PROJECT REPORT

1 INTRODUCTION

1. 1 Overview

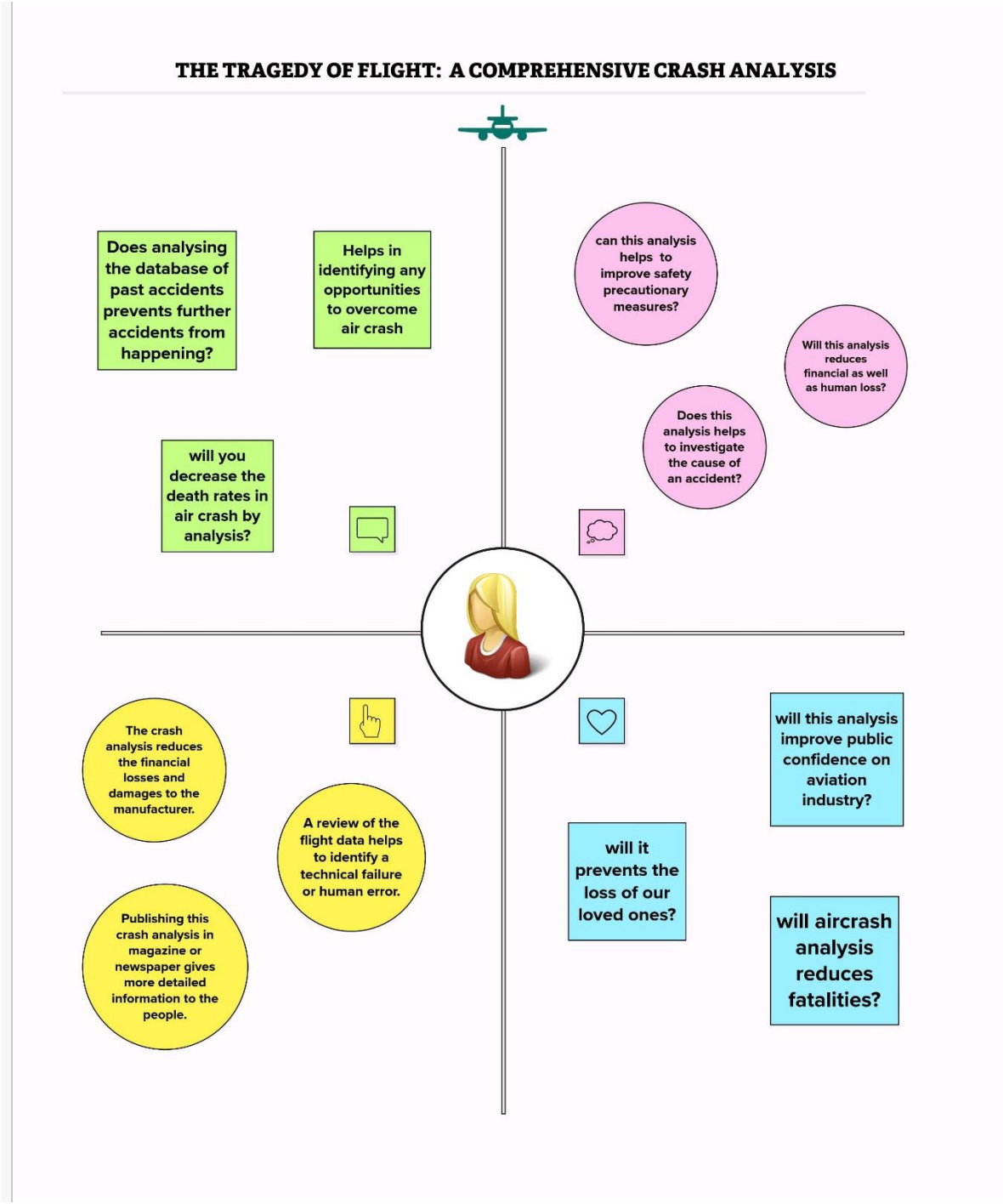
Aviation accident analysis is performed to determine the cause of error once an accident has happened. The modern aviation industries also use the past data set to prevent the accidents. The process of conducting an airplane crash analysis typically involve the collection and analysis of wide range of data including information about the aircraft and its system, the operators and other factors. From this analysis we found the factors that contributed to the accidents and identified the ways to rectify them.

