This project employs the powerful data visualization tool Tableau to present a comprehensive analysis of Kohli's 71 centuries across Test, One Day International (ODI), and possibly Twenty20 (T20) matches.

It involves data collection, preparation, and the creation of interactive visualizations that allow users to explore aspects such as the progression of centuries over time, locations where centuries were scored, comparisons across formats and opponents, and key insights into Kohli's achievements.

The project's goal is to offer an engaging and informative narrative about Virat Kohli's illustrious career, showcasing his record-breaking feats in the world of cricket.

1.2 Purpose

The purpose of the "Art Of Centuries: Virat Kohli's 71 Masterstrokes Visualized With Tableau" project is to provide a comprehensive and visually engaging exploration of Virat Kohli's extraordinary cricketing career, specifically his remarkable achievement of scoring 71 centuries in international cricket.

By using Tableau to create interactive visualizations, the project aims to offer cricket enthusiasts and data enthusiasts alike an insightful perspective on Kohli's achievements. It allows viewers to analyze trends, locations, and other key aspects of his century-scoring prowess, ultimately celebrating his contributions to the sport and highlighting his journey towards breaking records and becoming one of the cricketing greats.

2. LITERATURE SURVEY

2.1 Existing Problem

The common challenge could be the quality and availability of data. Ensuring accurate and complete data on each of Virat Kohli's centuries can be a significant task, as cricket statistics are often collected from various sources, and data discrepancies can occur. Another potential issue could be data maintenance, as cricket records are constantly being updated, and keeping the visualizations up to date could require ongoing effort.

Additionally, designing clear and intuitive visualizations that effectively convey insights to a broad audience can be a challenge. The key performance indicators (KPIs) primary objective of this literature survey is to pinpoint the) and metrics that are commonly utilized to gauge Virat Kohli's cricketing achievements.

2.2 References

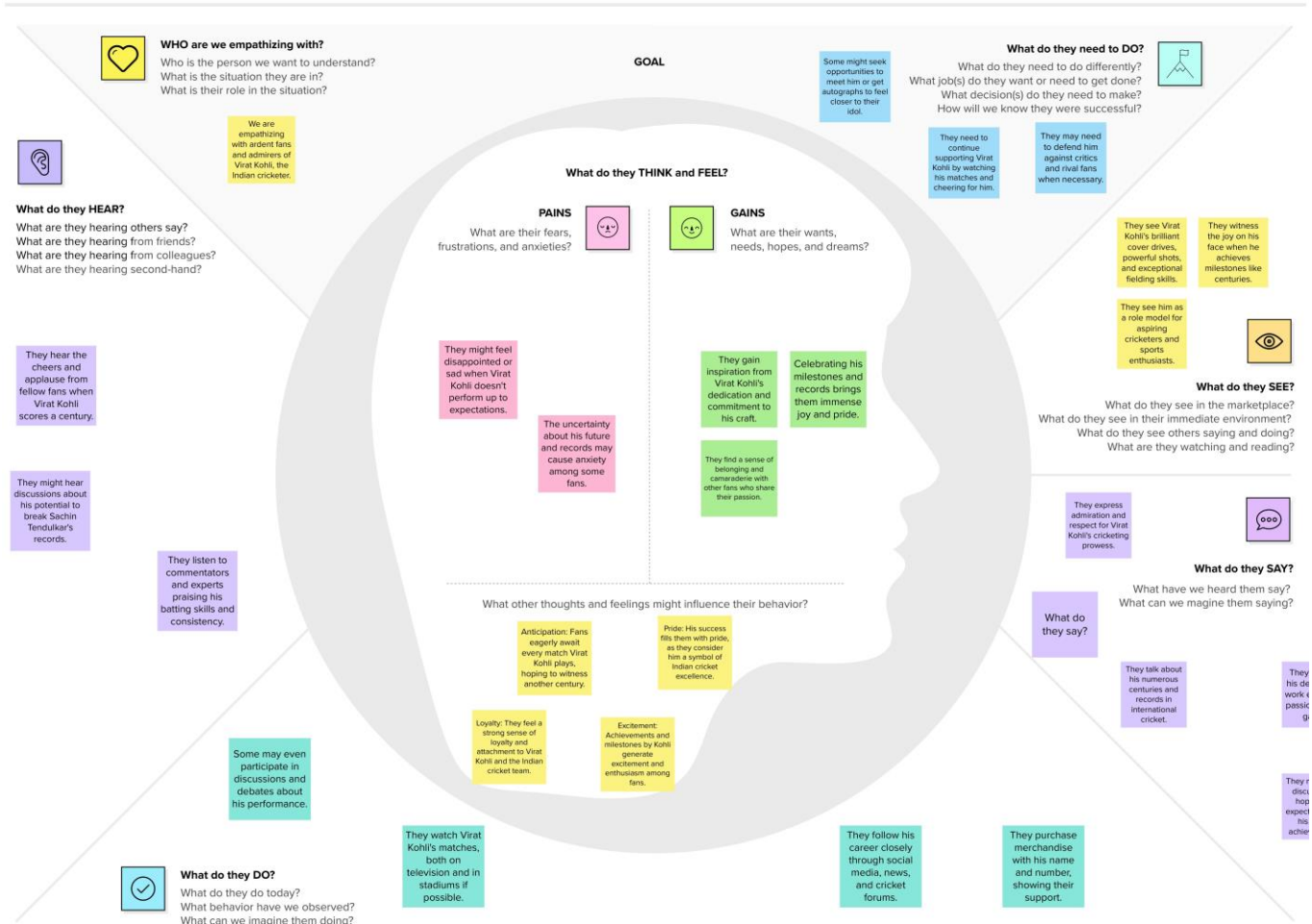
<https://www.kaggle.com/datasets/gauravtopre/virat-kohlis-71-centuries>

2.3 Problem Statement Definition


The challenge is to create an interactive Tableau visualization that not only visually represents these centuries but also provides cricket enthusiasts and fans with valuable insights into the details and nuances of each century, including the format, venue, opponent, runs scored, and other key statistics.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation & Brainstorming



Brainstorm & idea prioritization

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.

🕒 10 minutes to prepare
🕒 1 hour to collaborate
👤 2-8 people recommended

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes

A

Team gathering

Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

B

Set the goal

Think about the problem you'll be focusing on solving in the brainstorming session.

C

Learn how to use the facilitation tools

Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#) →

1


Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

🕒 5 minutes

Problem

The challenge is to create an interactive Tableau visualization that not only visually represents these centuries but also provides cricket enthusiasts and fans with valuable insights into the details and nuances of each century, including the format, venue, opponent, runs scored, and other key statistics.



Key rules of brainstorming

To run a smooth and productive session

➕ Stay in topic.

💡 Encourage wild ideas.

➕ Defer judgment.

👂 Listen to others.

🗣️ Go for volume.

👁️ If possible, be visual.

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

🕒 10 minutes

Vivek Vardhan Reddy

Creating attractive Dashboard overview

Making engaging Visualizations

Adding Filter and Search functionalities in Dashboard

Creating a Centuries Timeline

Visualization on centuries as captain and not captain

Vishnu Vardhan Gande

Making a map visualizations

batting positions he was most successful in when scoring centuries.

Creating a detailed table of centuries

Visualization on number of man of the matches

Visualizations on how many times India won when kohli scored century

Surya Gowtham

Creating some Data visualizations

Giving some statistical Insights

Visualization on how Kohli's centuries evolved over his career.

Visualizations on Strike rates

Creating a Visualizations on score against each opponent

TIP You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

🕒 20 minutes

Giving some statistical Insights

Making engaging Visualizations

Creating a detailed table of centuries

Creating attractive Dashboard overview

batting positions he was most successful in when scoring centuries.

