Airplane Crash Analysis Using Tableau

Github - https://github.com/aakashr02/Air_Crash_Analysis

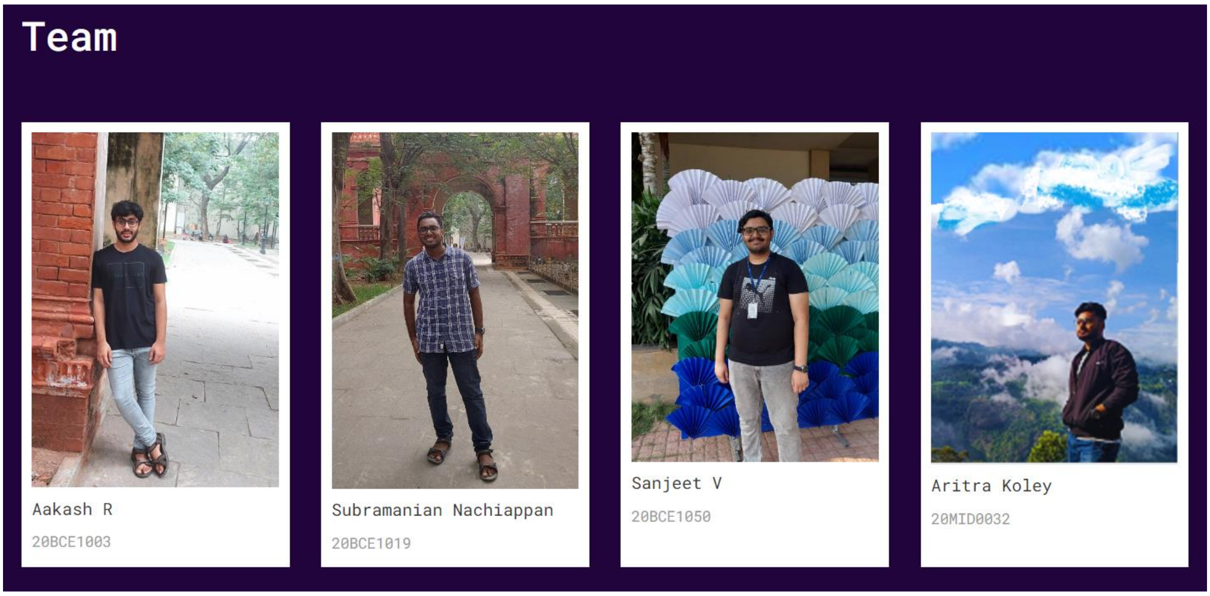
Website - https://aakashr02.github.io/AirCrashAnalysis/

Dashboard - https://public.tableau.com/app/profile/subramanian.nachiappan/viz/shared/R7J46FNFW

Story - Air Crash Analysis | Tableau Public

Demo Link - https://drive.google.com/file/d/1Mwko1hBX8D7nwjTA8W

Team



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Chapter 1-Introduction

1.1) OVERVIEW

The Air Crash Analysis project aims to utilize the powerful data visualization capabilities of Tableau software to explore and analyze a comprehensive dataset of aviation accidents. By leveraging the features of Tableau, we seek to gain valuable insights into the factors, trends, and causes contributing to air crashes.

Objectives:

Data Exploration: We will delve into the provided dataset, examining various variables such as flight details, aircraft types, causes, locations, and outcomes of air crashes. This exploration will help us understand the depth and breadth of the data, identify any data gaps, and gain a comprehensive view of the incidents.

Interactive Visualizations: Leveraging Tableau's intuitive and interactive interface, we will create compelling visualizations, including dashboards, charts, and maps. These visualizations will allow us to represent complex data in an easily understandable format, facilitating the identification of patterns, correlations, and trends in air crash incidents.

Cause Analysis: We will investigate the causes of air crashes, analyzing factors such as pilot error, mechanical failures, weather conditions, and other contributing elements. By identifying common causes, we aim to provide insights that can inform safety measures and interventions to mitigate these risks.

Temporal Analysis: Through time-based visualizations, we will examine the trends and patterns of air crashes over different periods. This analysis may help identify improvements in aviation safety, highlight areas where further attention is required, and contribute to the ongoing efforts to reduce the occurrence of accidents.

Geospatial Analysis: By mapping the locations of air crash incidents, we will explore any geographical concentration or trends in accident occurrences. This analysis can provide valuable insights into regions or specific airports that may require additional safety measures or infrastructure enhancements.

Expected Outcomes:

The Air Crash Analysis project using Tableau software will result in comprehensive visualizations and insights regarding the causes, trends, and spatial distribution of aviation accidents. These findings will contribute to a deeper understanding of air crash incidents, enabling stakeholders in the aviation industry, including regulatory authorities, airlines, and manufacturers, to make data-driven decisions and implement targeted safety measures. Ultimately, the project aims to enhance aviation safety, reduce accidents, and improve the overall reliability and trustworthiness of air travel.

1.2) PURPOSE

The purpose of the Air Crash Analysis project is to leverage Tableau software to conduct a thorough examination of aviation accidents and provide valuable insights into the factors, causes, and trends associated with air crashes. By analyzing the comprehensive dataset and employing interactive visualizations, the project aims to achieve the following objectives:

- Enhance Aviation Safety: By uncovering patterns and identifying common causes of air crashes, the project aims to contribute to the ongoing efforts to enhance aviation safety.

- Inform Decision-Making: The project seeks to provide valuable information to aviation authorities, airlines, manufacturers, and policymakers to aid decision making related to safety protocols, infrastructure improvements, pilot training, regulatory measures, and other areas that impact aviation safety.

- Foster Industry Collaboration: By presenting comprehensive dashboard and visualizations, the project aims to foster collaboration among different stakeholders in the aviation industry. The findings can serve as a common reference point, facilitating discussions and knowledge sharing to collectively work towards safer skies.

- Raise Public Awareness: The project intends to raise public awareness about the complexities and challenges associated with air travel safety. By sharing the findings through accessible and engaging visualizations, tto educate the public about the factors that contribute to air crashes and emphasize the importance of continuous efforts to improve aviation safety.

Overall, the purpose of the Air Crash Analysis project is to utilize Tableau software to analyze, visualize, and communicate the complex data surrounding aviation accidents, with the ultimate goal of enhancing aviation safety, informing decision-making, fostering collaboration, raising public awareness, and supporting the continuous improvement of the aviation industry.

Chapter 2-Literature Survey

2.1) Existing Problem

1. **Data Integration:** Airplane crash analysis requires integrating data from various sources, such as flight data recorders, maintenance records, and investigation reports. However, integrating disparate data formats and structures into Tableau can be complex and time-consuming. Data preprocessing and transformation may be required to ensure compatibility with Tableau's data requirements.

2. **Data Volume and Complexity:** Airplane crash data can be extensive and complex, including multiple variables such as flight parameters, weather conditions, pilot actions, and mechanical information. Analyzing and visualizing such large and diverse datasets in Tableau may pose performance and usability challenges, particularly when dealing with high volumes of data or complex calculations.

3. **Data Privacy and Security:** Airplane crash data often contains sensitive information, and ensuring data privacy and security is crucial. Sharing and accessing such data within Tableau while maintaining confidentiality can be a concern, requiring careful implementation of access controls, data masking, and encryption techniques.

4. **Limited Customization:** While Tableau provides a range of visualization options, customization may be limited when it comes to specific requirements in airplane crash analysis. Tailoring visualizations to represent specialized aviation-related parameters or incorporating industry-specific standards and symbols may require additional efforts or workarounds.

5. **Real-time Analysis:** Tableau is primarily designed for analyzing historical data, which may not address the need for real-time crash analysis. Monitoring and analyzing real-time flight data, including telemetry data or live sensor readings, may require integrating Tableau with real-time data processing systems or adopting other complementary tools.

6. **Expertise and Training:** Effective utilization of Tableau for airplane crash analysis requires expertise in both crash investigation techniques and Tableau functionalities. Gaining proficiency in data preparation, advanced analytics, and visual design within Tableau may require specialized training and ongoing skill development.

2.2) Existing Problem

To address the existing challenges in airplane crash analysis using Tableau, the following proposed solutions can be considered:

Streamlined Data Integration: Developing standardized data integration processes and tools can facilitate seamless integration of diverse data sources into Tableau. This can involve creating data pipelines, implementing data preprocessing techniques, and establishing data governance practices to ensure data consistency and compatibility with Tableau's requirements.

Performance Optimization: To handle large and complex crash datasets, performance optimization techniques can be employed. This includes data aggregation, sampling, and filtering to reduce data volume, as well as leveraging Tableau's data extract capabilities for faster query execution. Implementing efficient data storage and indexing mechanisms can also enhance the performance of crash analysis dashboards.

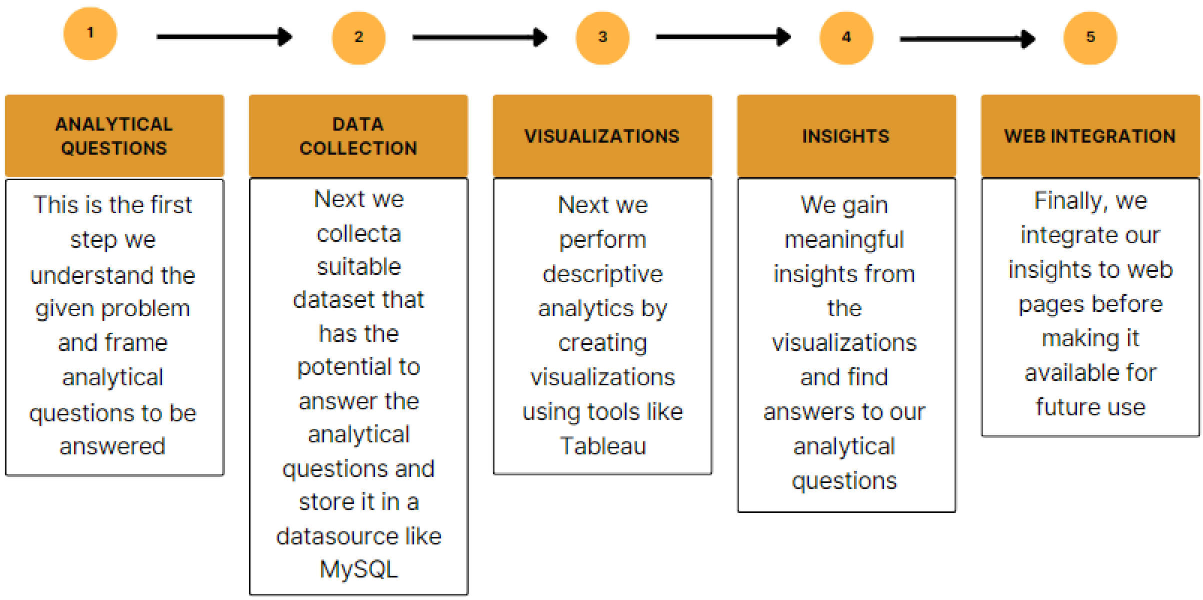
Customization and Aviation-specific Visualizations: Developing customized visualizations and incorporating aviation-specific symbols and standards can enhance the relevance and usability of Tableau dashboards for crash analysis. This may involve leveraging Tableau's customization options, using external libraries or plugins, or developing custom visualization extensions tailored to the aviation domain.