1.2 Purpose

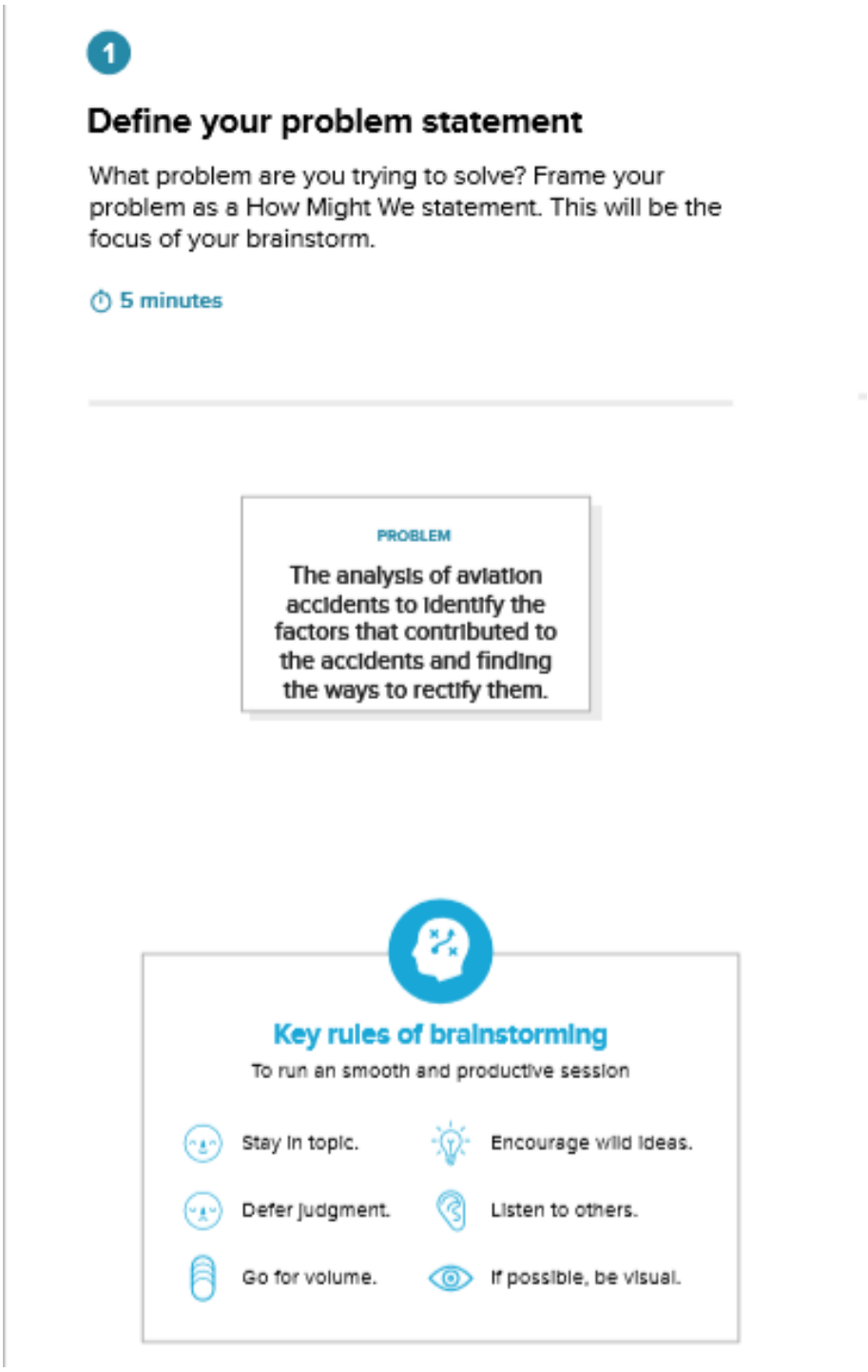
- We prevent the death rate by the aviation crash analysis.
- To find the causes of an aviation accident by this analysis.
- From this analysis, we prevent the economical losses.
- We use this analysis in aviation industry to improve the performance of an aircraft.
- By this analysis we can rectify the human error.

2. Problem Definition & Design Thinking

2.1 Empathy map



2.2 Ideation & Brainstorming Map



2

Brainstorm

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

10 minutes

Sree Janani

- cross analysis of crashes according to the nature of the accidents.
- proper maintenance and inspection of air craft.
- Lack of skills in handling aircraft.
- Modernizing aviation safety services.

ShaboorFaleela

- Accidents resulting from a decision made by the pilot.
- Accidents resulting from the violation of regulations issues.
- Failure to ascertain the amount of gasoline before taking off.
- Accidents resulting from conditions of weather.

Sivasakthi

- Accidents resulting from failure of instruments.
- Analyze the flight data.
- Identify the root cause.
- Report the findings.

viji

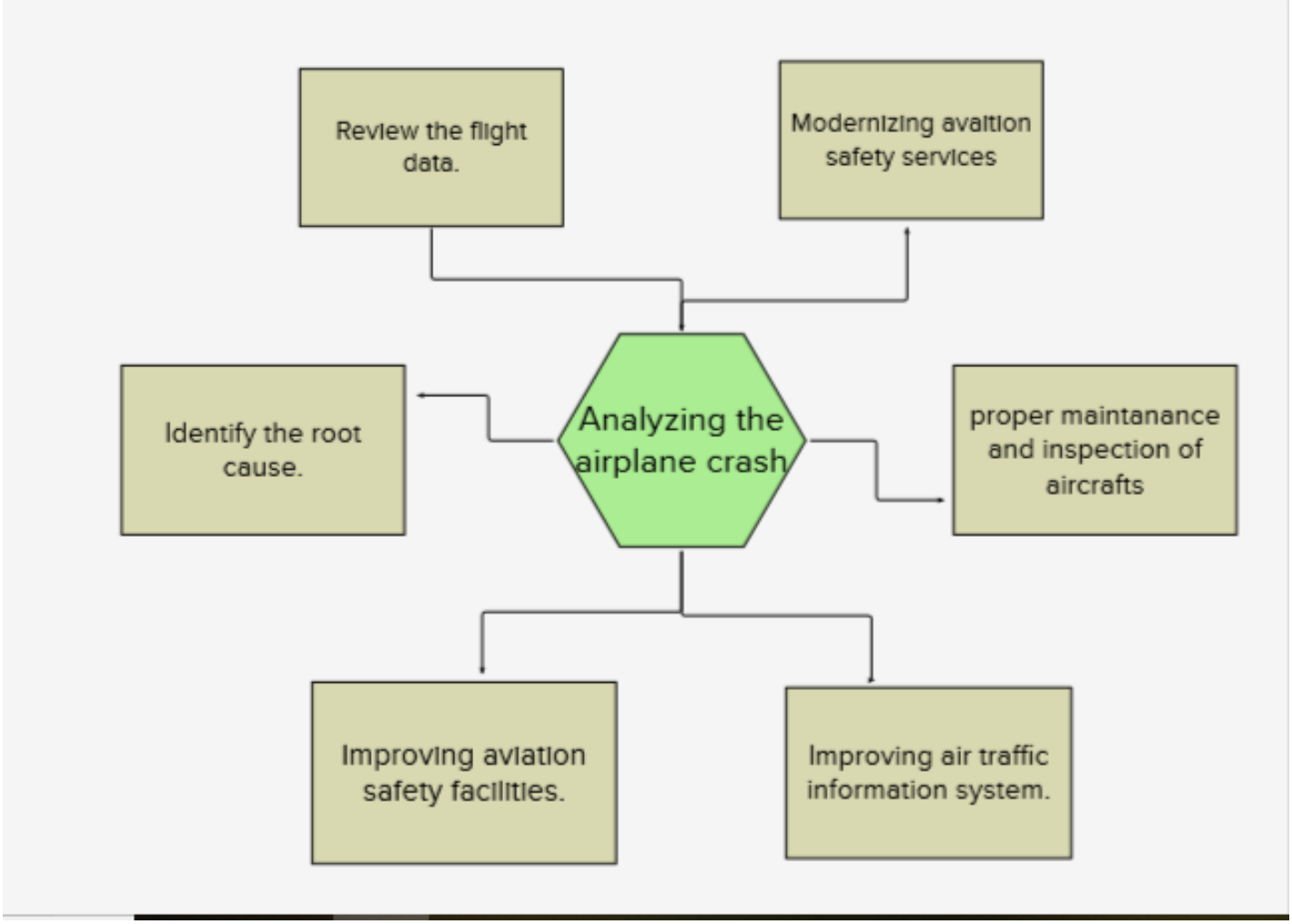
- Study of accident factors helps airlines
- Educate inexperience pilots.
- Improving weather forecasting.
- Don't bring any hazardous materials.