TIP Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

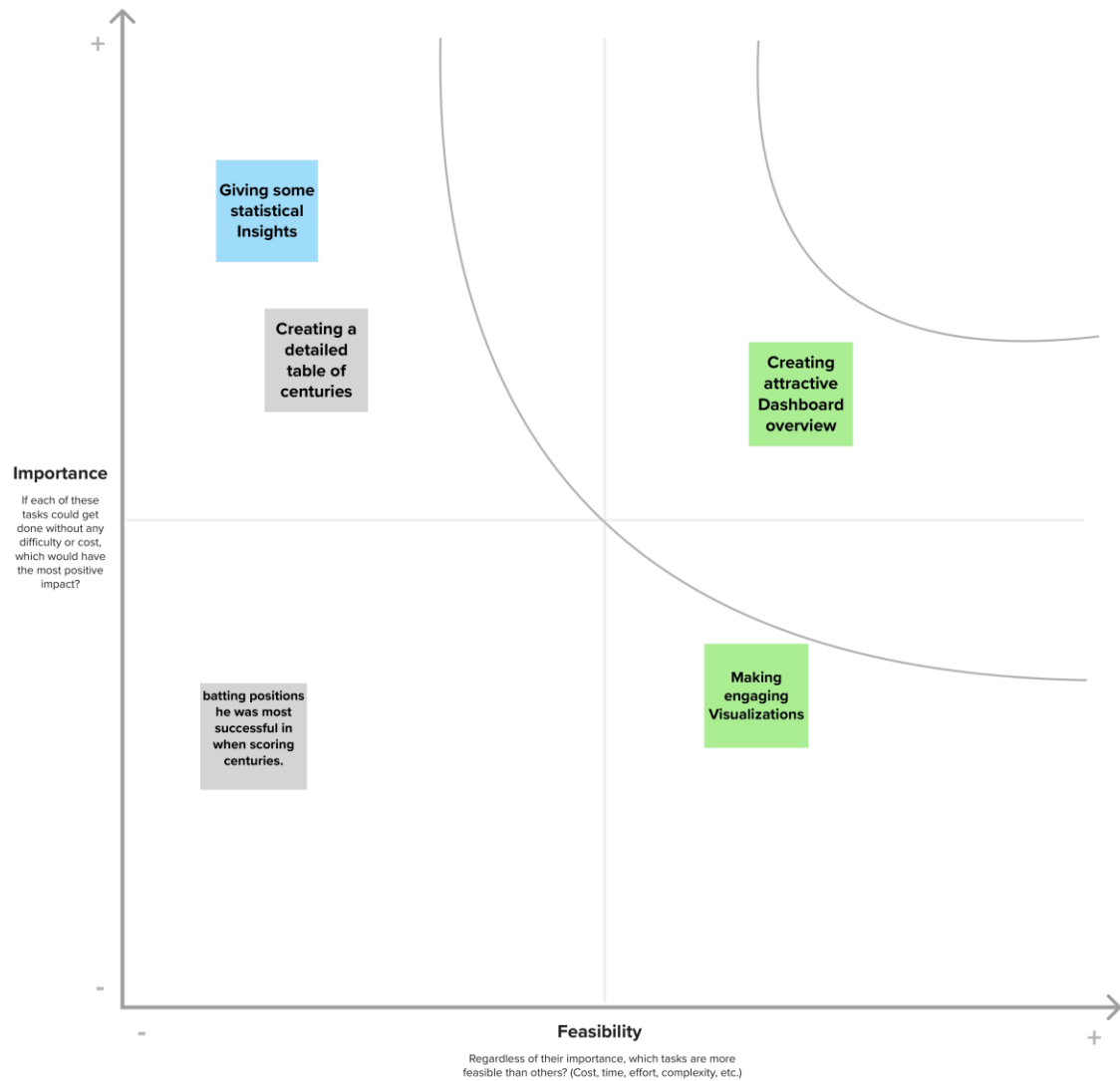
Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H** key on the keyboard.



4. REQUIREMENT ANALYSIS

4.1 Functional Requirements

- 1) **Data Collection:** The system should be able to collect and store comprehensive data related to Virat Kohli's centuries in international cricket, including details such as match date, location, opponent team, runs scored, and format (Test, ODI, T20).
- 2) **Data Visualization:** The project should create various interactive data visualizations using Tableau, including line charts to show the progression of centuries, maps to display the location of centuries, bar charts for format-wise comparisons, pie charts for opponent statistics, and tables with detailed information for each century.
- 3) **Interactive Filters:** The visualizations should allow users to filter data by various criteria, such as format, location, opponent, and specific time frames, enabling dynamic exploration of the data.
- 4) **Insights and Analysis:** The system should generate insights and analysis from the visualized data, providing trends, milestones, and statistical comparisons related to Virat Kohli's century-scoring achievements.
- 5) **User-Friendly Interface:** The project should offer an intuitive and user-friendly interface for viewers to navigate and interact with the visualizations, including tooltips for additional information.
- 6) **Storytelling:** Create a compelling narrative or dashboard to guide viewers through the data and provide context and explanations for the visualizations.

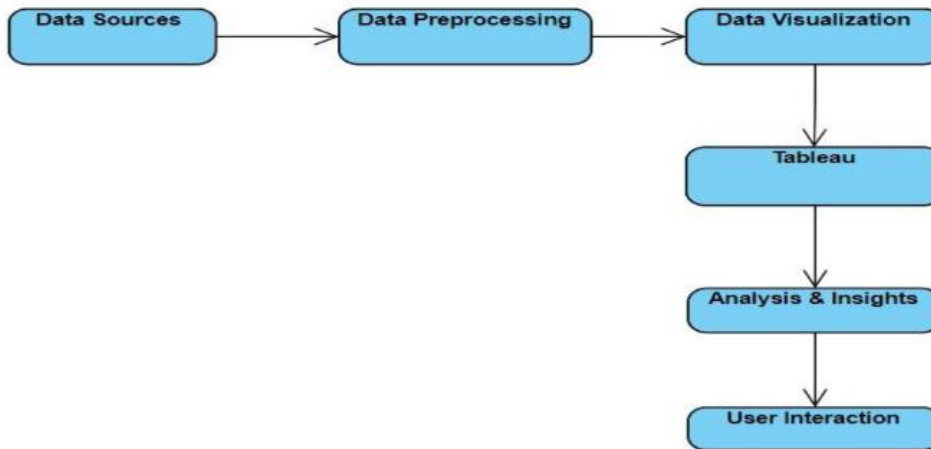
4.2 Non – Functional Requirements

- 1) **Performance:** The system should be responsive and able to handle large datasets efficiently, ensuring that users can explore the visualizations without significant delays.
- 2) **Data Accuracy:** The data used for the project should be accurate, reliable, and regularly updated to reflect any changes in cricket statistics.
- 3) **Security:** Ensure data security and privacy, especially if sensitive or personal information is used in the project.
- 4) **Compatibility:** The visualizations should be compatible with various web browsers and devices to reach a broad audience.
- 5) **Accessibility:** The project should be designed with accessibility in mind, ensuring that it can be used by individuals with disabilities.
- 6) **Maintenance:** Establish a plan for ongoing maintenance to keep the visualizations up to date with the latest cricket records and statistics.
- 7) **Usability:** The user interface should be intuitive, and viewers should be able to easily understand and interact with the visualizations without prior training.
- 8) **Scalability:** The project should be scalable to accommodate potential future enhancements, such as adding more data or additional features.