Real-time Analysis Integration: To address the need for real-time crash analysis, integrating Tableau with real-time data processing systems or streaming platforms can enable the ingestion and analysis of live flight data. This integration allows for real-time monitoring, alerts, and proactive decision-making during critical aviation incidents.

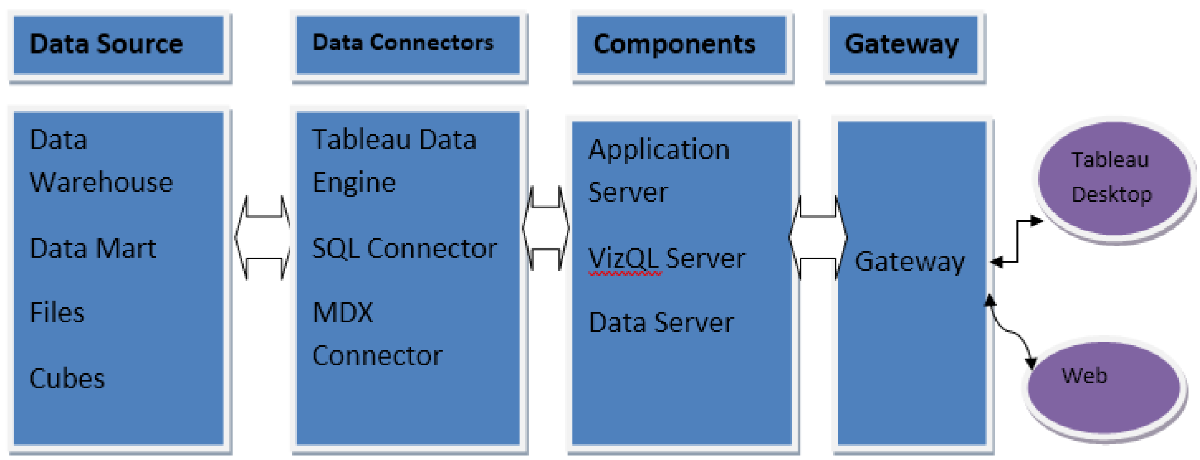
Effective Collaboration and Reporting: Implementing collaborative platforms and workflows that integrate Tableau with other communication and reporting tools can streamline collaboration among users. This allows for seamless sharing of dashboards, analysis insights, and reports, facilitating effective communication and decision-making among investigators, regulators,industry experts and data analysts.

Chapter 3-Theoretical Analysis

3.1) BLOCK DIAGRAM



3.2) Hardware/ Software Designing



To successfully undertake the analytics project utilizing MySQL database and Tableau software, the following hardware and software requirements should be met:

Hardware Requirements:

Computer/ Laptop: A computer with sufficient processing power, memory, and storage capacity to handle data-intensive tasks.

Operating System: Compatible operating systems such as Windows, macOS, or Linux.

Storage: Adequate storage space to accommodate the MySQL database and associated data files.

Memory: Recommended minimum RAM capacity of 8 GB or higher for smooth data processing and visualization.

Software Requirements:

MySQL Database: Install and configure the MySQL relational database management system to store and manage the project's data.

MySQL Workbench: A graphical user interface tool that facilitates database administration, design, and development tasks for MySQL.

Tableau Desktop: Install the Tableau Desktop software, which will be used for data exploration, visualization, and dashboard creation.

Tableau MySQL Connector: Download and install the MySQL Connector for Tableau to establish a connection between Tableau and the MySQL database.

Web Browser: Latest version of web browsers like Chrome, Firefox, or Safari to access online resources, Tableau's community forums, and support documentation.

VS Code Editor: Microsoft Visual Studio, a code editor was used to develop web pages and integrate dashboards to HTML and Flask.

Optional Requirements:

Tableau Server or Tableau Public: To share and publish dashboards and visualizations, one may require Tableau Server (for private deployment) or Tableau Public (for public sharing) licenses.

Geocode API: The GeoCode API was used to fetch the Latitude and Longitude for the air crash sites.

Chapter 4-Experimental Investigations

During the process of airplane crash analysis using Tableau, several key analysis and investigation steps are undertaken. These steps involve data exploration, visualization, pattern recognition, and interpretation. Here is an overview of the analysis and investigation conducted while working on airplane crash analysis using Tableau:

Data Exploration:

- Importing and connecting the relevant crash data sources to Tableau.
- Assessing the quality and completeness of the data.
- Exploring the data to understand its structure, variables, and relationships.
- Identifying missing or inconsistent data elements that need to be addressed.

Data Cleaning and Preparation:

- Performing data cleaning tasks such as removing duplicate records, handling missing values, and standardizing data formats.
- Conducting data transformations, such as converting timestamps and geospatial data for effective analysis.
- Creating calculated fields or derived variables based on the specific analysis requirements.
- Aggregating or summarizing data to the desired level of granularity for analysis.

Data Visualization:

- Designing and creating visualizations that represent the crash data effectively.
- Selecting appropriate chart types, such as scatter plots, bar charts, or maps, to showcase different aspects of the crash data.
- Creating dashboards that present multiple visualizations in a coherent and interactive manner.
- Applying filters, parameters, and interactivity to allow users to explore the data and uncover insights.

Pattern Recognition and Analysis:

- Analyzing trends and patterns in the crash data to identify common contributing factors or correlations.
- Utilizing visualizations to compare variables, such as flight parameters, weather conditions, and aircraft systems, to identify potential relationships.
- Conducting statistical analyses or calculations within Tableau to validate assumptions or support hypotheses.
- Identifying outliers or anomalies in the data that may require further investigation.

Interpretation and Insights:

- Interpreting the visualizations and analysis results to derive meaningful insights.
- Collaborating with domain experts, investigators, or stakeholders to validate findings and provide additional context.

- Documenting and communicating key findings, trends, and conclusions from the analysis.
- Identifying recommendations for improving aviation safety measures based on the analysis outcomes.

Iterative Analysis and Refinement:

- Conducting iterative analysis by refining data sources, visualizations, and analysis techniques based on feedback and new insights.
- Iteratively exploring different dimensions of the data to uncover deeper patterns or relationships.
- Incorporating additional data sources or variables to gain a more comprehensive understanding of the crash incidents.
- Continuously refining and improving visualizations and analysis approaches to enhance the effectiveness of the analysis

Throughout the entire process, it is essential to maintain a critical mindset, rigorously validate the analysis approach, and ensure transparency and reproducibility of the analysis steps taken. The insights derived from the analysis can guide decision-making, inform safety improvements, and contribute to a better understanding of air crash incidents.

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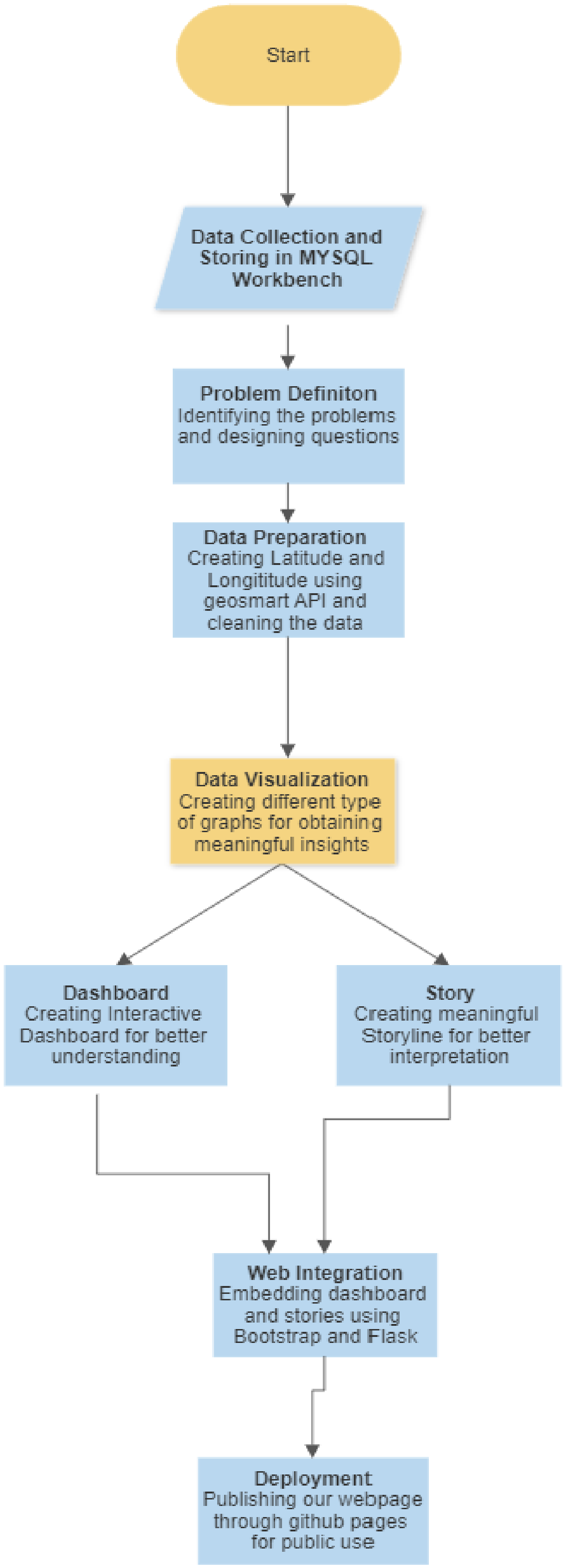
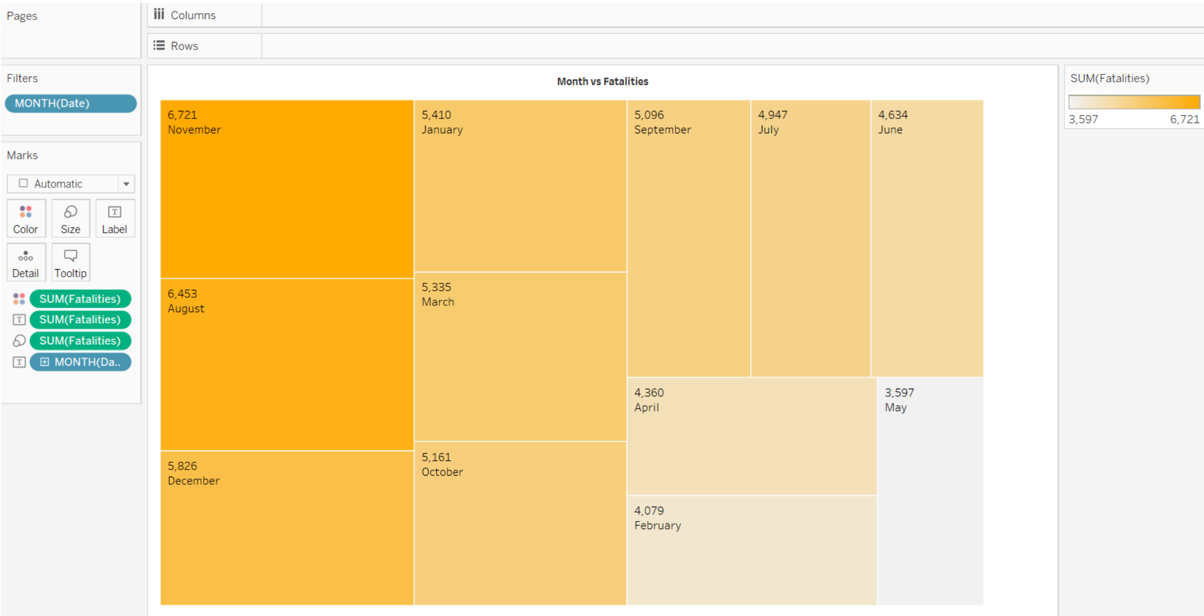
Chapter 5- Flow Chart