3

Group ideas

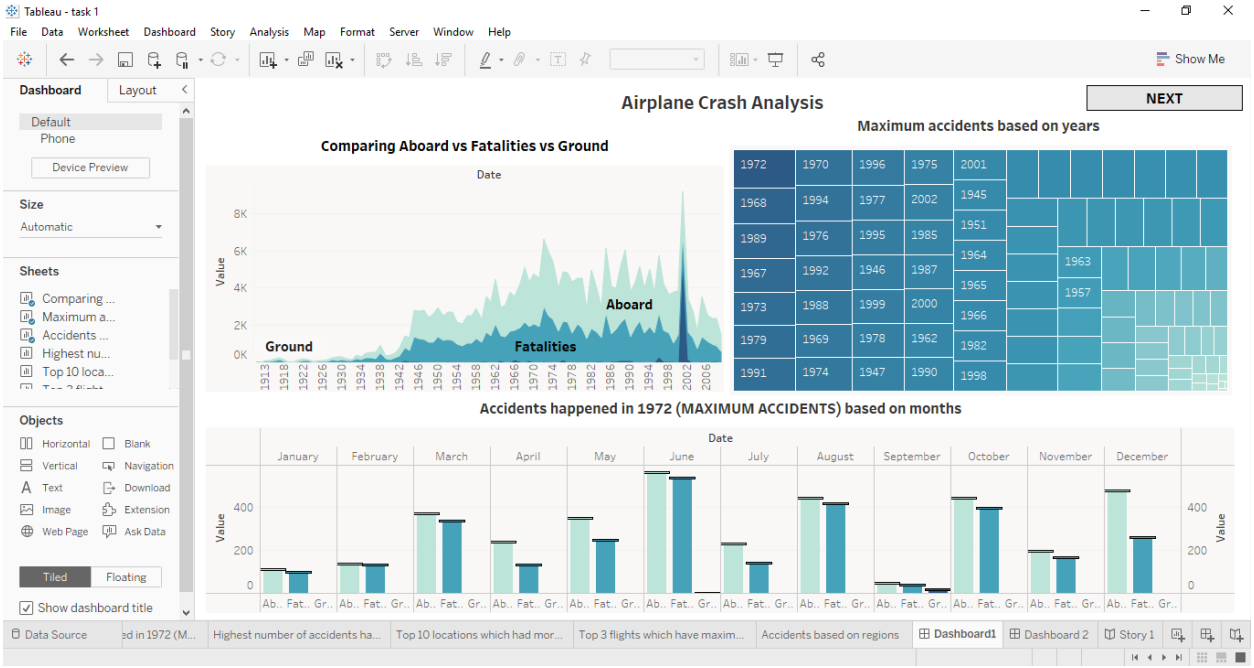
Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes



How can we reduce aviation accidents

3 RESULT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Airplane Crash Analysis
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Comparing Aboard vs Fatalities vs Ground
Date
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Fatalities
Maximum accidents based on years
Accidents happened in 1972 (MAXIMUM ACCIDENTS) based on months
January
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Data Source
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Top 10 locations which had mor...
Top 3 flights which have maxim...
Accidents based on regions
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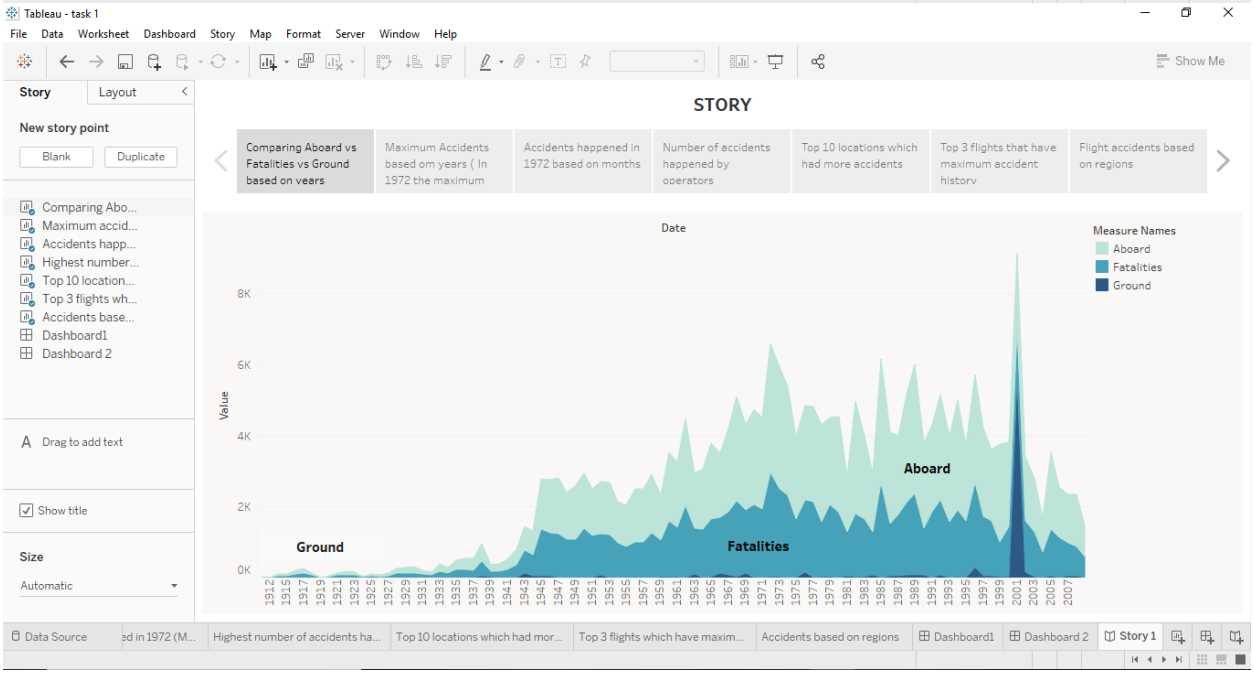
Dashboard 2
Story 1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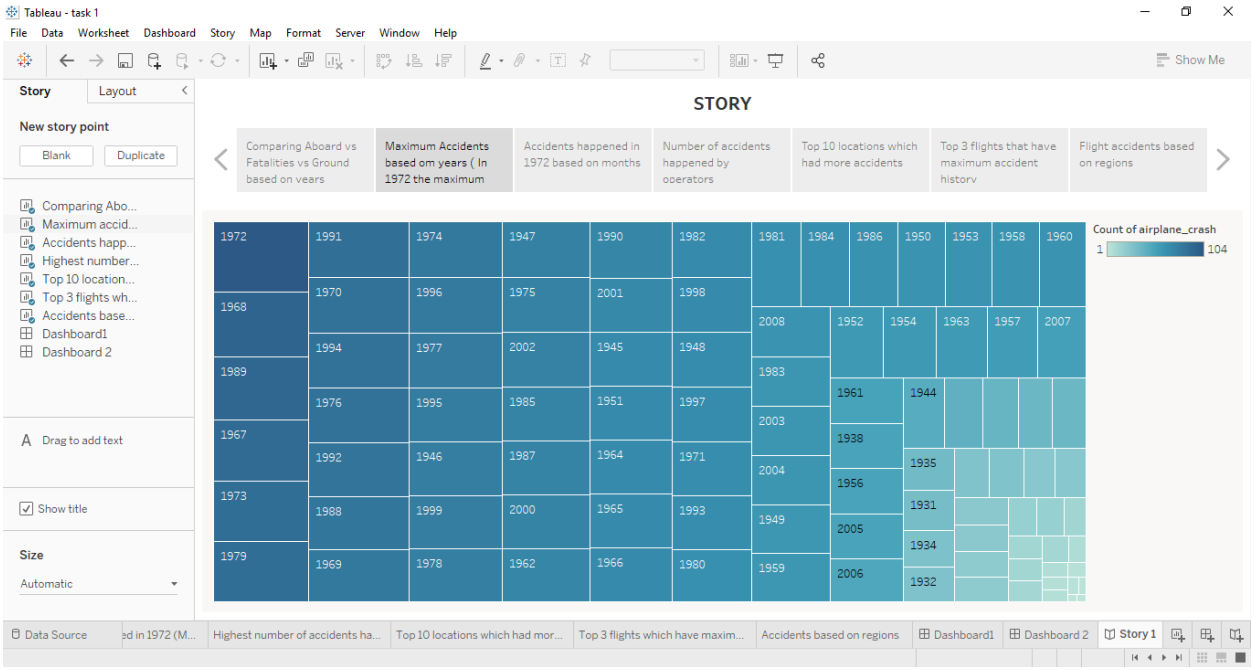
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Flight accidents based on regions
Count of airplane_crash
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104
1972 1991 1974 1947 1990 1982 1981 1984 1986 1950 1953 1958 1960
1968 1970 1996 1975 2001 1998
1994 1977 2002 1945 1948 2008 1952 1954 1963 1957 2007
