THE TRAGEDY OF FLIGHT: A COMPREHENSIVE CRASH ANALYSIS

PREPARED BY:

Team Leader : MUSFIRA AYMAN.O

Team member :

- RESMA.S
- SARANYA.K
- SEEMA FAREEN.S

CONTENT

1. INTRODUCTION

1.1 OVERVIEW

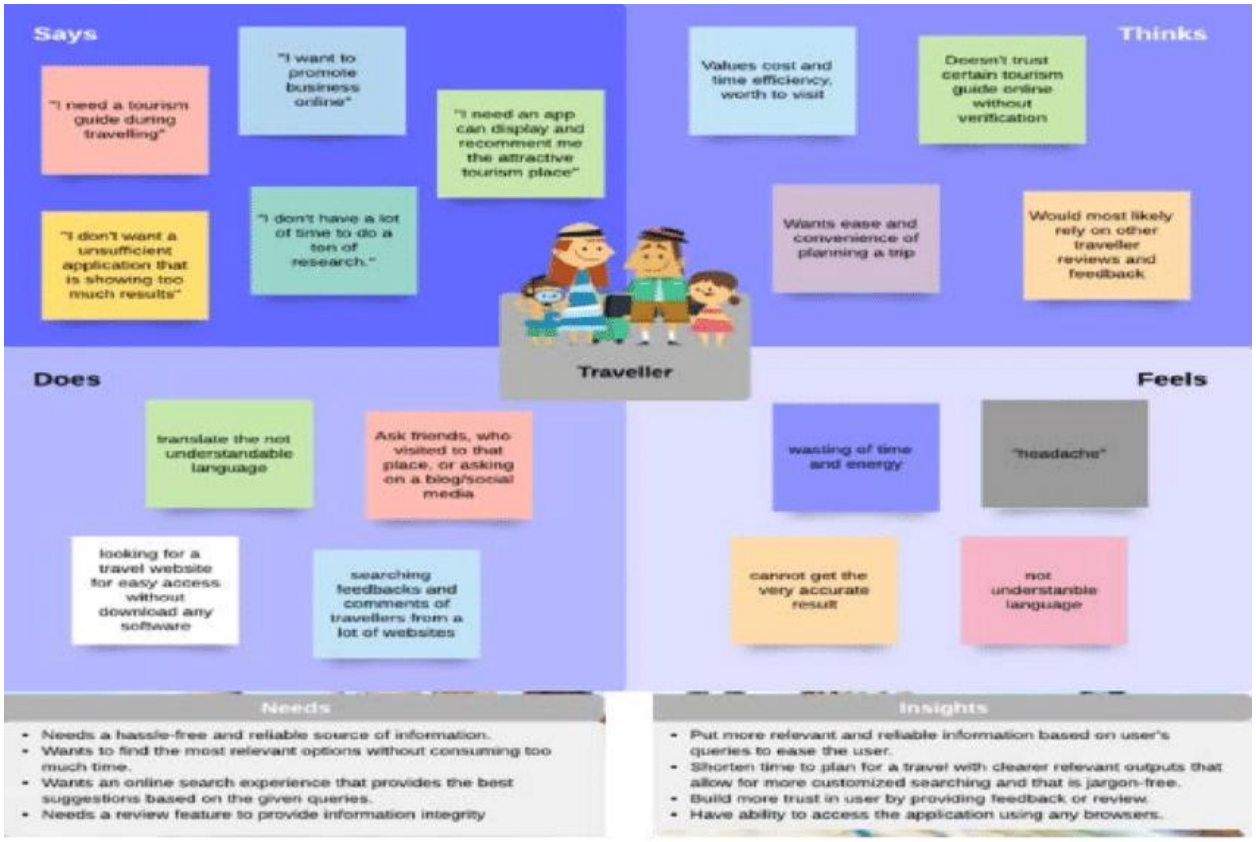
An airplane crash analysis is a detailed investigation into the causes of an aviation accident. The process of conducting an airplane crash analysis typically involves the collection and analysis of a wide range of data, including information about the aircraft and its systems, the operators, and any other relevant factors. This data is typically collected from Kaggle. Once the data has been collected, it is analysed through tableau, to identify any potential causes of the accident.