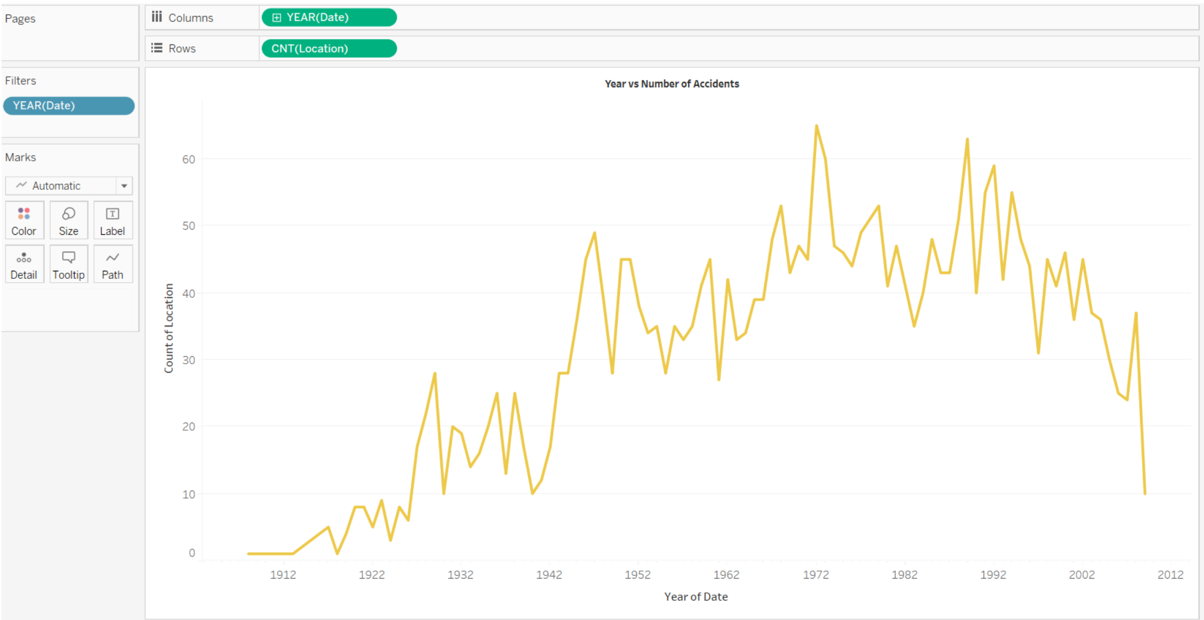
Chapter 6-Result

1. Monthwise Fatalities



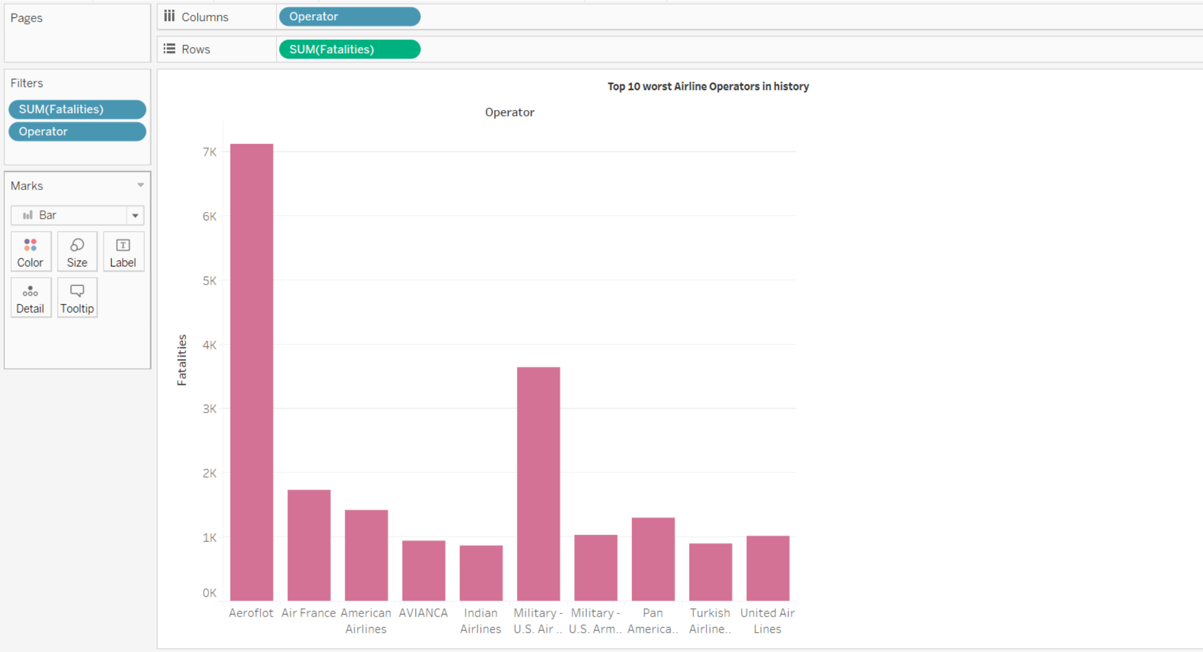
Month wise analysis of the Air Crash data between 1908-2009 represented by this treemap reveals that the number of fatalities were highest in November and lowest in May.

2. Accidents per Year



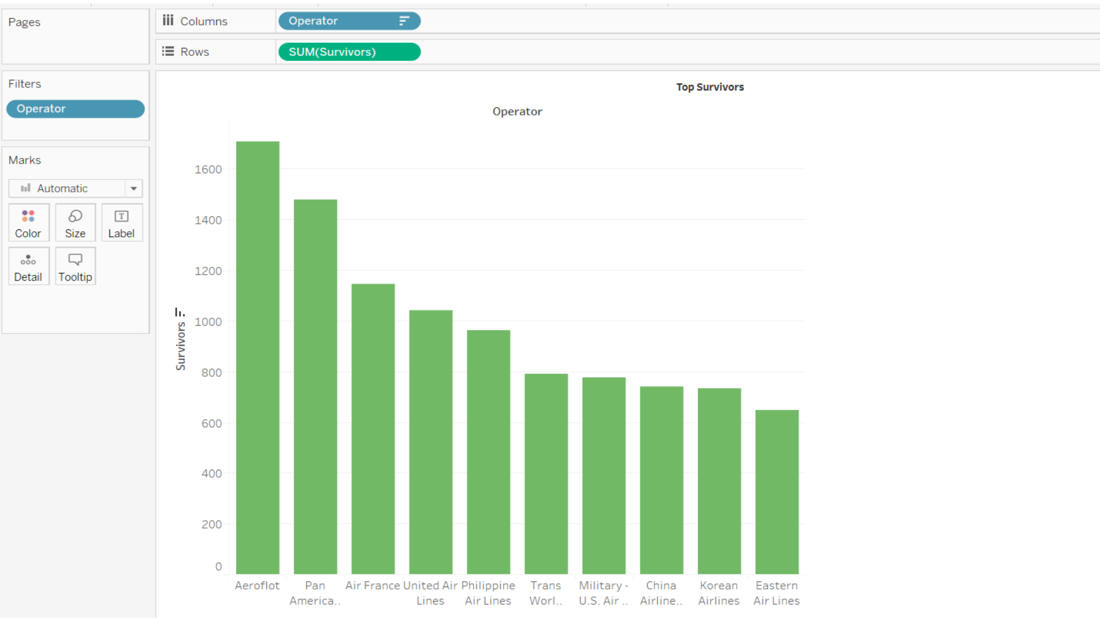
The number of accidents spikes in 1972 and 1983, with almost 65 crashes. There is an overall increase after 1950 attributing to development of the aviation industry and decrease after 1990 possibly due to safer protocols.