5. PROJECT DESIGN

5.1 Data Flow Diagrams & User Stories

DFD

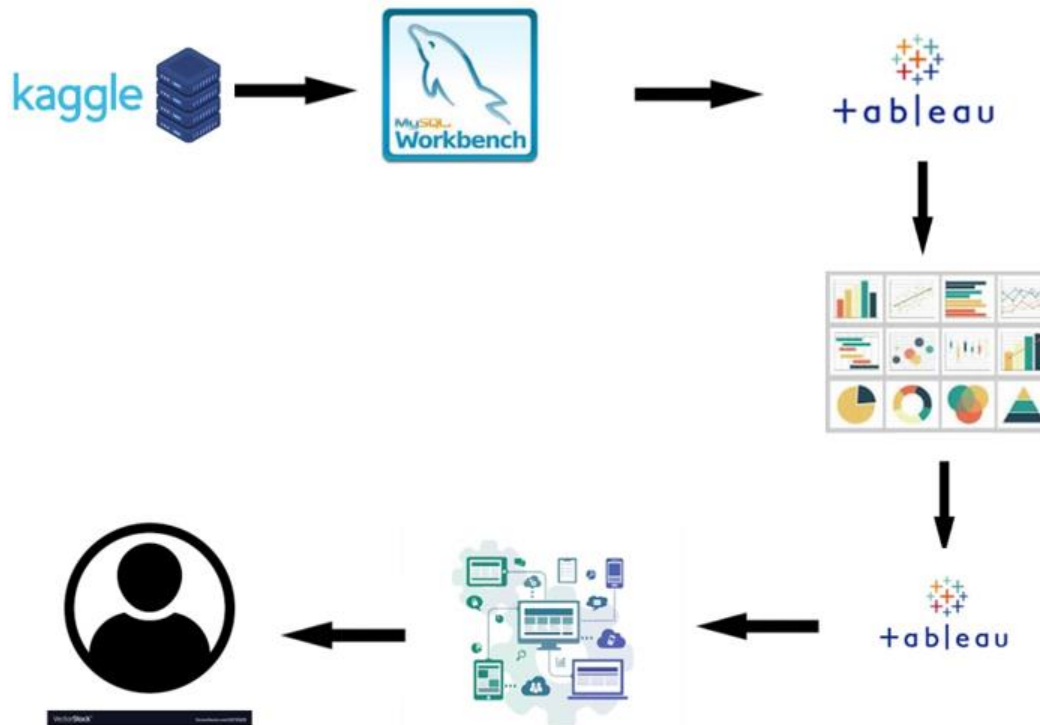


User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Cricket enthusiast	Century Exploration	USN-1	As a cricket enthusiast, I want to access a user-friendly web application where I can explore Virat Kohli's 71 centuries, view detailed statistics, and watch video clips, so I can relive his best moments.	I can access the web application from a web browser.	High	Sprint-1
Cricket analyst	Filtering and Analysis	USN-2	As a cricket analyst, I want to be able to filter centuries by different match formats (Test, ODI, T20) and teams faced by Virat Kohli, so I can analyze his performance in different contexts.	I can filter centuries by match formats and sort by performance metrics. I can also reset filters and access interactive charts for in-depth analysis.	High	Sprint-1
Cricket journalist	Social Sharing	USN-3	As a cricket journalist, I want to easily share and embed Virat Kohli's century data and video clips in my articles or reports, to provide my readers with engaging content.	I can easily share my favorite centuries and moments in my articles.	Medium	Sprint-1
Social media manager	Social Sharing	USN-4	As a social media manager, I want to have social sharing functionality integrated into the application, allowing users to share their favorite centuries and moments on social platforms, increasing engagement and reach.	I can easily share centuries and moments on popular social media platforms (e.g., Facebook, Twitter).	Medium	Sprint-1
Casual cricket viewer	Century Exploration	USN-5	As a casual cricket viewer, I want a user-friendly search feature to quickly find specific centuries by keywords or match details, making it easier for me to access my favorite moments.	I can view detailed statistics for each century, including runs scored, balls faced, boundaries hit, and match results.	Low	Sprint-2

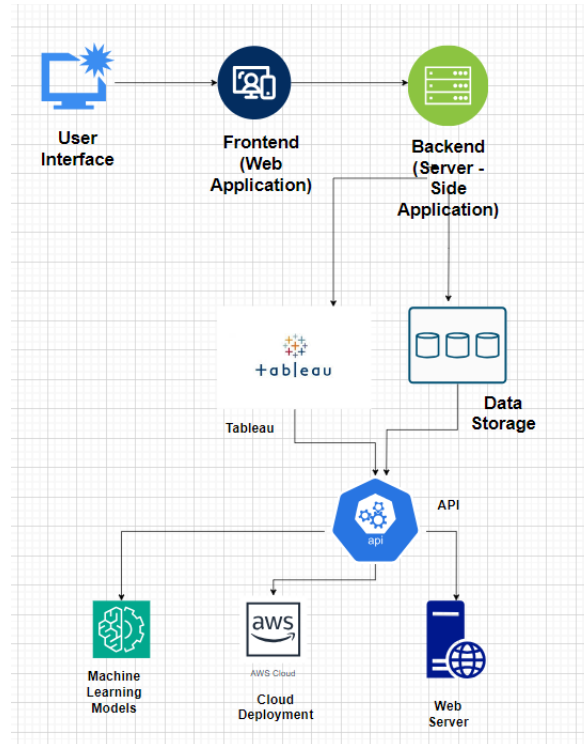
5.2 Solution Architecture

Example - Solution Architecture Diagram:



6. PROJECT PLANNING & SCHEDULING

6.1 Technical Architecture



6.2 Sprint Planning & Estimation

Product Backlog, Sprint Schedule, and Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Century Exploration	USN-1	As a cricket enthusiast, I want to access a user-friendly web application where I can explore Virat Kohli's 71 centuries, view detailed statistics, and watch video clips, so I can relive his best moments.	3	High	Vivek
Sprint-1	Filtering and Analysis	USN-2	As a cricket analyst, I want to be able to filter centuries by different match formats (Test, ODI, T20) and teams faced by Virat Kohli, so I can analyze his performance in different contexts.	2	High	Vishnu
Sprint-1	Social Sharing	USN-3	As a cricket journalist, I want to easily share and embed Virat Kohli's century data and video clips in my articles or reports, to provide my readers with engaging content.	2	Medium	Gowtham
Sprint-1	Social Sharing	USN-4	As a social media manager, I want to have social sharing functionality integrated into the application, allowing users to share their favorite centuries and moments on social platforms, increasing engagement	2	Medium	Gowtham
Sprint-2	Filtering and Analysis	USN-5	As a casual cricket viewer, I want a userfriendly search feature to quickly find specific centuries by keywords or match details, making it easier for me to access my favorite moments.	1	Low	Vivek

6.3 Sprint Delivery Schedule

Project Tracker, Velocity

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	9	9 Days	18 Sept 2023	30 Sept 2023	7	27 Oct 2023
Sprint-2	3	5 Days	02 Oct 2022	06 Oct 2023	3	27 Oct 2023

Velocity:

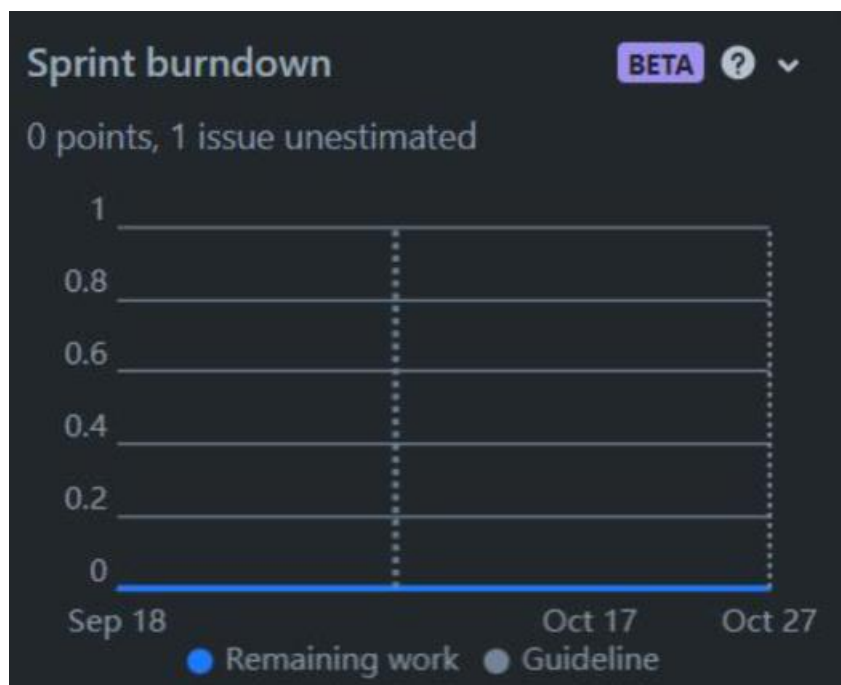
Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