1989 1976 1995 1985 1951 1997 1983 1961 1944
1967 1992 1946 1987 1964 1971 2003 1938 1935
1973 1988 1999 2000 1965 1993 2004 1956 1931
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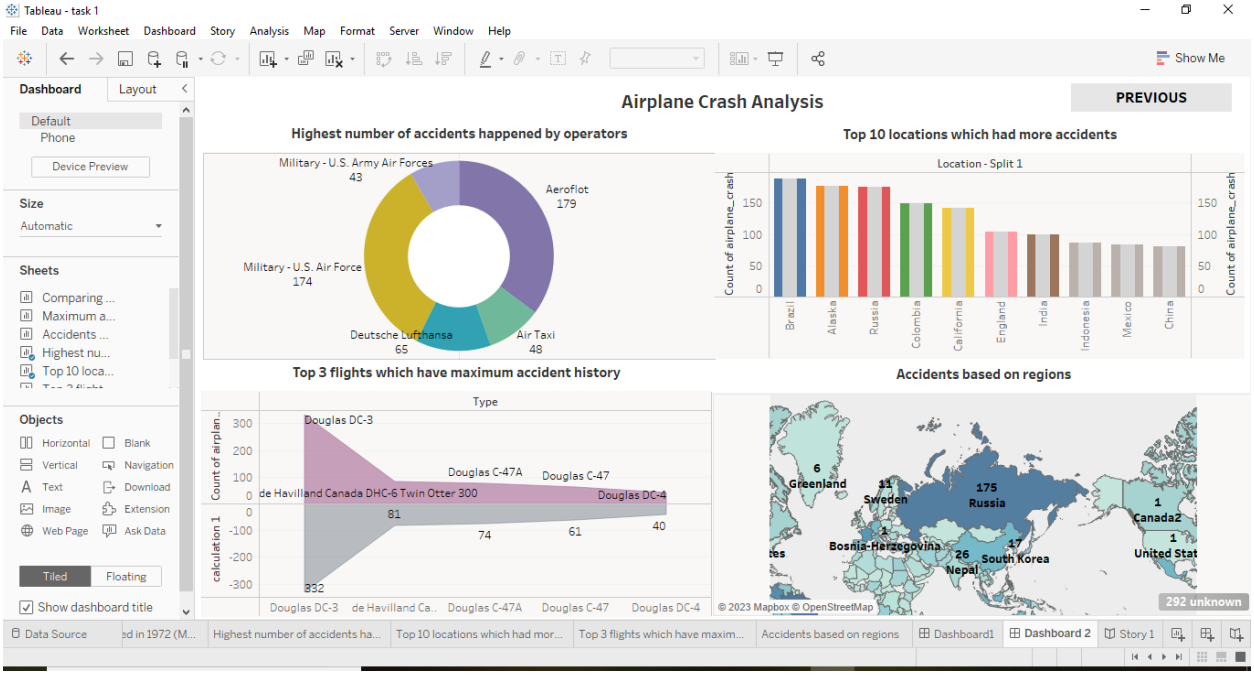
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Show dashboard title
Airplane Crash Analysis
PREVIOUS
Highest number of accidents happened by operators
Military - U.S. Army Air Forces 43
Aeroflot 179
Military - U.S. Air Force 174
Deutsche Lufthansa 65
Air Taxi 48
Top 10 locations which had more accidents
Location - Split 1
Count of airplane_crash
Brazil Alaska Russia Colombia California England India Indonesia Mexico China
Top 3 flights which have maximum accident history
Type
Douglas DC-3
Douglas C-47A
Douglas C-47
de Havilland Canada DHC-6 Twin Otter 300
Douglas DC-4
832 81 74 61 40
Accidents based on regions
Greenland 6
Sweden 11
Russia 175
Canada 2
Bosnia-Herzegovina 1
Nepal 26
South Korea 17
United Stat 1
292 unknown
© 2023 Mapbox © OpenStreetMap
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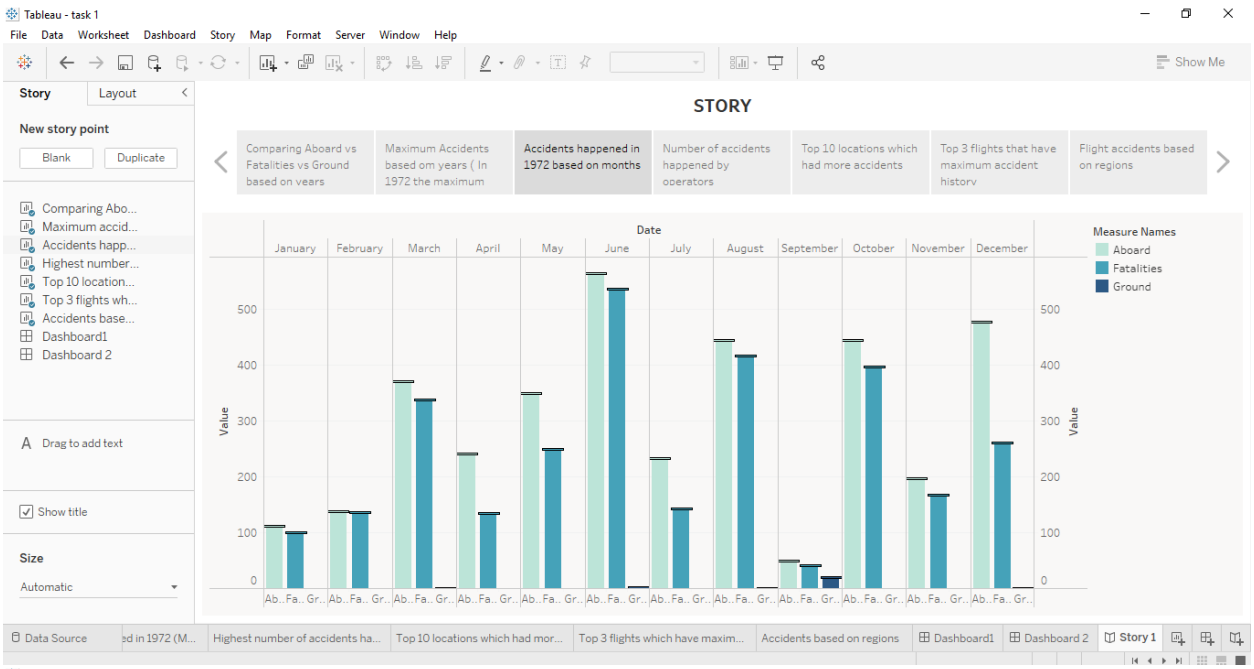
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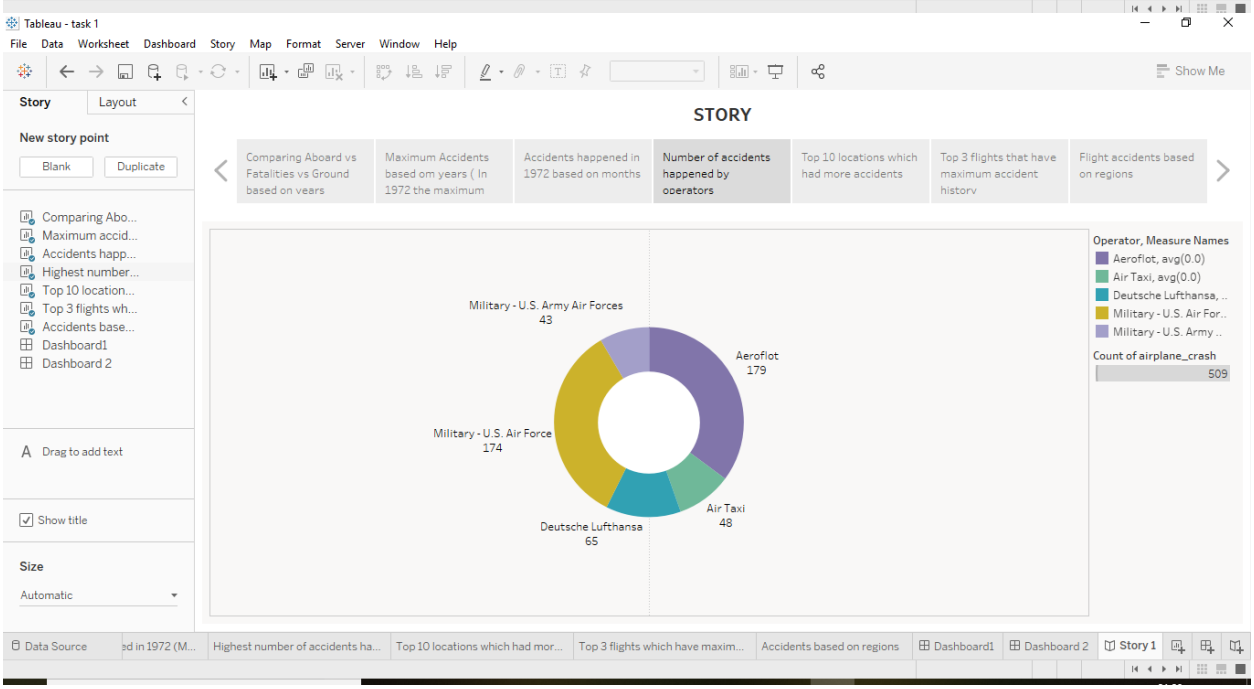