3. 10 worst Airplane Operators in history



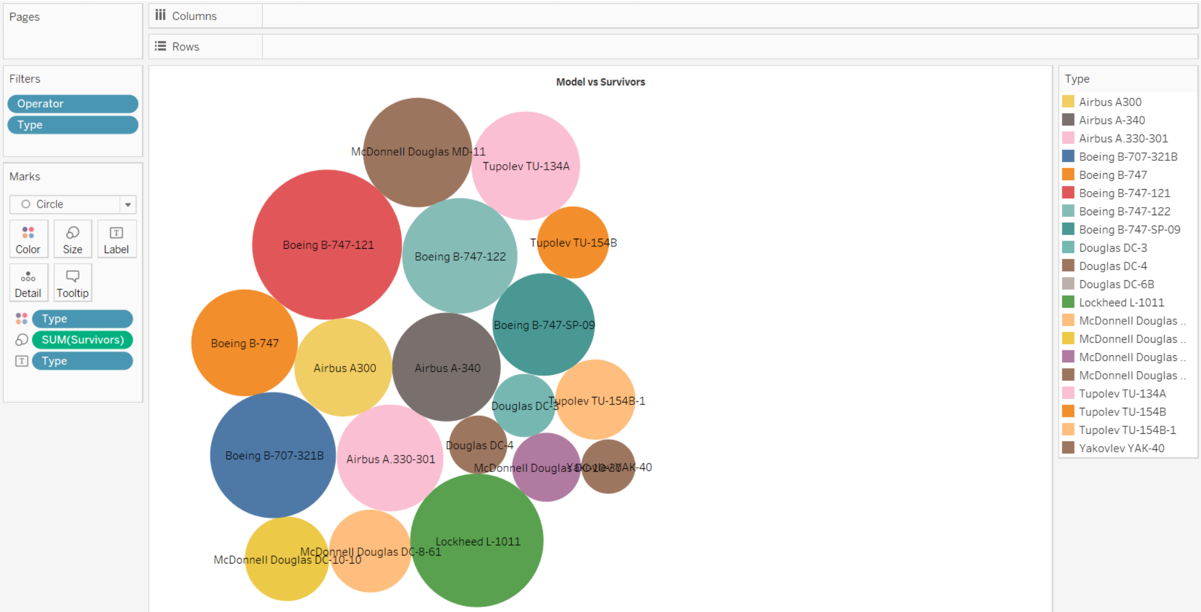
Aeroflot is the worst airliner in history, followed by Air France and American Airlines. Indian Airlines with 859 fatalities falls within the worst 5. The US Military is the second worst overall after losing multiple personnel in various crashes.

4. Top 10 Operators by Survivors



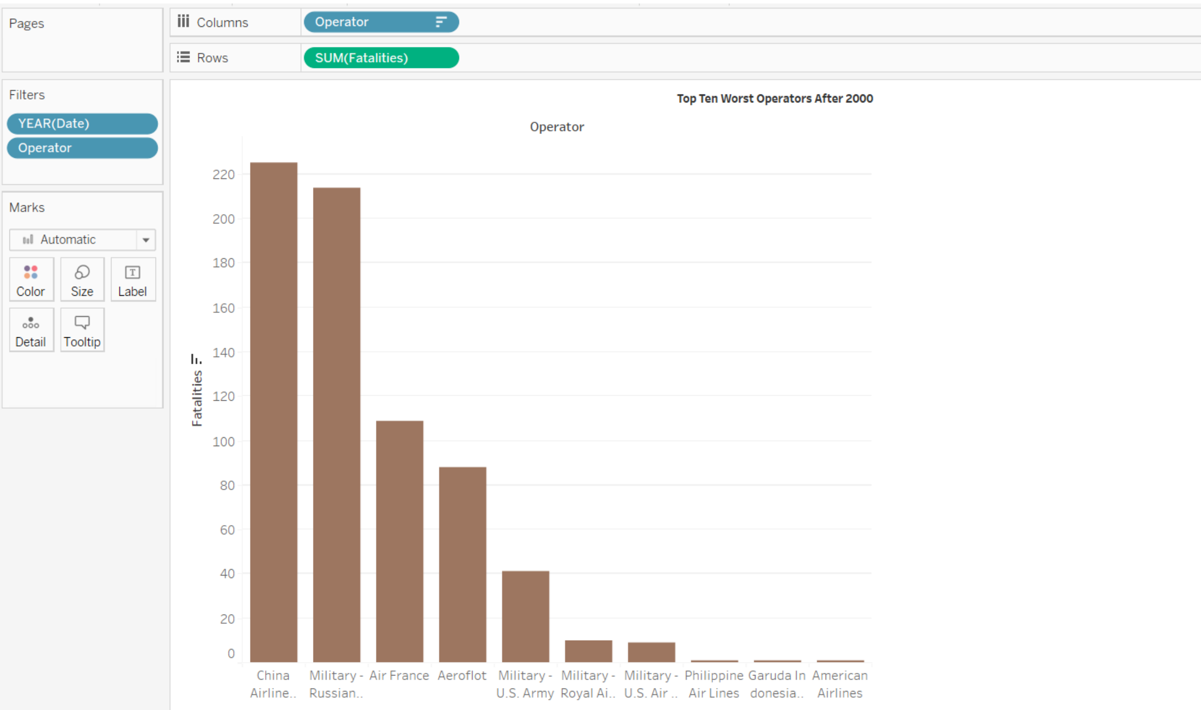
When it comes to survivors onboard, Aeroflot, Pan America World Airways and Air France top other operators with more than a thousand survivors from multiple crashes. However, this standalone report cannot conclude on the safety of these airlines.

5. Safer Aircraft Models



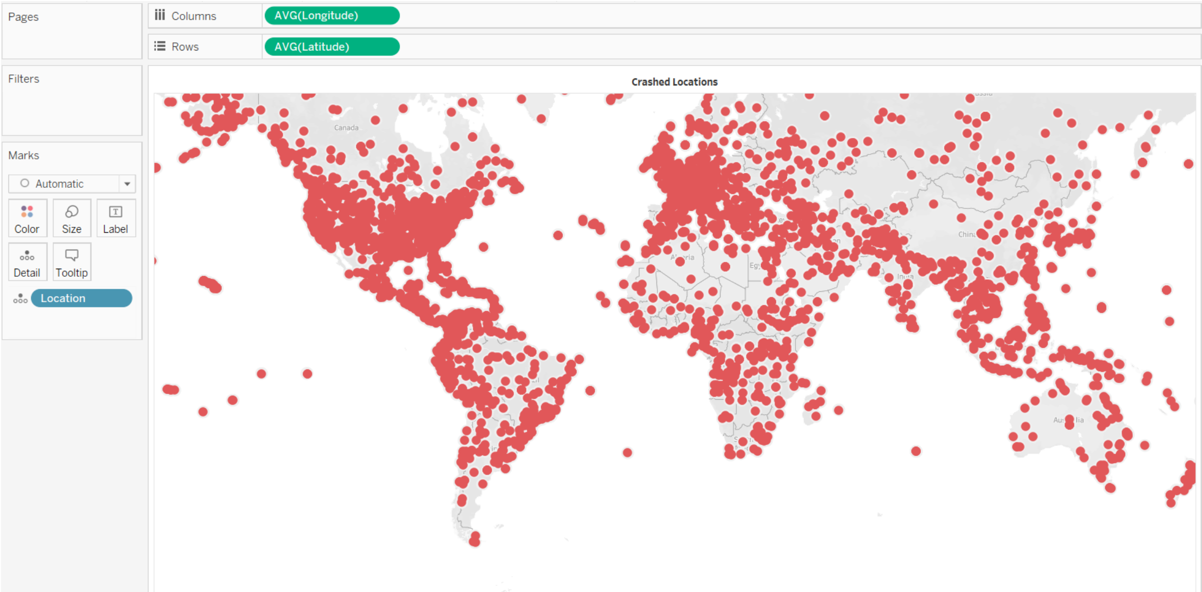
Aircraft models from Boeing like B-747-121 and 122, Lockheed L 1011 and Airbus A30 appear to be safer models having higher number of survivors after the aircrash. However, other factors like crash intensity determine the fatalities.

6. 10 worst Airliners between 2000-2009



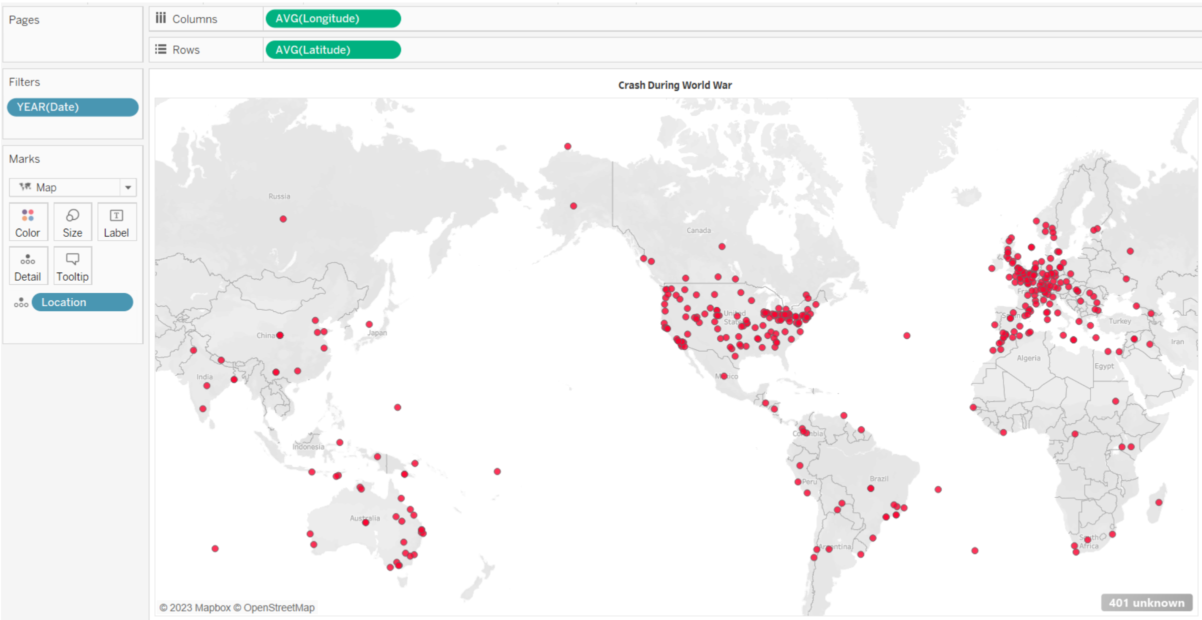
China Airlines is the worst airliner with 225 fatalities followed by Air France with 109 fatalities. The Russian Military has had several flight crashes and stands second overall when it comes to operators.