1.2 PURPOSE

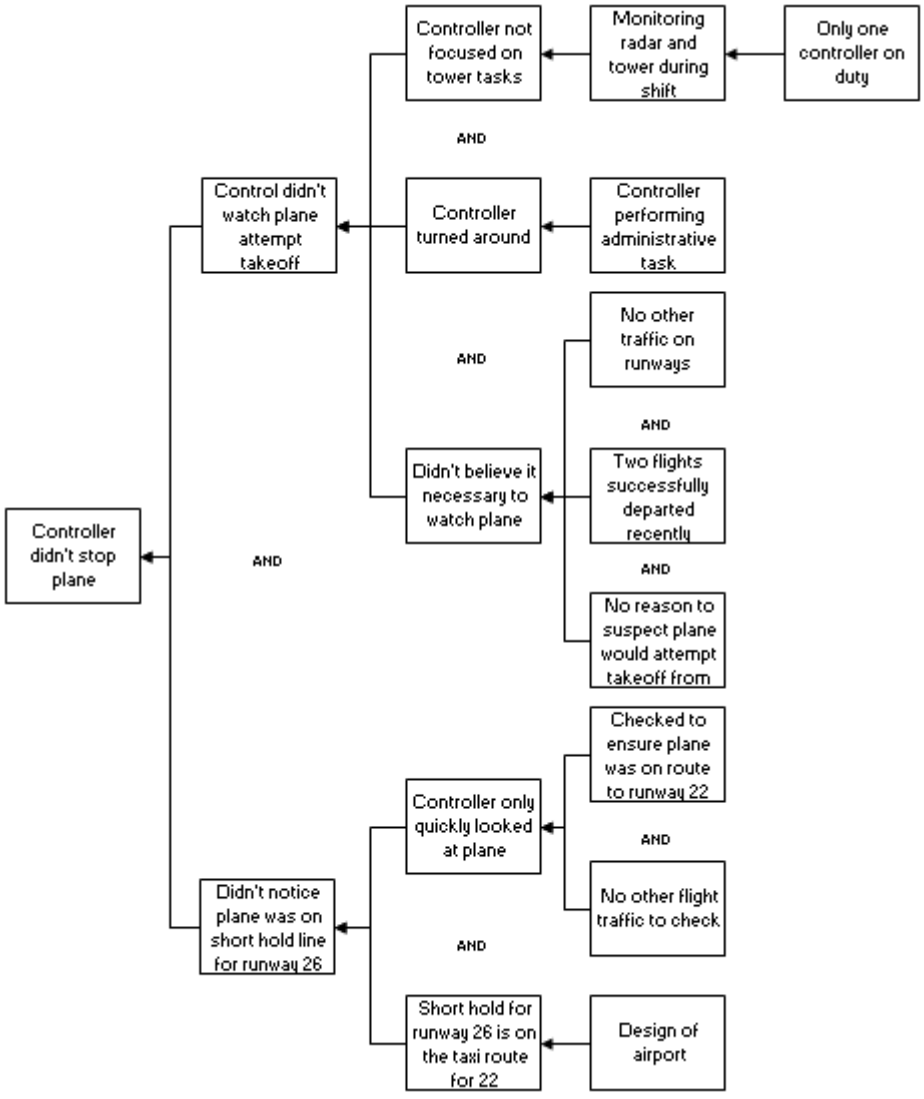
The goal of an airplane crash analysis is to identify any factors that contributed to the accident, with the ultimate goal of improving safety and preventing future accidents. The results of an airplane crash analysis are typically published in a report, which may include recommendations for improving safety and preventing similar accidents in the future. These recommendations may be implemented by the relevant authorities or industry organizations.