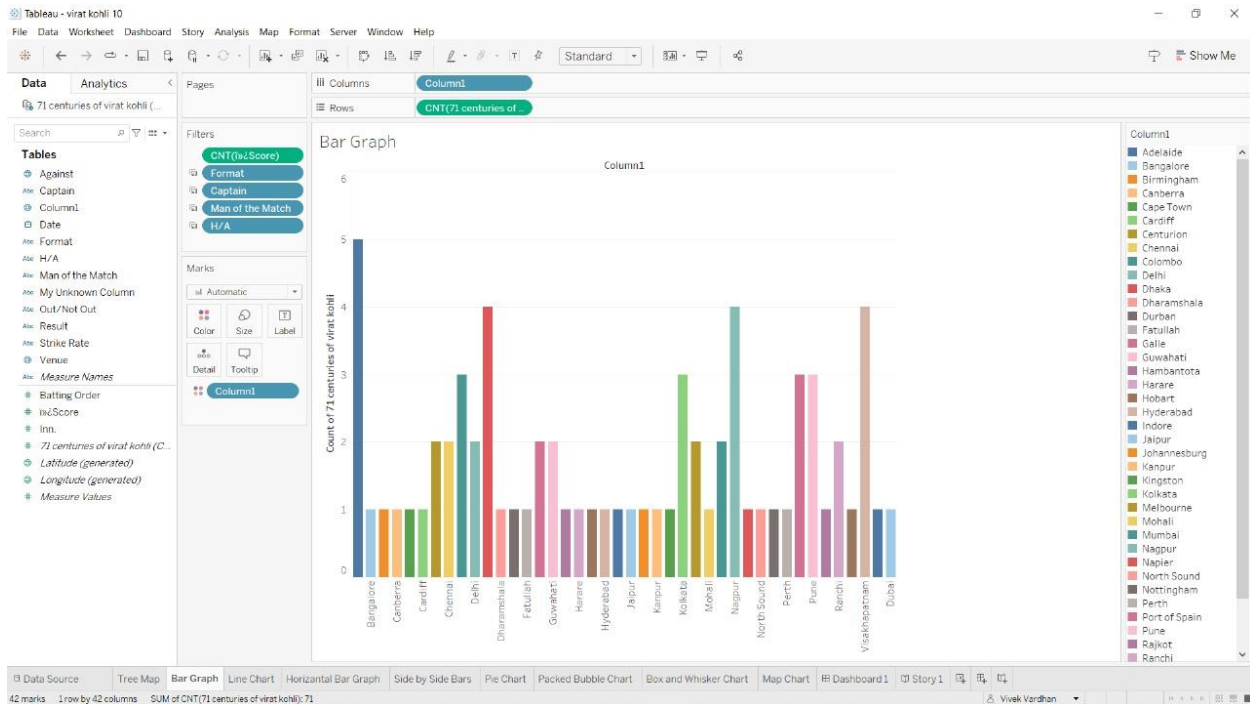
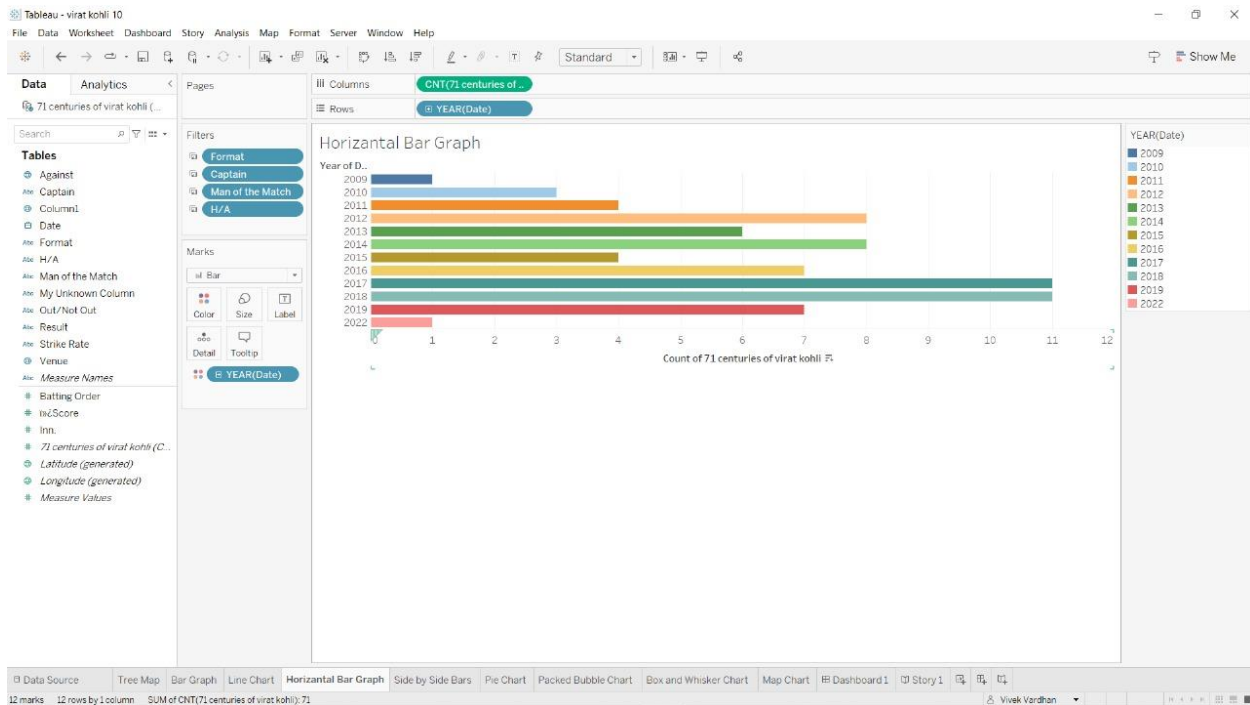
Sprint 1 Velocity = 1

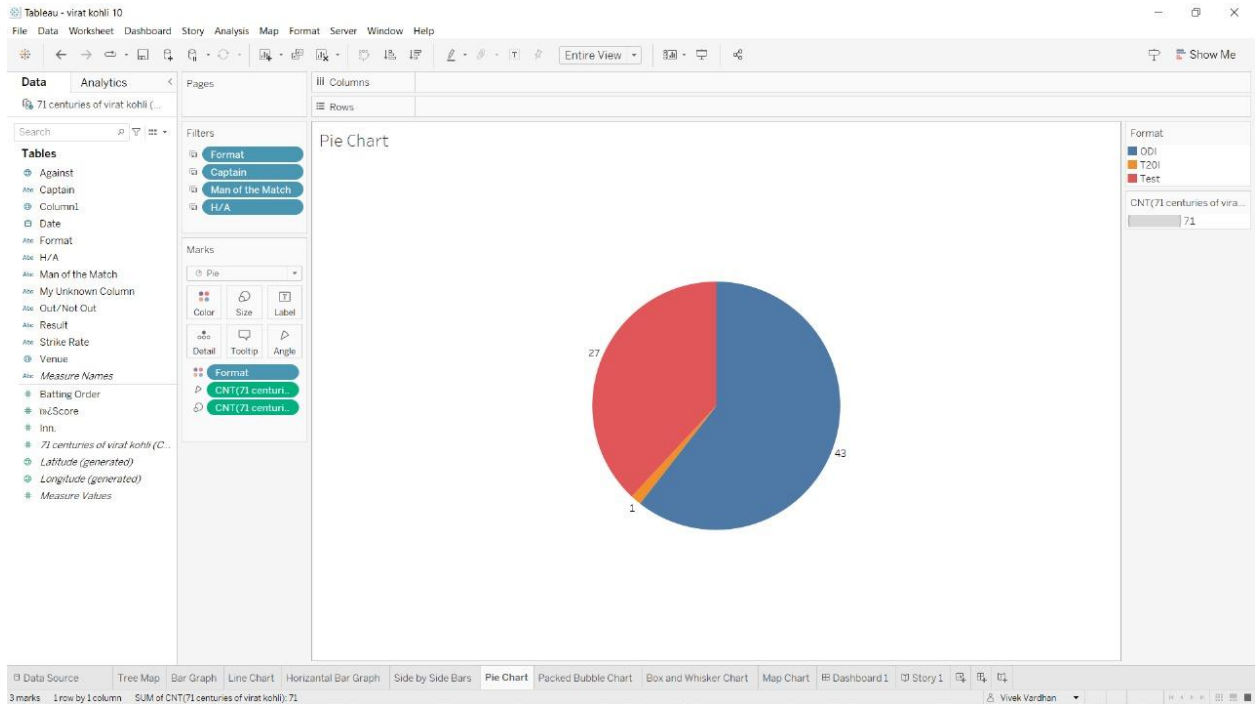
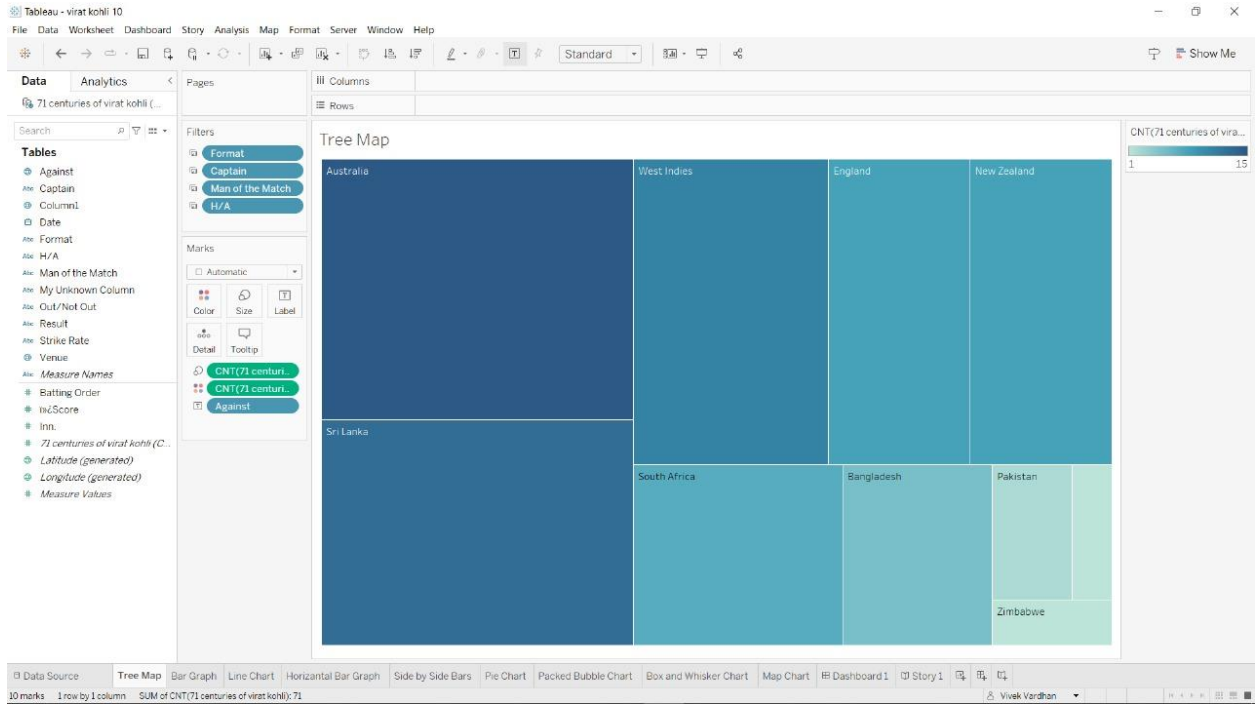
Sprint 2 Velocity = 0.6