7. Worldwide Crash Sites



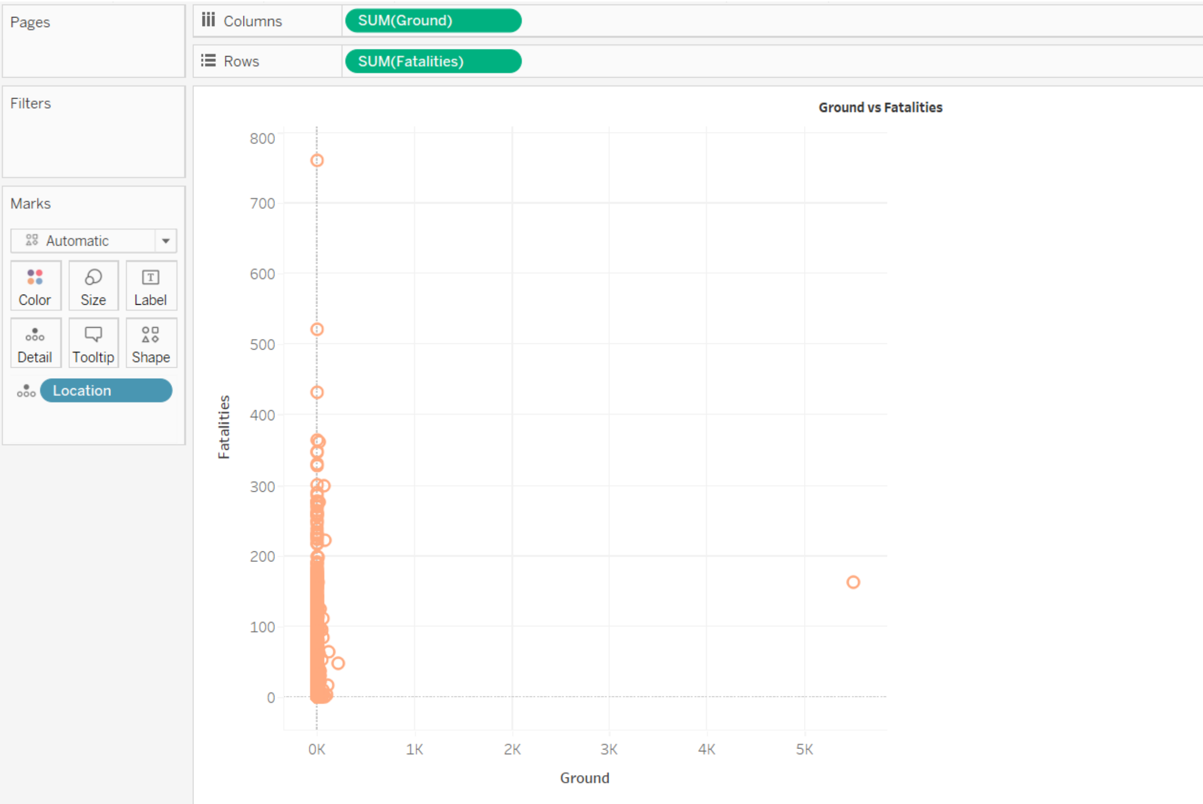
The distribution of air crash locations are concentrated in North America and Europe, possibly due to factors like, erratic weather, involvement in the world war and increased air traffic due to economic development.

8. Crash sites during World the Wars



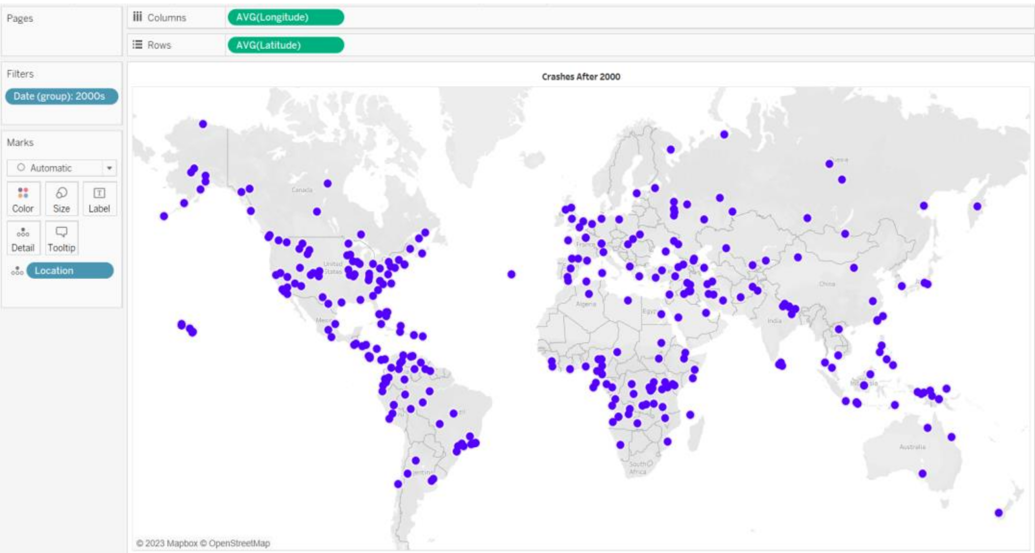
Air crashes during the world war between 1914 and 1945 show various locations especially concentrated around the US and Europe depicting their active involvement and a few in their African and Asian colonies.

9. Onground vs Onboard Fatality



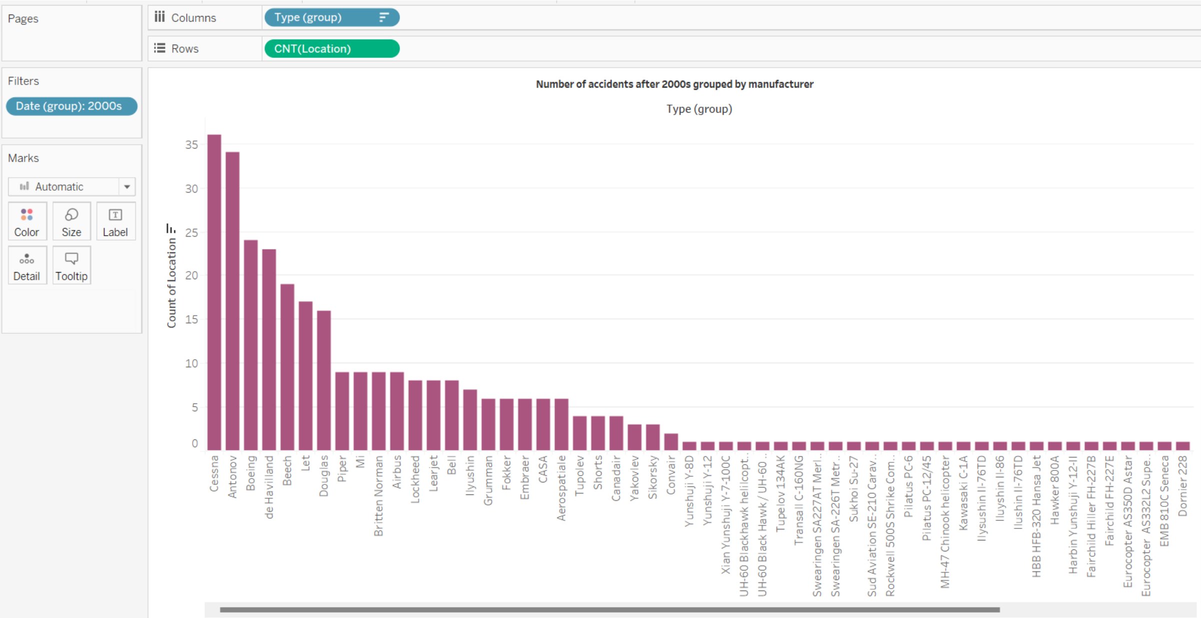
In most cases, the aircrashes only have onboard fatalities and none on ground. However, the datapoint to the extreme right indicates a higher onground fatality than onboard, representing the 9/11 Attack on the World Trade Center, New York.

10. Crash sites after 2000



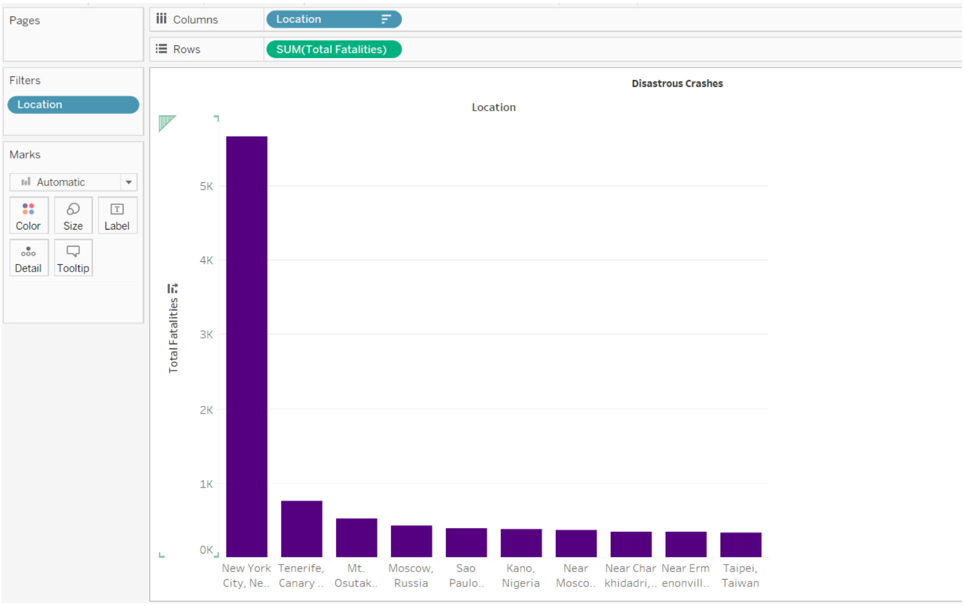
Between 2000 and 2009 the United States of America has had the largest number of air accidents than any other country. This may be due to an increase in air traffic as a result of economic development and more domestic flights operating within the country.