2. PROBLEM DEFINITION & DESIGN THINKING

2.1 EMPATHY MAP

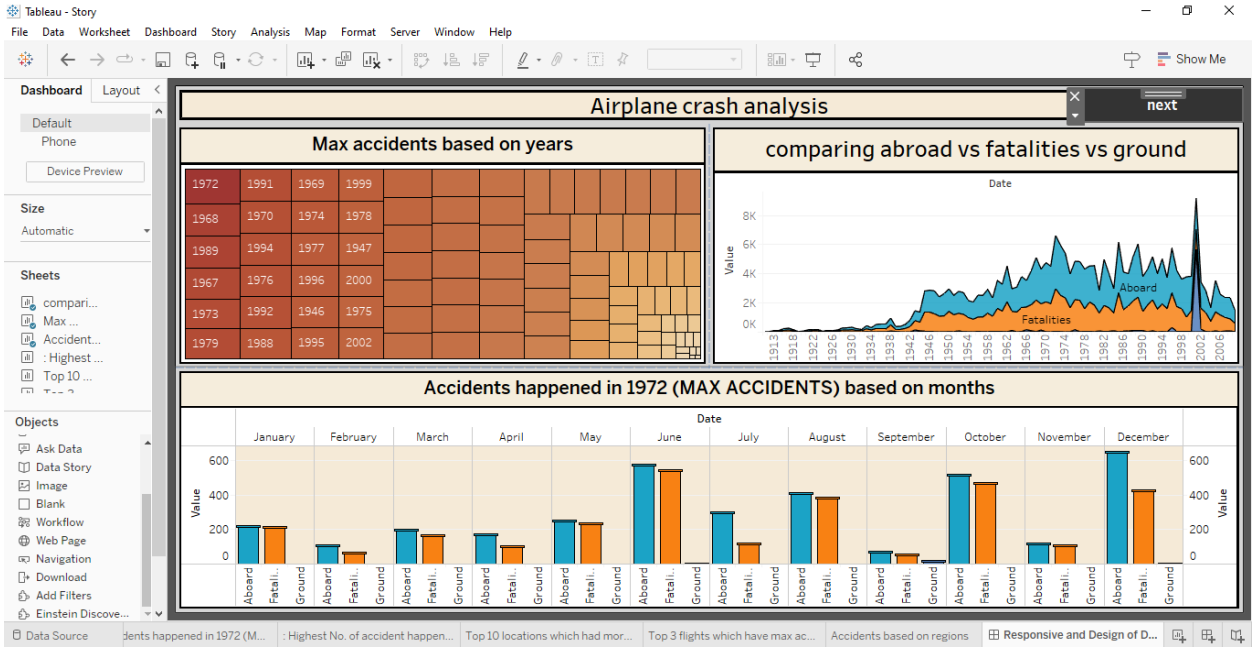


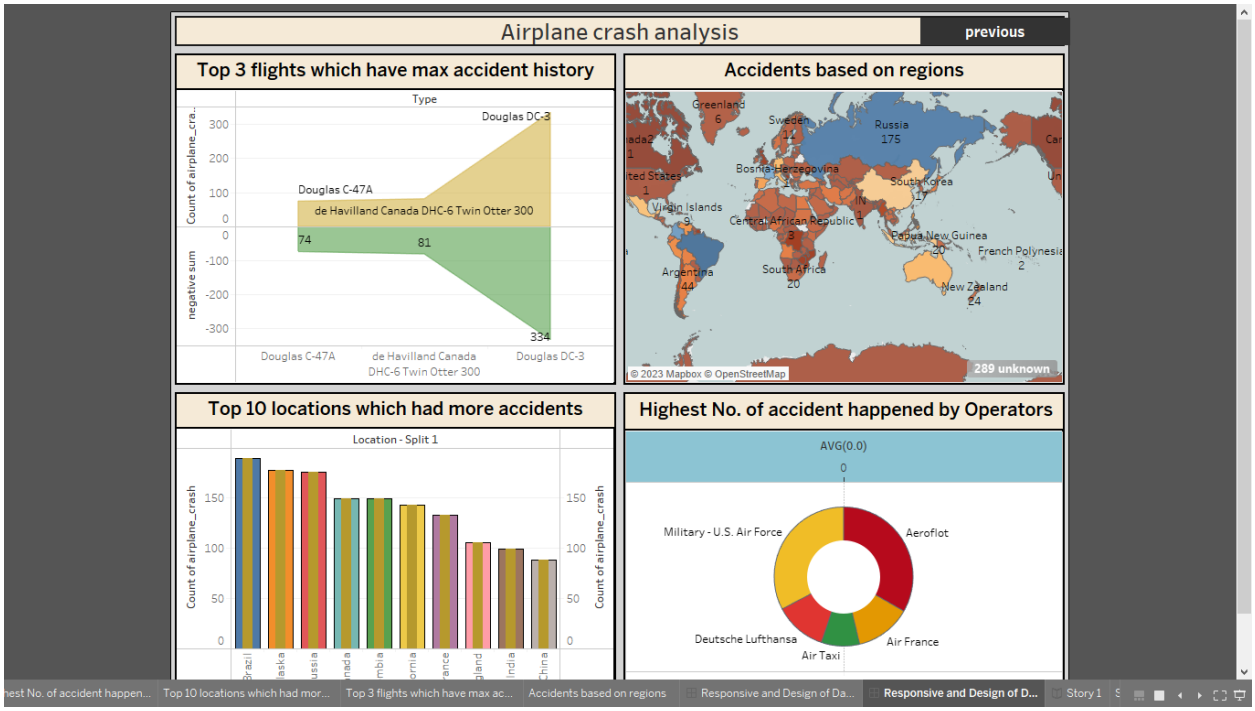
2.2 IDEATION OR BRAINSTROMING MAP



3. RESULT

3.1 Dashboard





3.2 Story

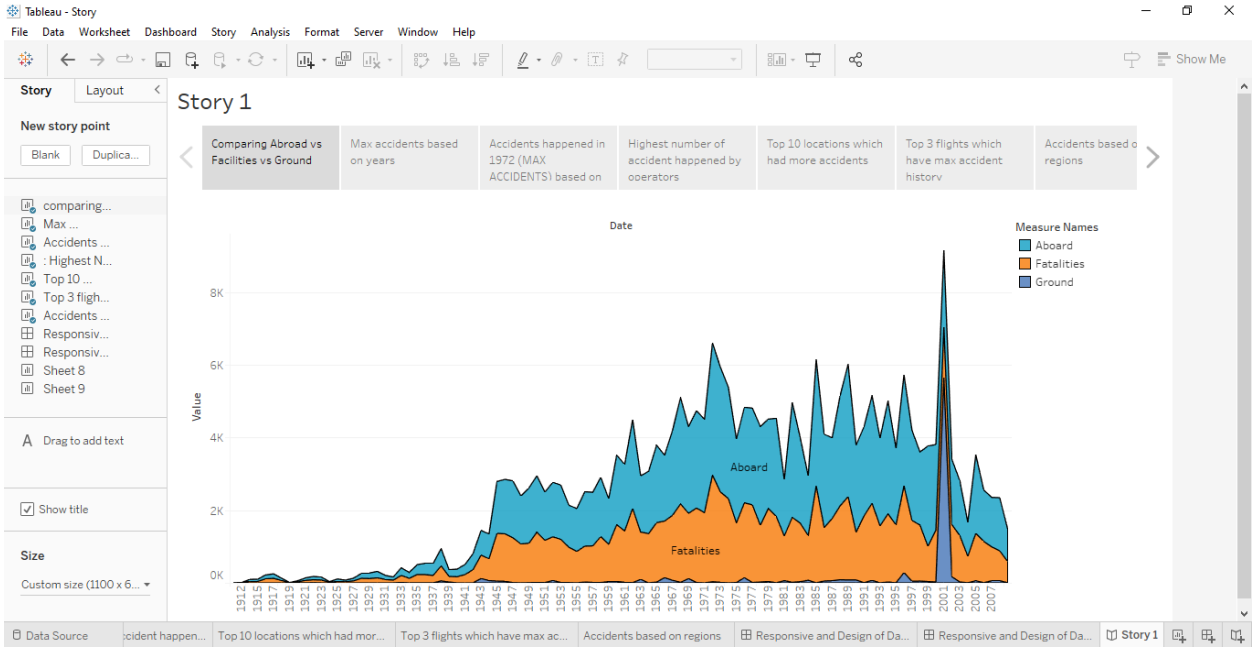


Tableau - Story
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story Layout
New story point
Blank Duplica...
comparing...
Max ...
Accidents ...
: Highest N...
Top 10 ...
Top 3 fligh...
Accidents ...
Responsiv...
Responsiv...
Sheet 8
Sheet 9
Drag to add text
Show title
Size
Custom size (1100 x 6...
Story 1
Comparing Abroad vs Facilities vs Ground
Max accidents based on years
Accidents happened in 1972 (MAX ACCIDENTS) based on
Highest number of accident happened by operators
Top 10 locations which had more accidents
Top 3 flights which have max accident history
Accidents based o regions
Date
Measure Names
Aboard
Fatalities
Ground
Value
8K
6K
4K
2K
0K
Aboard
Fatalities
Data Source
Top 10 locations which had mor...
Top 3 flights which have max ac...
Accidents based on regions
Responsive and Design of Da...
Responsive and Design of Da...
Story 1