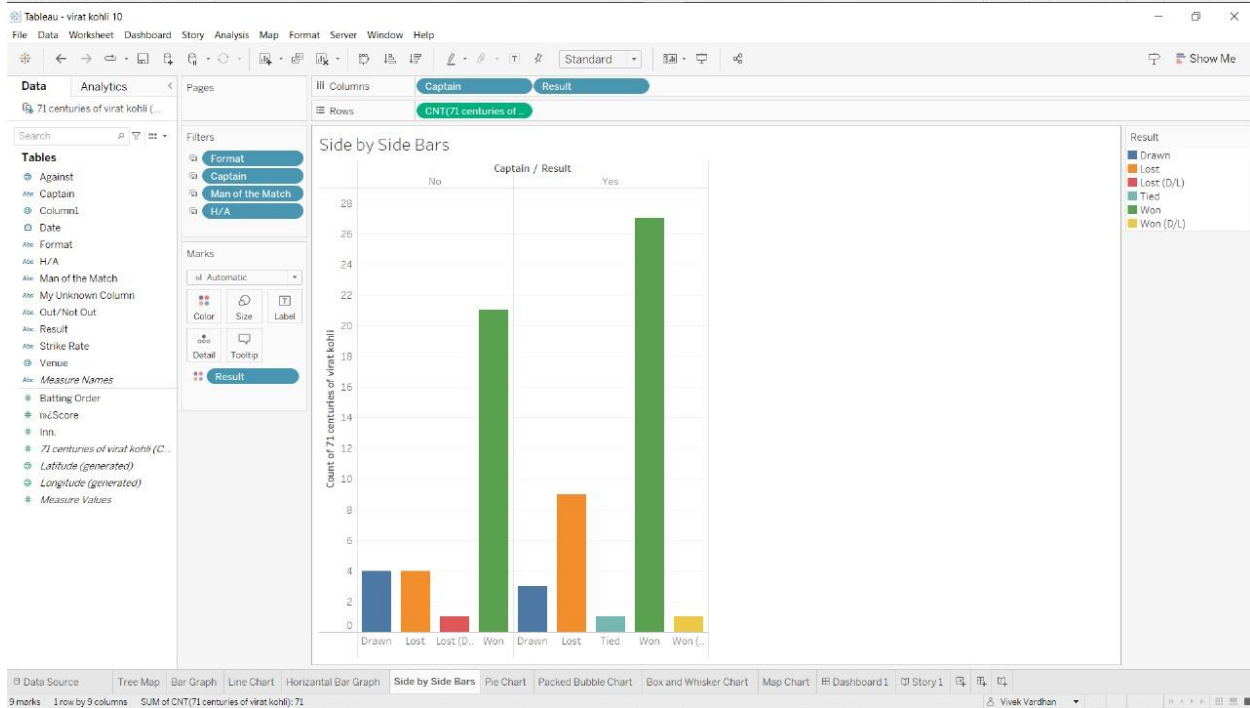
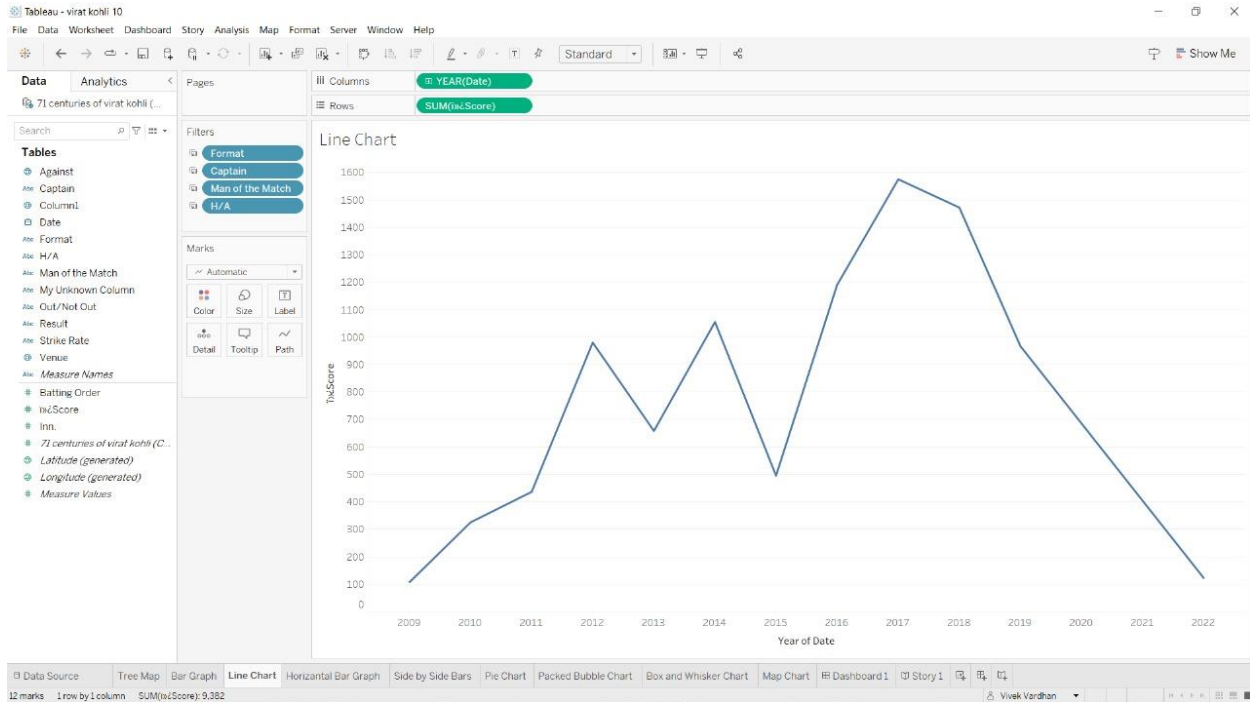
Burndown Chart:

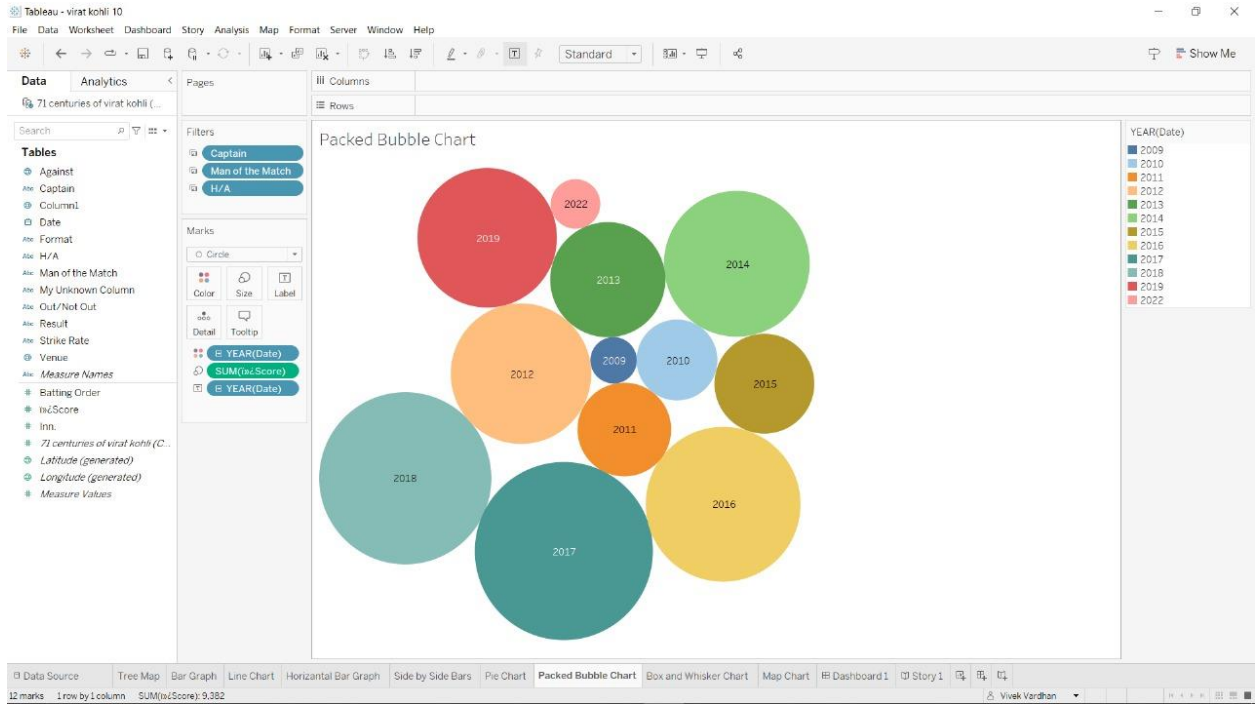


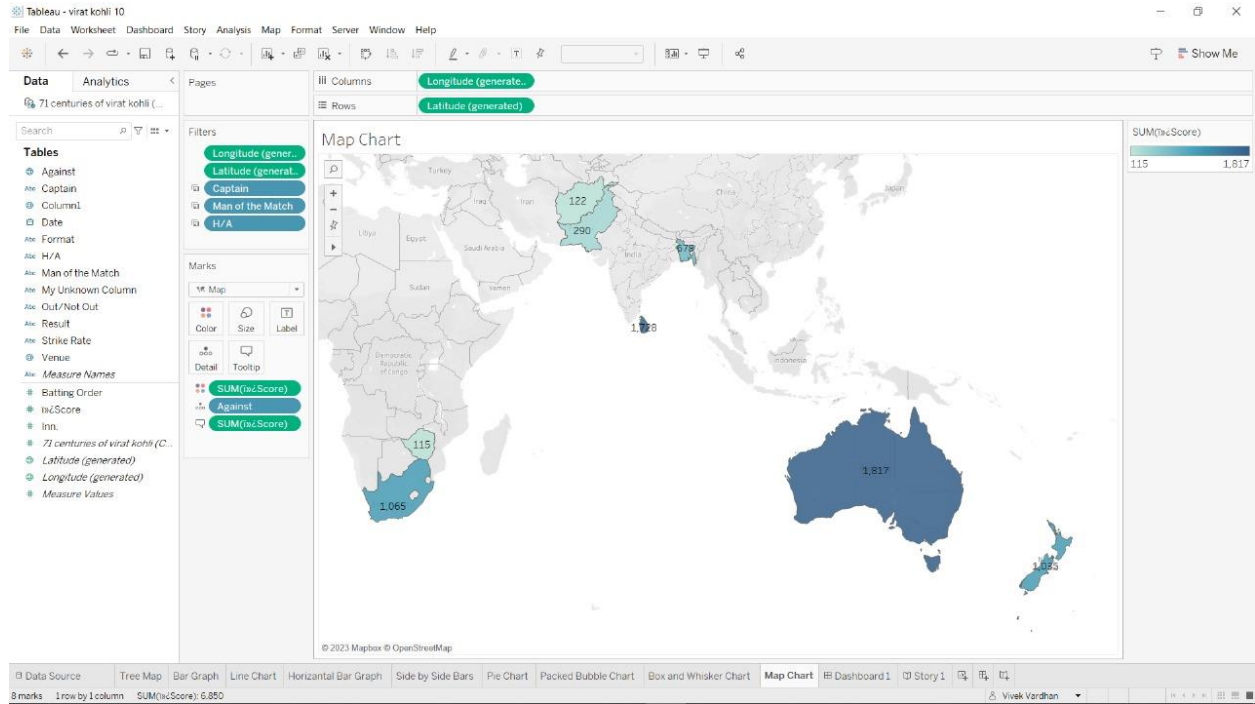
7. VISUALIZATIONS & ANALYSIS











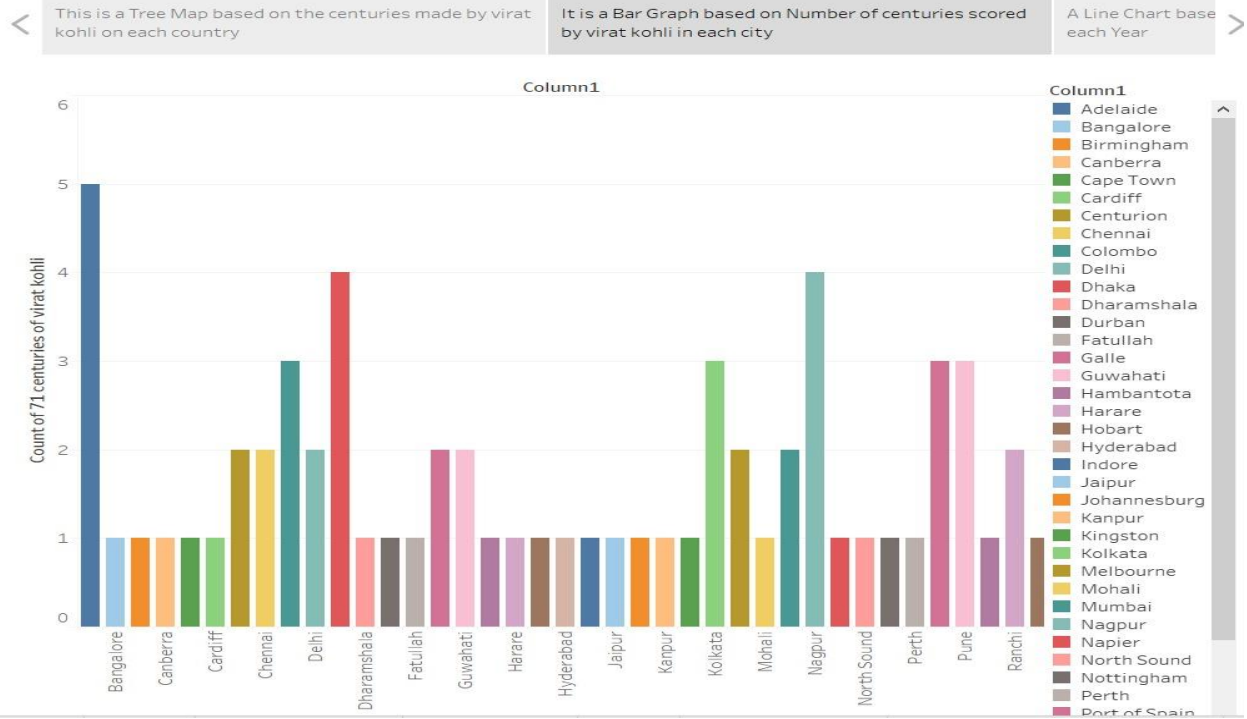
8. PERFORMANCE TESTING

8.1 Performance Metrics

S.No.	Parameter	Screenshot / Values
1.	Dashboard design	No of Visualizations / Graphs - 9
2.	Data Responsiveness	We have created a interactive dashboard using the data in the database
3.	Amount Data to Rendered (DB2 Metrics)	Columns - 14 Rows-72
4.	Utilization of Data Filters	We have used 3 data filters format, captain, man of the match.
5.	Effective User Story	No of Scene Added - 9
6.	Descriptive Reports	No of Visualizations / Graphs - 9