11.Fatalities per Manufacturer in the 2000s



Aircraft manufacturers like Boeing, Antonov and Airbus have had highest fatalities during the 2000s and fall within the first 10 when it comes to fatalities.

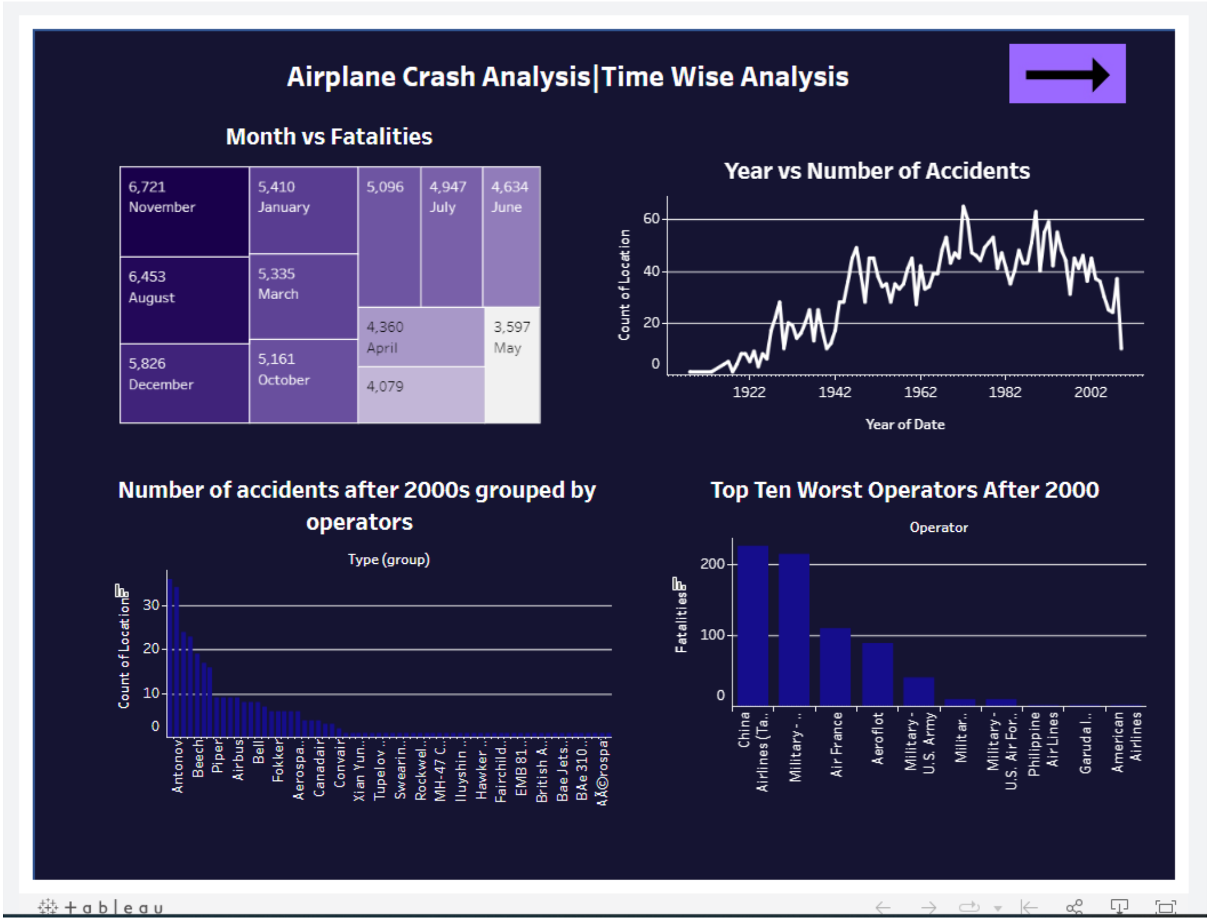
12. Disastrous Crashes in History

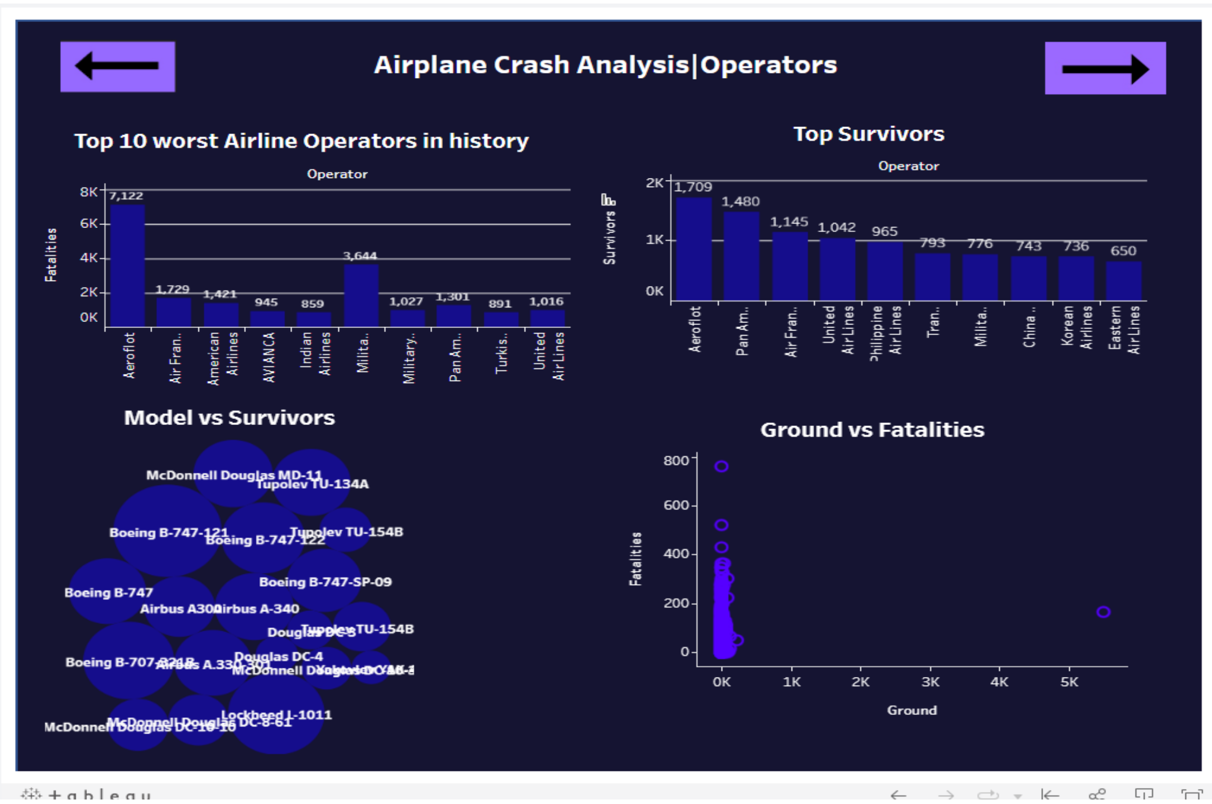


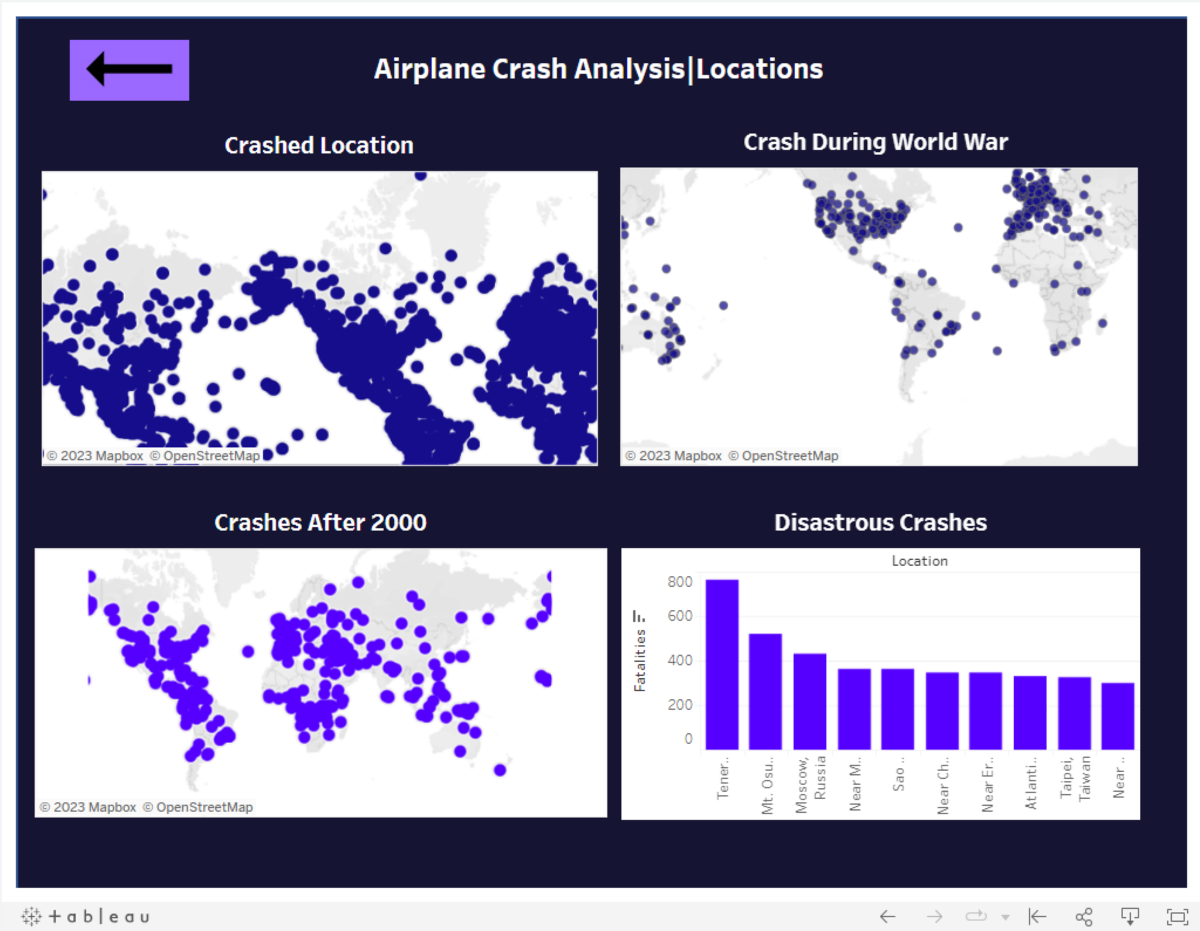
The disastrousness of a crash is measured as the sum of onboard and onground fatalities. As of 2009, the 9/11 attack on the Twin Towers, New York is the most disastrous in history with 5663 people being killed.