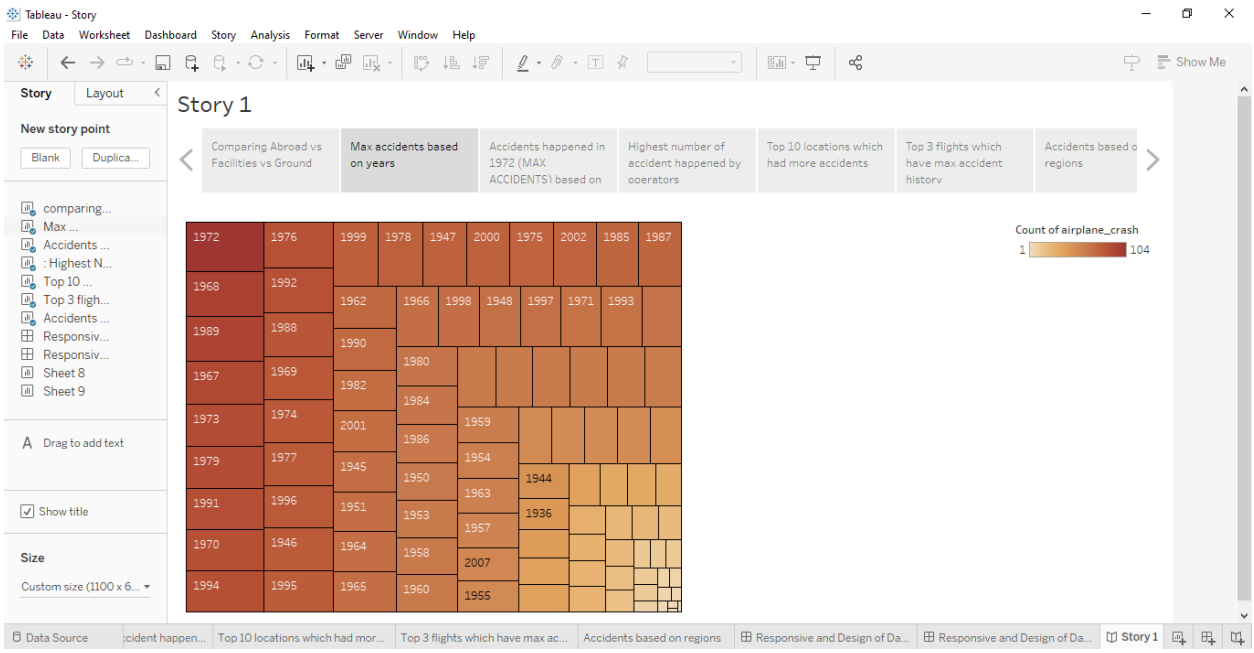


Tableau - Story
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story Layout
New story point
Blank Duplica...
comparing...
Max ...
Accidents ...
: Highest N...
Top 10 ...
Top 3 fligh...
Accidents ...
Responsiv...
Responsiv...
Sheet 8
Sheet 9
Drag to add text
Show title
Size
Custom size (1100 x 6...
Story 1
Comparing Abroad vs Facilities vs Ground
Max accidents based on years
Accidents happened in 1972 (MAX ACCIDENTS) based on
Highest number of accident happened by operators
Top 10 locations which had more accidents
Top 3 flights which have max accident history
Accidents based o regions
Count of airplane_crash
1
104
1972 1976 1999 1978 1947 2000 1975 2002 1985 1987
1968 1992 1962 1966 1998 1948 1997 1971 1993
1989 1988 1990 1980
1967 1969 1982 1984
1973 1974 2001 1986 1959
1979 1977 1945 1950 1954 1944
1991 1996 1951 1953 1963 1936
1970 1946 1964 1958 1957
1994 1995 1965 1960 2007 1955
Data Source
Top 10 locations which had mor...
Top 3 flights which have max ac...
Accidents based on regions
Responsive and Design of Da...
Responsive and Design of Da...
Story 1