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Aeroflot
179
Military - U.S. Air Force
174
Air Taxi
48
Deutsche Lufthansa
65
Operator, Measure Names
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Air Taxi, avg(0.0)
Deutsche Lufthansa, ..
Military - U.S. Air For..
Military - U.S. Army ..
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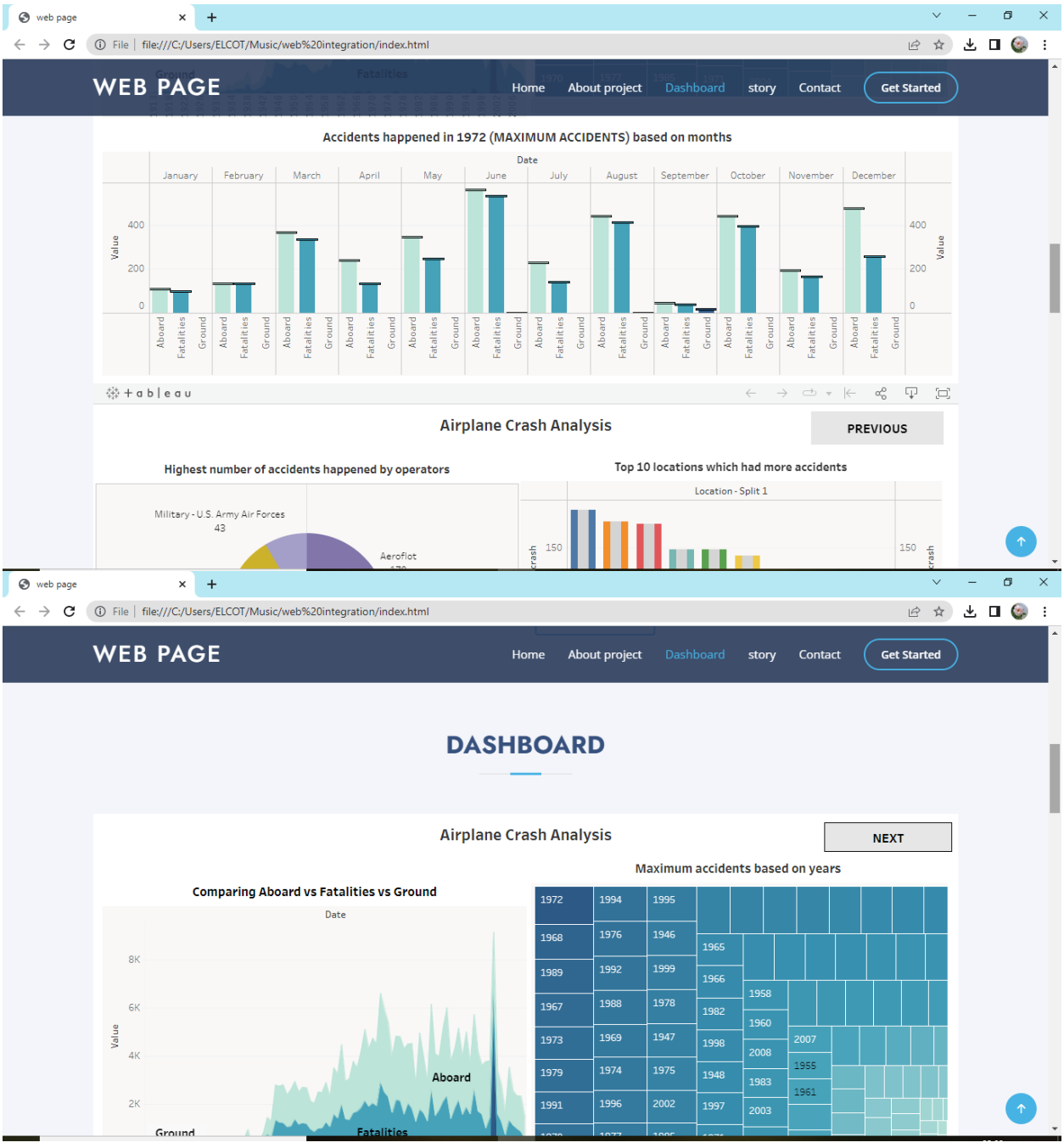
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Home
About project
Dashboard
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Get Started
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Maximum accidents based on years
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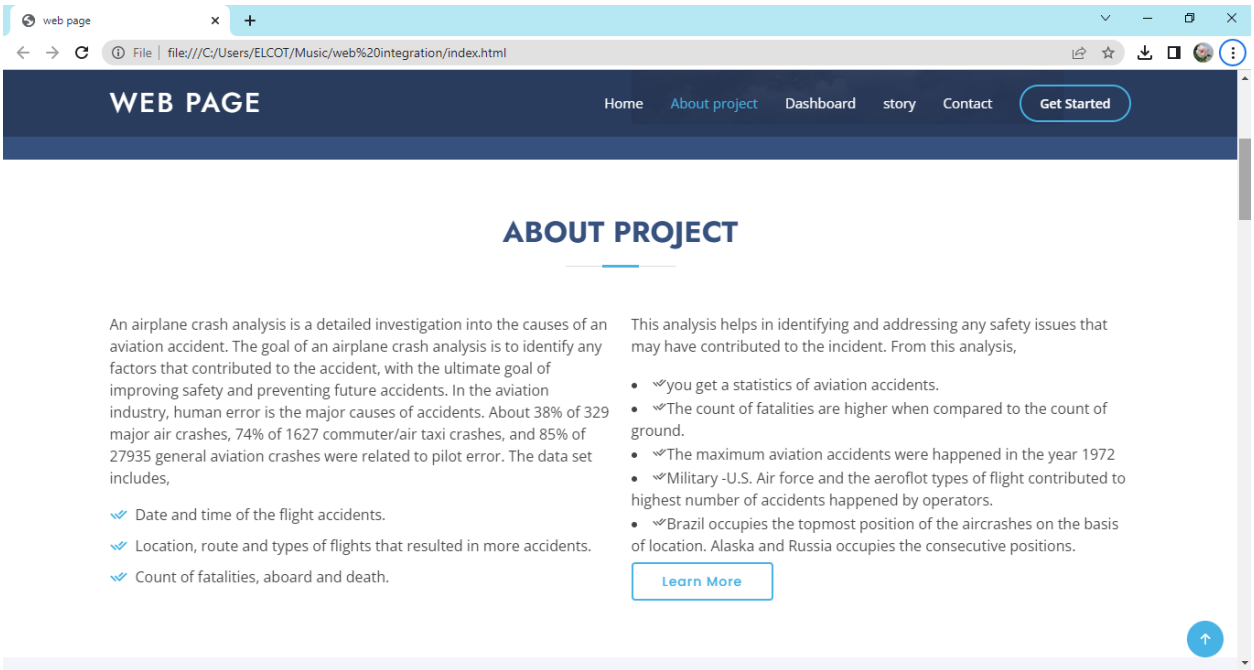
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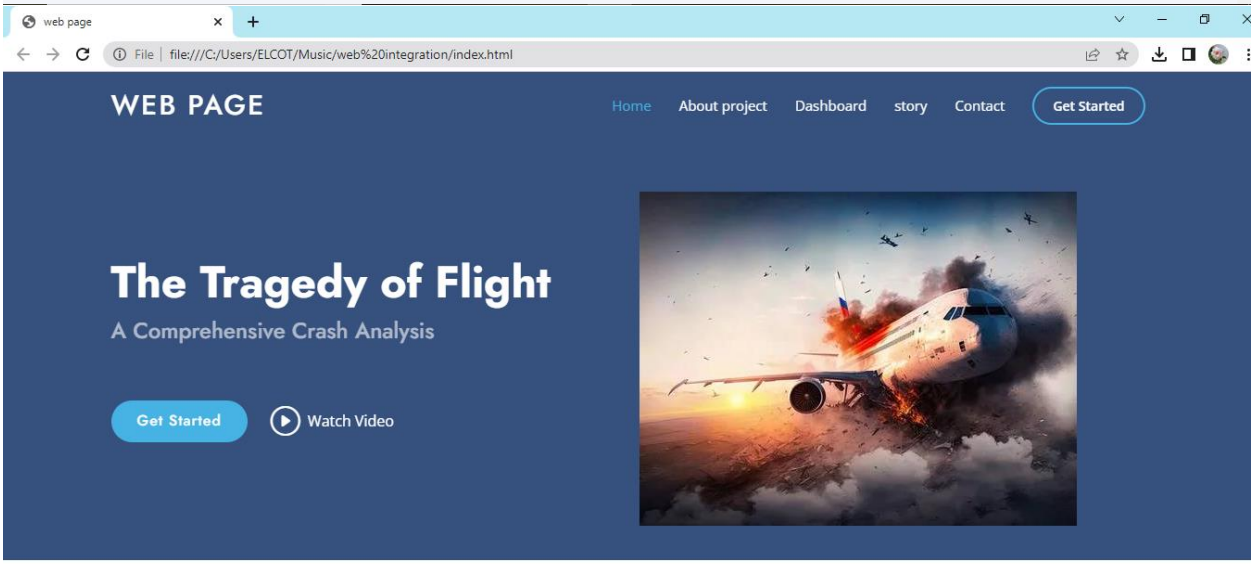
ABOUT PROJECT
An airplane crash analysis is a detailed investigation into the causes of an aviation accident. The goal of an airplane crash analysis is to identify any factors that contributed to the accident, with the ultimate goal of improving safety and preventing future accidents. In