13. DashBoard -

Link - https://public.tableau.com/shared/9NZNB7B99?:display_count=n&:origin=viz_share_link



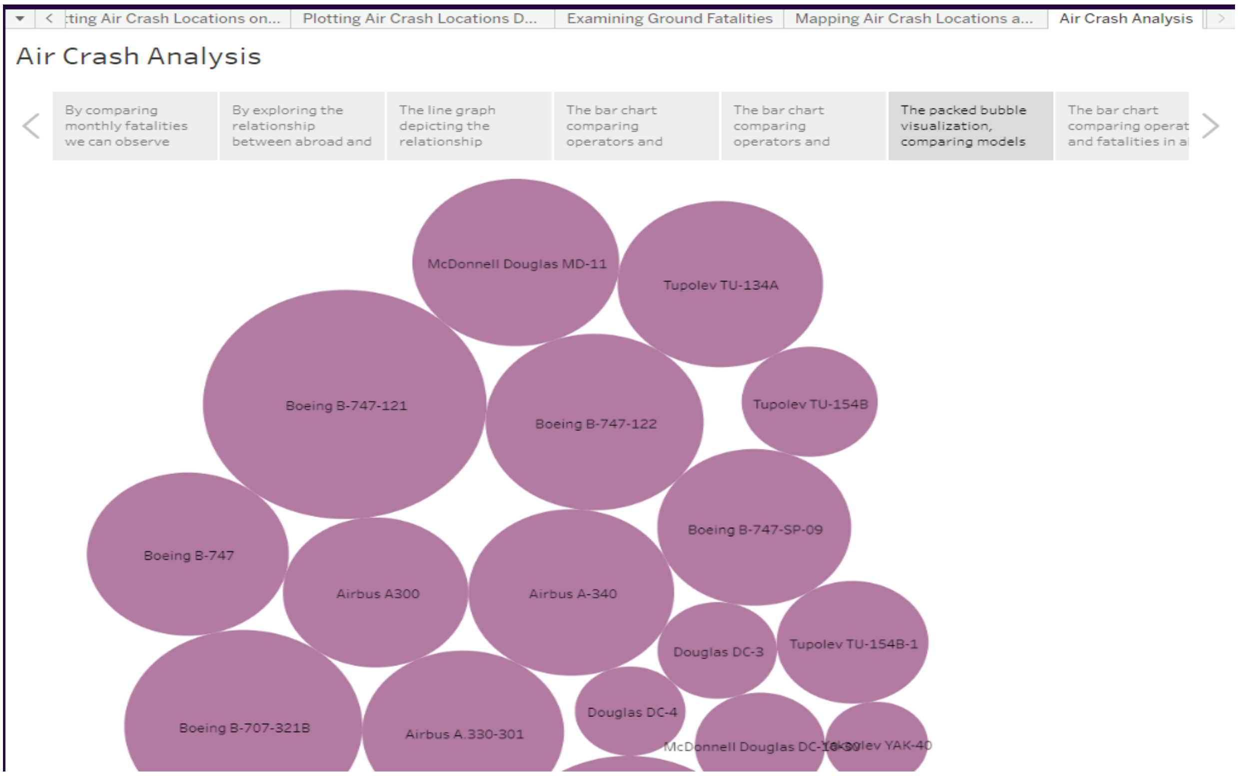




A visually appealing and interactive dashboard is created to display the insights of our Air Crash Analysis project and has been deployed to tableau public for public use.

14.Story

Link - [Air Crash Analysis | Tableau Public]

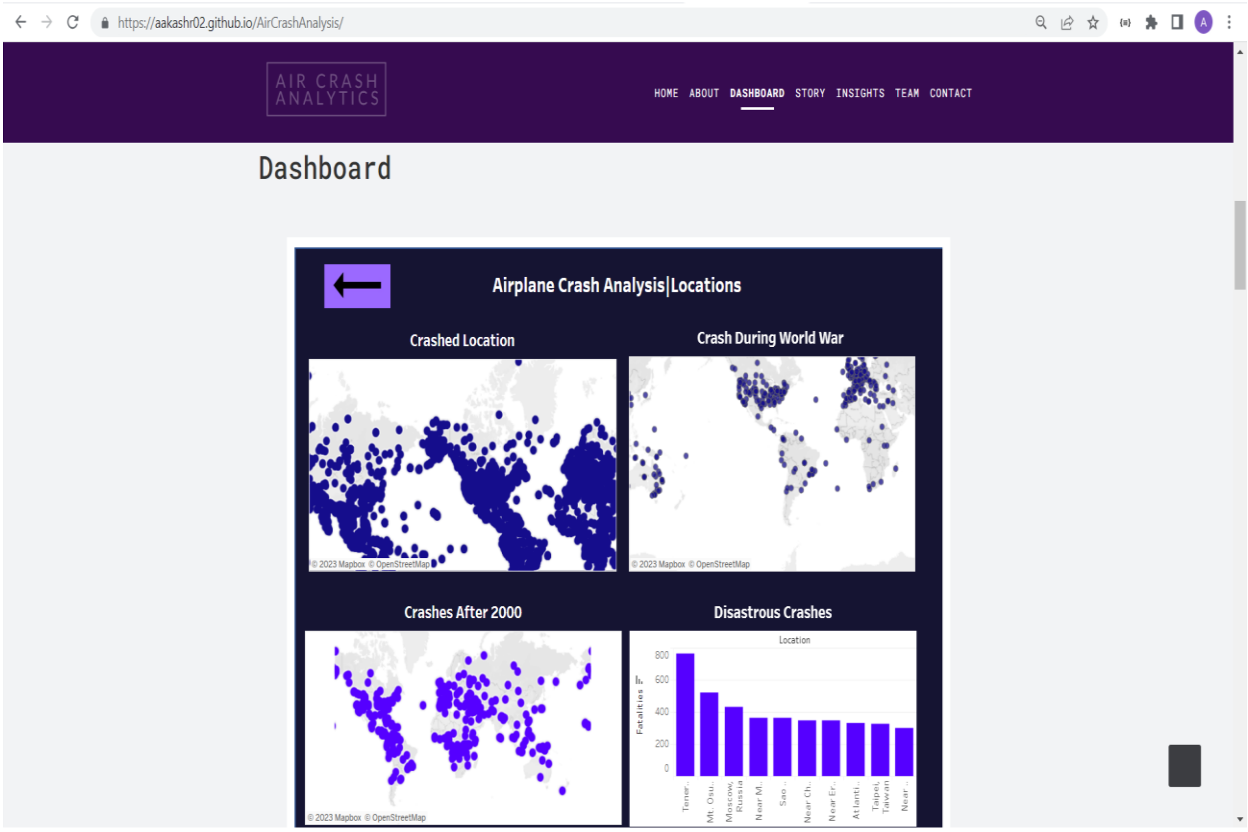


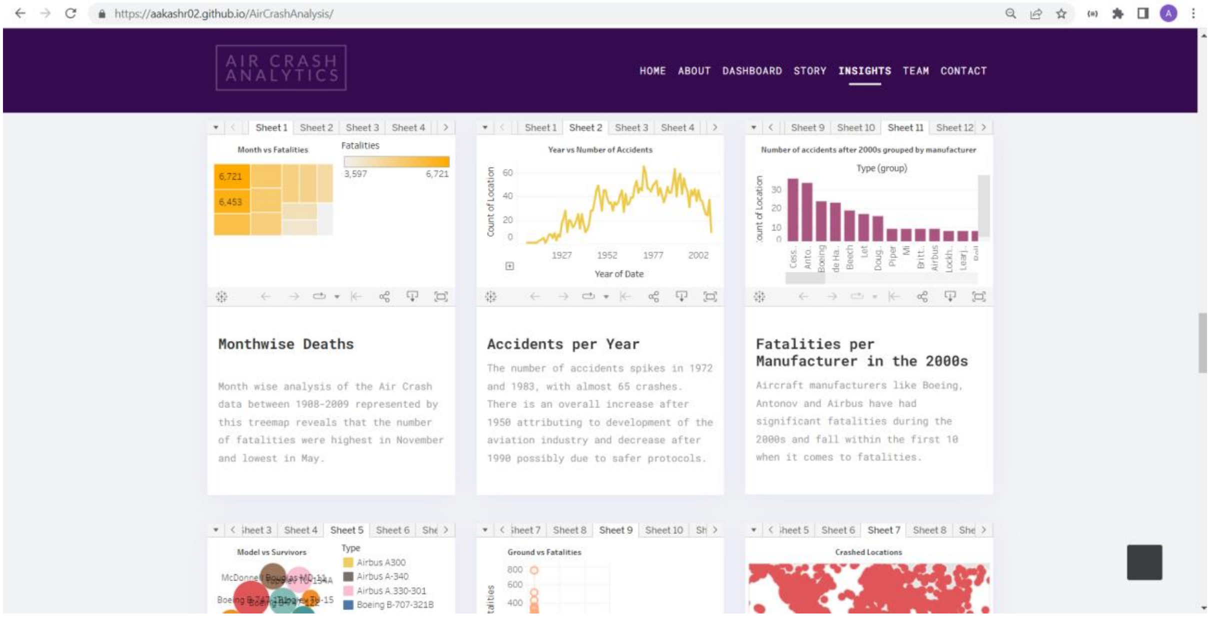
A story is created to display the insights of our Air Crash Analysis project and better convey the results and it has been deployed to tableau public for public use.