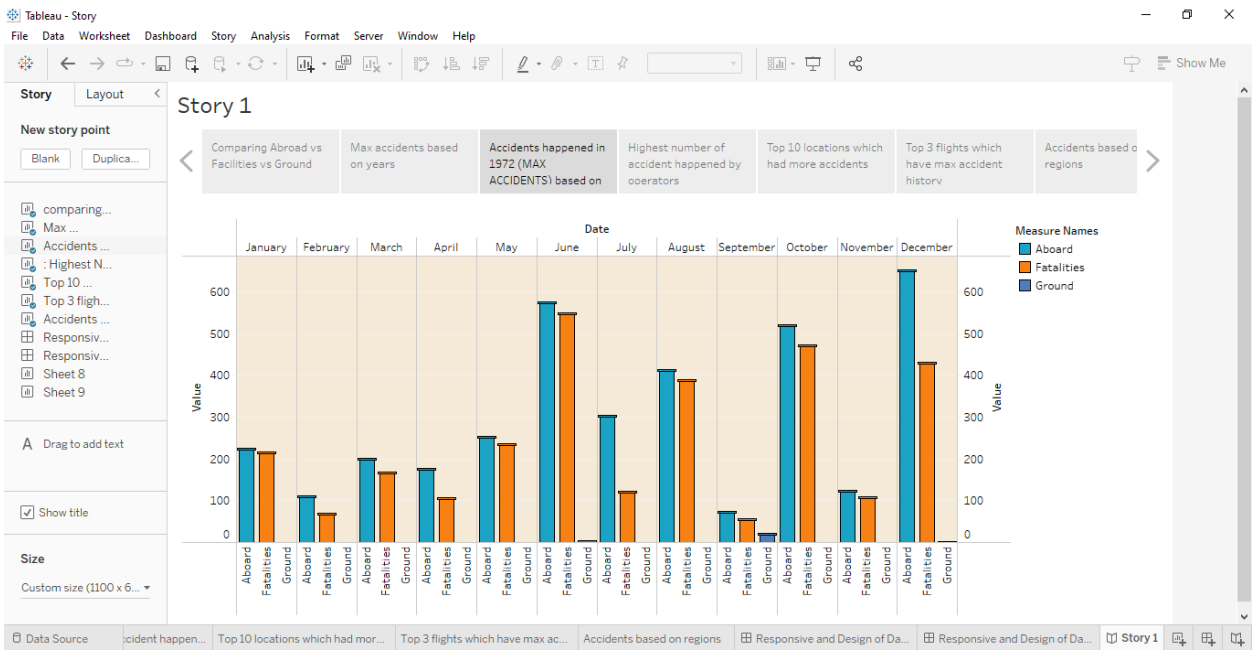


Tableau - Story
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story
Layout
New story point
Blank
Duplica...
comparing...
Max ...
Accidents ...
: Highest N...
Top 10 ...
Top 3 fligh...
Accidents ...
Responsiv...
Responsiv...
Sheet 8
Sheet 9
Drag to add text
Show title
Size
Custom size (1100 x 6...
Story 1
Comparing Abroad vs Facilities vs Ground
Max accidents based on years
Accidents happened in 1972 (MAX ACCIDENTS) based on
Highest number of accident happened by operators
Top 10 locations which had more accidents
Top 3 flights which have max accident history
Accidents based o regions
Date
January February March April May June July August September October November December
Measure Names
Aboard
Fatalities
Ground
Value
0 100 200 300 400 500 600
Aboard Fatalities Ground
Data Source
Top 10 locations which had mor...
Top 3 flights which have max ac...
Accidents based on regions
Responsive and Design of Da...
Story 1