the aviation industry, human error is the major causes of accidents. About 38% of 329 major air crashes, 74% of 1627 commuter/air taxi crashes, and 85% of 27935 general aviation crashes were related to pilot error. The data set includes,
Date and time of the flight accidents.
Location, route and types of flights that resulted in more accidents.
Count of fatalities, aboard and death.
This analysis helps in identifying and addressing any safety issues that may have contributed to the incident. From this analysis,
you get a statistics of aviation accidents.
The count of fatalities are higher when compared to the count of ground.
The maximum aviation accidents were happened in the year 1972
Military -U.S. Air force and the aeroflot types of flight contributed to highest number of accidents happened by operators.
Brazil occupies the topmost position of the aircrashes on the basis of location. Alaska and Russia occupies the consecutive positions.
Learn More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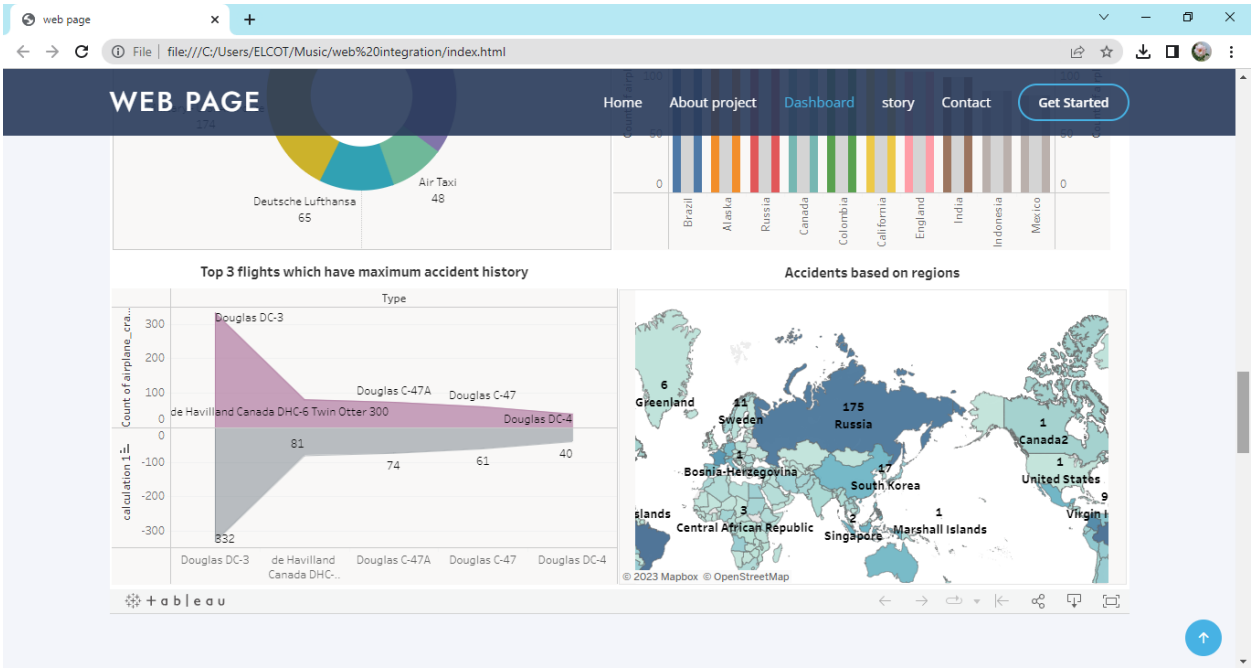
The Tragedy of Flight
A Comprehensive Crash Analysis
Get Started
Watch Video