15. Web Hosting using Bootstrap

Link - https://aakashr02.github.io/AirCrashAnalysis/

We have embedded our insights and hosted our results onto an attractive and interactive web page that we built using HTML, CSS, Javascript and Bootstrap and to better convey our results to the common public in a more interpretable way. The website can be accessed from the above link.





Chapter 7-Advantages and Disadvantages

Advantages of an Air Crash Analysis Visualization Project:

1. **Enhanced Understanding:** Visualization allows for a deeper understanding of complex data by presenting it in a visual format. It enables stakeholders to grasp patterns, trends, and relationships that might be challenging to identify through raw data alone.

2. **Improved Decision-Making:** Visualizations provide actionable insights that aid in making informed decisions. By identifying key factors and trends contributing to air crashes, stakeholders can implement targeted interventions, safety measures, and risk mitigation strategies.

3. **Effective Communication:** Visualizations simplify the communication of findings and insights to diverse audiences. They can effectively convey complex information in a concise and visually engaging manner, enabling stakeholders to comprehend and engage with the analysis outcomes more readily.

4. **Safety Improvement:** The project can contribute to overall aviation safety by raising awareness, providing valuable information to stakeholders, and facilitating collaboration among industry experts. By visualizing accident data, the project promotes continuous improvement efforts, leading to safer skies for passengers and crew.

Disadvantages of an Air Crash Analysis Visualization Project:

1. **Data Limitations:** Visualization is only as good as the quality and completeness of the underlying data. Inaccurate, incomplete, or biased data can potentially skew the insights derived from visualizations and lead to inaccurate conclusions. More information like prevailed weather conditions, pilot age, pilot experience, etc could bring out more valuable insights.

2. **Interpretation Bias:** The interpretation of visualizations can vary based on individual perspectives, biases, and preconceptions. Different stakeholders may draw different conclusions or make conflicting decisions based on the same visualization, highlighting the importance of comprehensive analysis and contextual understanding.

3. **Complexity and Overwhelm:** Visualizing complex data sets can be challenging, especially in cases where numerous variables and dimensions are involved. Overly complex visualizations may overwhelm users, making it difficult to identify and extract meaningful insights.

4. **Lack of Predictive and Prescriptive Power:** This is a descriptive analytics project and depicts only what has happened. It lacks the power to predict any future events and prescribe safety measures to be undertaken. Integrating with Machine Learning and Artificial Intelligence can help build a safer aviation industry.

Chapter 8-Applications

Air crash analysis using Tableau can provide valuable insights and aid in understanding the factors contributing to aviation accidents. Here are some applications of using Tableau for aircrash analysis:

1. **Visualizing Accident Data:** Tableau's powerful data visualization capabilities can help in creating interactive and visually appealing dashboards to explore and analyze accident data. It can display various attributes such as aircraft type, location, time, weather conditions, and causal factors in an intuitive manner, allowing investigators to identify patterns and trends.

2. **Identifying Root Causes:** By using Tableau to analyze aircrash data, investigators can identify common factors or root causes that contribute to accidents. They can analyze the frequency of specific factors like pilot error,airline type, mechanical failures, or environmental conditions to understand their impact on accidents and prioritize areas for improvement or intervention.

3. **Geographic Analysis:** Tableau's mapping features can help visualize accident locations and overlay them with additional geographic data, such as airports, air traffic routes, or terrain information. This spatial analysis can provide insights into accident-prone areas, route-specific risks, or other geographical factors that may contribute to accidents.

4. **Time-based Analysis:** Tableau allows for the creation of time-based visualizations, such as line charts or heat maps, to analyze accident trends over specific periods. Investigators can explore how accident rates have changed over time, seasonal variations, or identify recurring patterns during specific hours or days of the week.

5. **Aircraft Type Analysis:** Tableau's data grouping and filtering capabilities can be used to analyze accidents based on aircraft types. Investigators can examine specific aircraft models or manufacturers to identify any recurring issues or vulnerabilities associated with particular types of aircraft.

6. **Human Factors Analysis:** Tableau can help analyze accidents from a human factors perspective. By examining data related to pilot qualifications, experience, fatigue, or training records, investigators can identify potential correlations between human performance and accident occurrences.

7. **Risk Assessment and Safety Planning:** Aircrash analysis using Tableau can assist in identifying high-risk areas or activities that pose a significant safety concern. This information can be used for risk assessment and safety planning, allowing stakeholders to implement targeted safety measures, develop training programs, or update regulations and procedures.

8. **Interactive Reporting and Collaboration:** Tableau's interactive dashboards can be shared with stakeholders, allowing them to explore the accident data, filter information based on their specific needs, and gain insights collaboratively. This enhances communication, facilitates knowledge sharing, and supports decision-making processes within aviation organizations or regulatory bodies.

Overall, the application of Tableau in aircrash analysis enables a comprehensive and data-driven approach to understanding accident factors, identifying trends, and developing effective safety strategies for the aviation industry.

Chapter 9-Conclusion

In conclusion, the use of Tableau in analyzing air crashes has proven to be highly effective in gaining insights and understanding the factors contributing to these tragic events. By leveraging the power of data visualization and analytics, Tableau has enabled us to explore complex datasets and uncover valuable patterns, correlations, and trends.Through our analysis, we have identified key factors that commonly contribute to air crashes, such as geographical locations, time,aircraft issues, routes,type of aircraft and operators. By visualizing these factors, we can better understand their interplay and develop strategies to mitigate risks and improve aviation safety.Tableau has provided us with interactive dashboards and visualizations that allow us to drill down into specific incidents, investigate contributing factors, and identify areas for improvement. Its user-friendly interface has enabled us to communicate our findings effectively, and in a productive manner.By using our analysis we can drive evidence-based strategies to enhance safety protocols, optimize maintenance procedures, refine pilot training programs, and strengthen air traffic control systems. Ultimately, our analysis using Tableau will contribute to a safer and more secure aviation industry, ensuring that air travel remains one of the safest modes of transportation.

Chapter 10-Future Scope

The future scope for air crash analysis using Tableau holds immense potential for further advancements in aviation safety. Here are some key areas of future development:

1. Real-time Data Analysis: Tableau can be used to analyze real-time flight data, including sensor readings, communication transcripts, and weather conditions. By integrating live data feeds and leveraging advanced analytics, aviation professionals can monitor flights in real-time, detect anomalies, and take immediate corrective actions to prevent accidents.
2. Machine Learning Integration: Tableau's integration with machine learning algorithms can enable the development of predictive models for identifying potential risks and forecasting air crash probabilities. By analyzing historical data and incorporating variables such as flight patterns, maintenance records, and crew performance, these models can provide proactive insights and recommendations to mitigate risks.
3. Collaborative Analysis: Tableau's collaboration features can facilitate knowledge sharing and collective analysis among experts in the aviation industry. It can enable the creation of shared dashboards and visualizations, allowing multiple stakeholders, including investigators, regulators, and aviation professionals, to collaborate and gain valuable insights from their collective expertise.
4. Enhanced Visualization Techniques: Tableau continues to evolve its visualization capabilities, offering more advanced techniques such as augmented reality (AR) and virtual reality (VR) visualizations. These technologies can provide a more immersive and interactive experience, allowing users to explore complex crash scenarios and understand spatial relationships, contributing factors, and potential mitigations in a more intuitive manner.
5. Integration of Diverse Data Sources: As more aviation-related data becomes available from various sources, including social media, satellite imagery, and maintenance logs, Tableau can continue to expand its capabilities for integrating and analyzing diverse datasets. This integration will provide a comprehensive view of aviation safety, helping identify emerging trends, patterns, and contributing factors.
6. Regulatory Compliance and Reporting: Tableau can assist in meeting regulatory compliance requirements by providing standardized reporting templates and automated data analysis workflows. By streamlining the reporting process, it can reduce the administrative burden on aviation organizations, enabling them to focus more on analyzing data and implementing safety measures.

Chapter 11-Bibliography

11.1) References

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2.https://public.tableau.com/views/AirCrashVisualisation/AirCrashStory?:embed=y&:showVizHome=no&:display_count=y&:display_static_image=y&:bootstrapWhenNotified=true

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4.https://www.psbr.law/aviation_accident_statistics.html

5.https://datasaurus-rex.com/inspiration/dsrgallery/global-airplane-crash-data

11.2) Sample Code

Bootstrap Deployment

This is a part of the entire code to demonstrate the Dashboard embedding into Bootstrap. The entire code is available in Github - https://github.com/aakashr02/Air_Crash_Analysis

```
<div id="services" class="section lb">

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            </div><!-- end title --><center>

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/></a></noscript><object class='tableauViz'
style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param
name='embed_code_version' value='3' /> <param name='path'
value='shared&#47;XB2RT89FY' /> <param name='toolbar' value='yes'
/><param name='static_image'
value='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47;XB&
#47;XB2RT89FY&#47;1.png' /> <param name='animate_transition'
value='yes' /><param name='display_static_image' value='yes' /><param
```

```
name='display_spinner' value='yes' /><param name='display_overlay'
value='yes' /><param name='display_count' value='yes' /><param
name='language' value='en-US' /></object></div>                <script
type='text/javascript'>                    var divElement =
document.getElementById('viz1688045835188');                    var
vizElement = divElement.getElementsByTagName('object')[0];
if ( divElement.offsetWidth > 800 ) {
vizElement.style.width='1024px';vizElement.style.height='795px';} else
if ( divElement.offsetWidth > 500 ) {
vizElement.style.width='1024px';vizElement.style.height='795px';} else
{ vizElement.style.width='100%';vizElement.style.height='1577px';}
var scriptElement = document.createElement('script');
scriptElement.src =
'https://public.tableau.com/javascripts/api/viz_v1.js';
vizElement.parentNode.insertBefore(scriptElement, vizElement);
</script>

            <!-- end row -->

          </center>

        </div><!-- end container -->

    </div><!-- end section -->
```

Flask Deployment -

The app.py file represents the HTML page to be rendered when the default initial route is invoked. The entire code is available in Github - https://github.com/aakashr02/Air_Crash_Analysis

```
### Integrate HTML With Flask and HTTP verb GET And POST

from flask import Flask,render_template

app=Flask(__name__)

@app.route('/')

def indexPage():

return render_template('index.html')

if __name__=='__main__':

    app.run(debug=True)
```