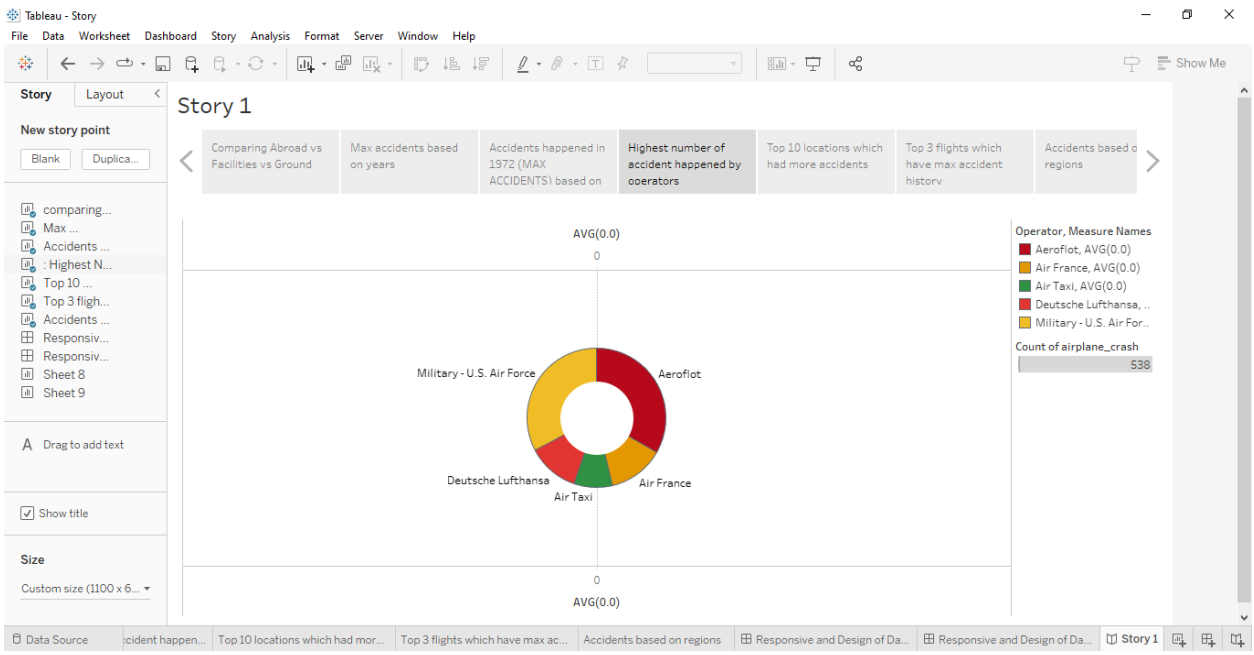


Tableau - Story
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story
Layout
New story point
Blank
Duplica...
comparing...
Max ...
Accidents ...
: Highest N...
Top 10 ...
Top 3 fligh...
Accidents ...
Responsiv...
Responsiv...
Sheet 8
Sheet 9
Drag to add text
Show title
Size
Custom size (1100 x 6...
Story 1
Comparing Abroad vs Facilities vs Ground
Max accidents based on years
Accidents happened in 1972 (MAX ACCIDENTS) based on
Highest number of accident happened by operators
Top 10 locations which had more accidents
Top 3 flights which have max accident history
Accidents based o regions
AVG(0.0)
0
Military - U.S. Air Force
Aeroflot
Deutsche Lufthansa
Air France
Air Taxi
0
AVG(0.0)
Operator, Measure Names