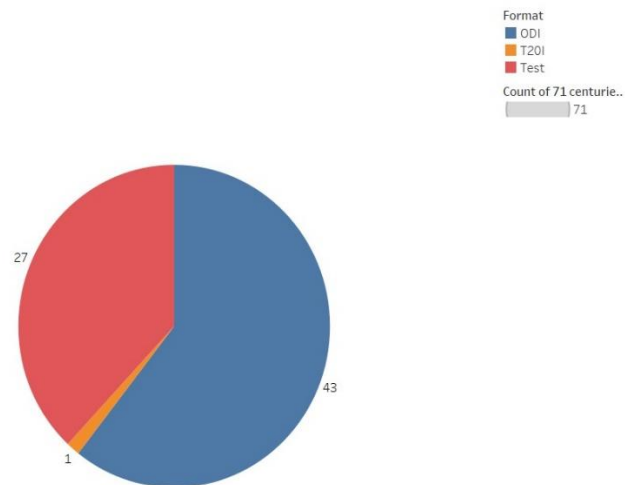


Virat Kohli Masterstroke 71 Centuries



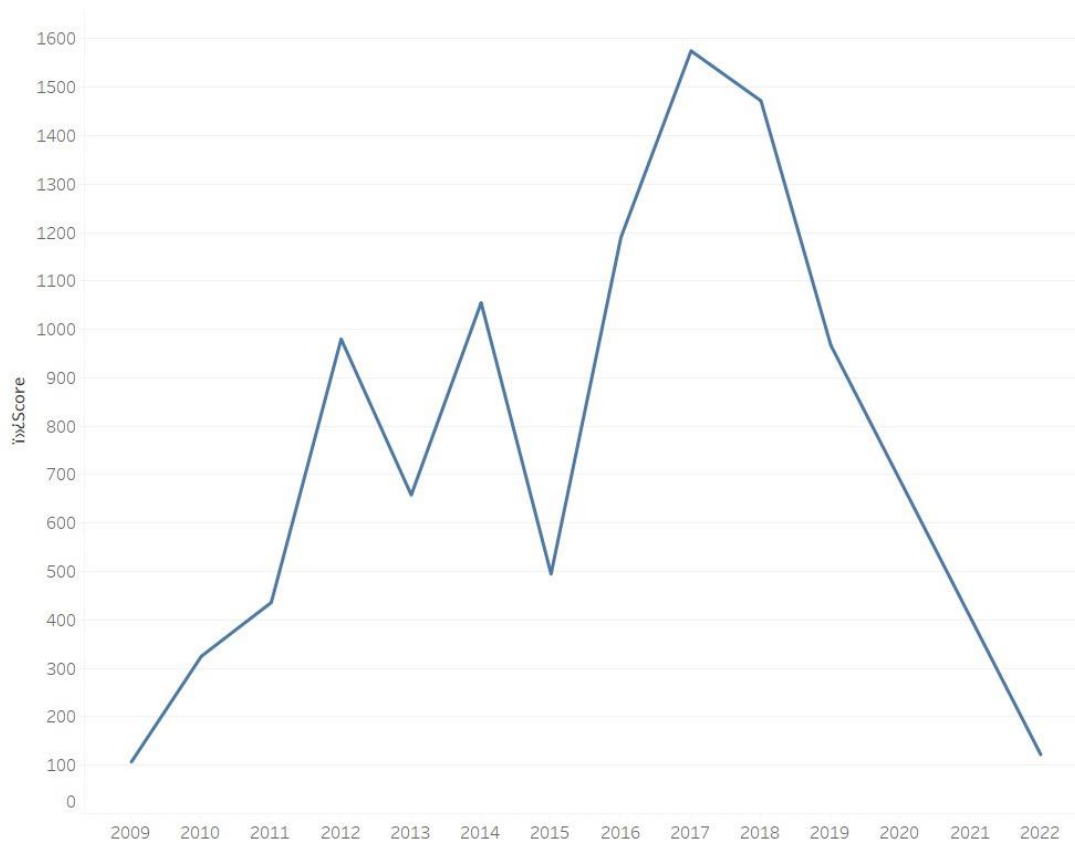
Virat Kohli Masterstroke 71 Centuries

< centuries A Side by Side bar Graph Based on Virat's centuries as a captain and not also the result of the match in which A pie chart Based on virat's centuries in each Format A Box and a >



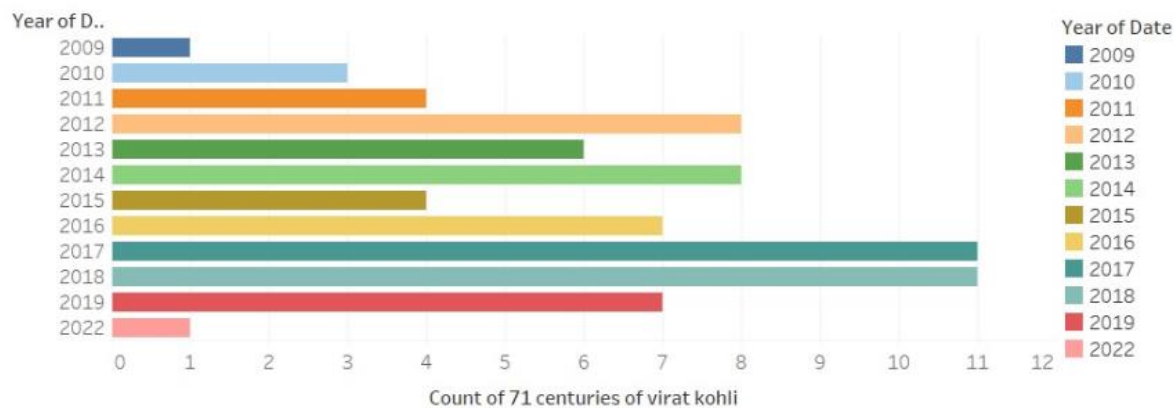
Virat Kohli Masterstroke 71 Centuries

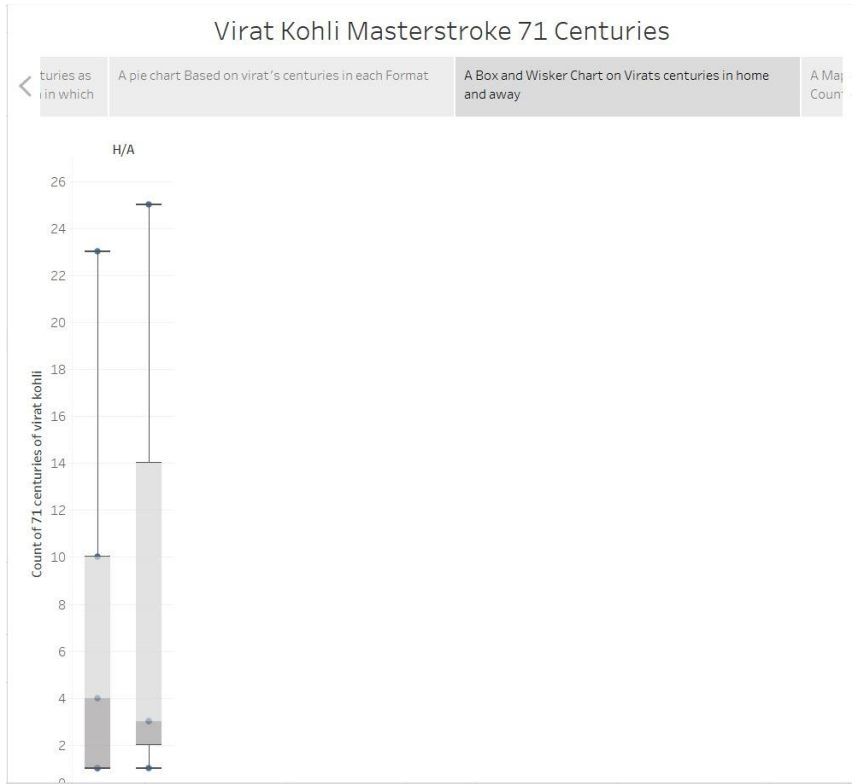
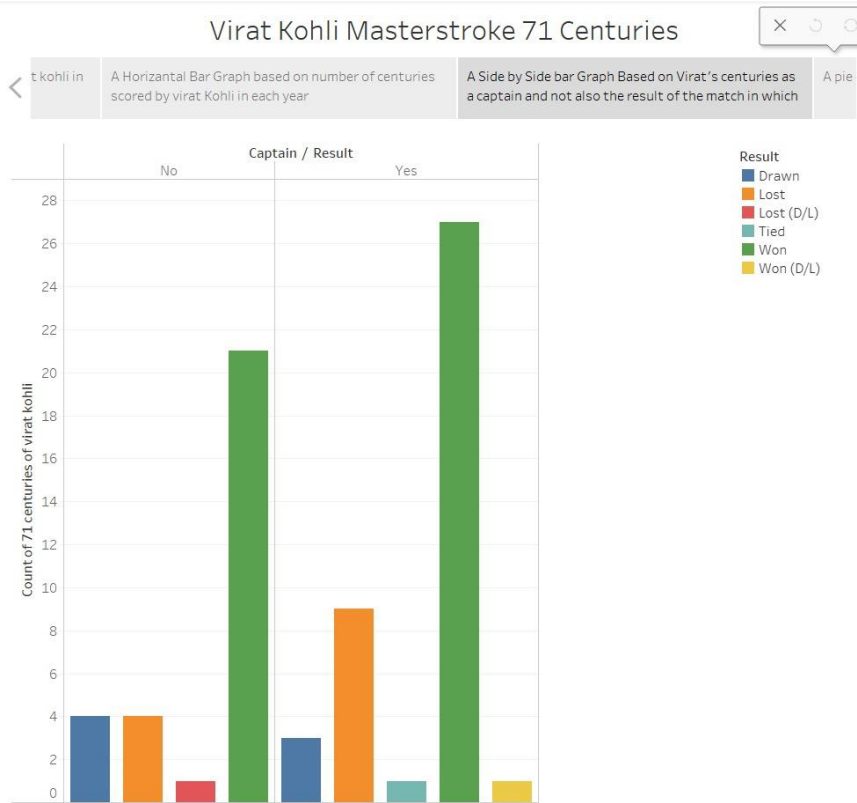
< by virat | It is a Bar Graph based on Number of centuries scored by virat kohli in each city | A Line Chart based on Total runs made by virat kohli in each Year | A Hor score >