4 ADVANTAGES AND DISADVANTAGES

Advantages

- If the analysis find that the crash was caused by mechanical or design issues, the manufacturer will improve their productions.
- It helps to provide an essential for monitoring and evaluating the safety of the air routes.
- Testing purpose is important to know the efficiency of plane error by this analysis.
- It discusses worrying trends, under reporting socio economic aspects of air accidents.

Disadvantages

- We use lot of data for analysis , it is a time consuming process.
- By this analysis we understand the factor of accident, but application is mostly ineffective
- Pilot error cannot be rectified only by aviation analysis.
- Weather cannot be predicted by aviation accident analysis.

5 APPLICATIONS

- We apply this analysis in aircraft manufacturing to reduce the defects in the aeroplane.
- We organise the skill training course for pilots to improve their handling of aeroplane by applying this analysis.
- To know the seriousness of personal injuries and amount of loss to aeronautic parts by this analysis.
- To improve startup error like (take off, without fuel filling) in aeroplane by applying this analysis.

6 CONCLUSION

From this analysis we get the statistics of aviation accidents. Data presented through visual elements is easy to understand and analyse. We have explored the data set and predicted the possible changes of future aviation accidents.

7 FUTURE SCOPE

More data set will be precisely collected and more visualisations to be performed to obtain the insights.