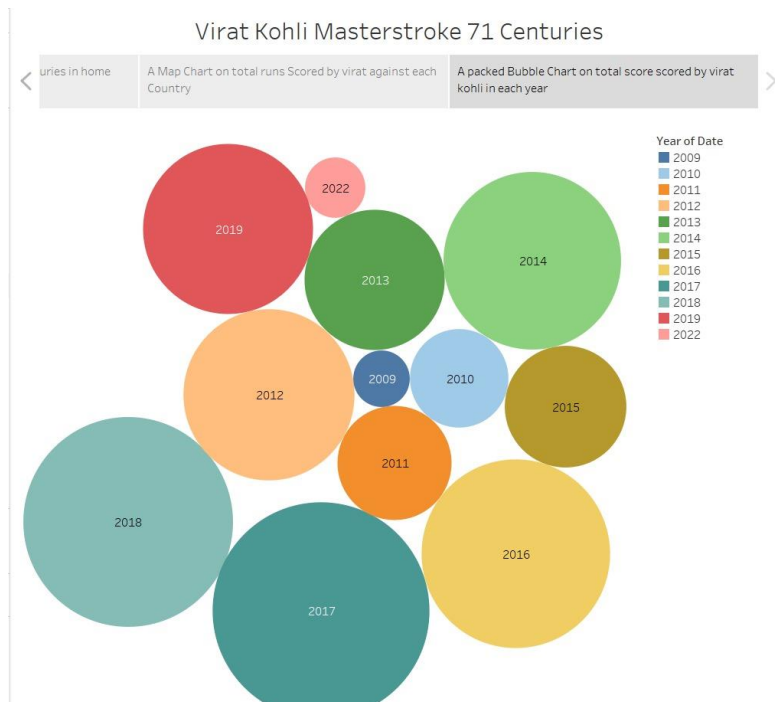
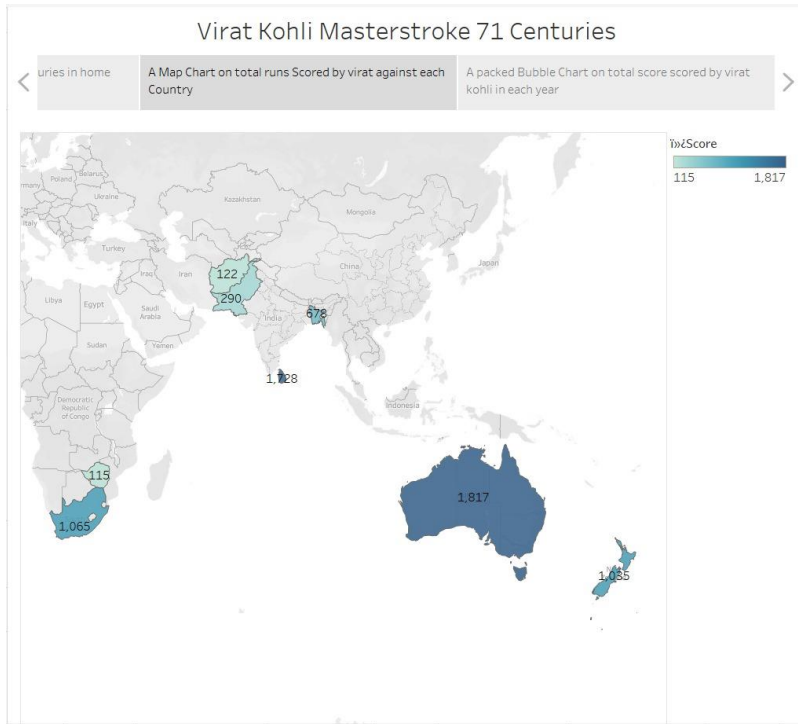


Virat Kohli Masterstroke 71 Centuries

< s scored | A Line Chart based on Total runs made by virat kohli in each Year | A Horizontal Bar Graph based on number of centuries scored by virat Kohli in each year | A Side a capt >







Story Link: <https://drive.google.com/file/d/1xUCV1GkLxODdi6Io1YEF-UoJEHwdc313/view?usp=sharing>

10. ADVANTAGES & DISADVANTAGES

Advantages

- 1) **Data-Driven Insights:** Provides cricket enthusiasts with data-driven insights into Virat Kohli's century-scoring achievements, allowing a deeper understanding of his career.
- 2) **Interactive Exploration:** Offers an interactive platform for users to explore and analyze data, making it engaging and informative.
- 3) **Educational Tool:** Serves as an educational resource for teaching data visualization and analysis techniques using real-world sports data.
- 4) **Celebrating Achievements:** Celebrates Virat Kohli's contributions to the sport and showcases his records and milestones in a visually appealing manner.
- 5) **Comparative Analysis:** Allows for comparisons with other cricket legends, enabling fans to assess his performance against the best in the game.
- 6) **User Engagement:** Engages cricket fans and data enthusiasts, fostering discussions and a sense of community around the sport.
- 7) **Future Scope:** Offers potential for ongoing development, enhancements, and collaborations, expanding its scope and utility.

Disadvantages

- 1) **Data Accuracy:** Ensuring the accuracy of data can be challenging, as cricket statistics are subject to updates and corrections over time.
- 2) **Data Maintenance:** Regular updates and maintenance are required to keep the visualizations up-to-date with the latest records.
- 3) **Data Sources:** Access to reliable and comprehensive cricket data sources may be limited, which could impact the depth and accuracy of the project.
- 4) **Performance:** Handling and rendering large datasets can pose performance challenges, potentially leading to slower load times or unresponsiveness.
- 5) **Privacy Concerns:** If personal or sensitive information is included in the project, privacy and security concerns may arise, necessitating proper safeguards.
- 6) **Complexity:** Creating effective and meaningful visualizations can be complex, and not all users may be able to interpret the insights presented.
- 7) **Device Compatibility:** Ensuring that the project is accessible on a wide range of devices and browsers can be a technical challenge.

11. CONCLUSION

In conclusion, the "Art Of Centuries: Virat Kohli's 71 Masterstrokes Visualized With Tableau" project presents a compelling and informative exploration of Virat Kohli's remarkable cricketing career, particularly his extraordinary century-scoring achievements. By utilizing data visualization tools like Tableau, the project succeeds in providing a platform for cricket enthusiasts and data aficionados to delve into the statistics and milestones that define Kohli's journey in international cricket.

The project not only celebrates Kohli's contributions to the sport but also serves as an educational resource for those interested in data analysis and visualization techniques, using real-world sports data as a captivating case study. Its interactive features enable users to engage with and gain deeper insights into his performances over time, allowing for comparative analysis against other cricket legends.

12. FUTURE SCOPE

The future scope of the project is promising, with opportunities for real-time updates, predictive analytics, fan engagement, and collaboration with cricket organizations, ensuring its relevance and expansion in the years to come.

- 1) **Real-time Updates:** Incorporate real-time data feeds to ensure that the visualizations always reflect the most current statistics and records related to Virat Kohli's centuries, enabling users to stay up-to-date with his performance.
- 2) **Comparative Analysis:** Extend the project to include comparisons between Virat Kohli and other cricket legends, such as Sachin Tendulkar, Ricky Ponting, or Brian Lara, allowing cricket enthusiasts to analyze and compare their respective century-scoring records.
- 3) **Predictive Analytics:** Integrate predictive analytics models to forecast the potential number of centuries Virat Kohli may score in the future, based on his current performance and historical trends, offering an exciting prospect for fans and analysts.

GIT – HUB & PROJECT DEMO LINK

https://drive.google.com/file/d/1q5ig_hFsctp921Banrv7AzFsJ9N-J2yu/view?usp=sharing

Git Hub:

<https://github.com/smartinternz02/SI-GuidedProject-587244-1696921556>