Aeroflot, AVG(0.0)
Air France, AVG(0.0)
Air Taxi, AVG(0.0)
Deutsche Lufthansa, ..
Military - U.S. Air For..
Count of airplane_crash
538
Data Source
Top 10 locations which had mor...
Top 3 flights which have max ac...
Accidents based on regions
Responsive and Design of Da...
Story 1

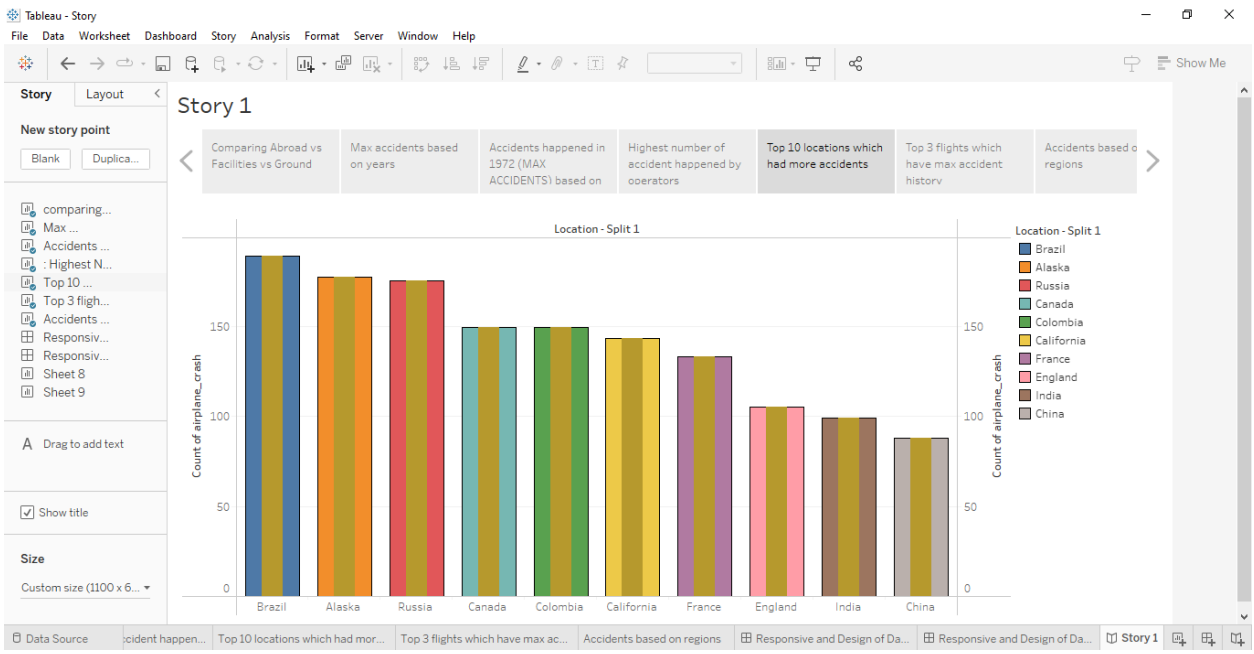


Tableau - Story
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story Layout
New story point
Blank Duplica...
comparing...
Max ...
Accidents ...
: Highest N...
Top 10 ...
Top 3 fligh...
Accidents ...
Responsiv...
Responsiv...
Sheet 8
Sheet 9
Drag to add text
Show title
Size
Custom size (1100 x 6...
Story 1
Comparing Abroad vs Facilities vs Ground
Max accidents based on years
Accidents happened in 1972 (MAX ACCIDENTS) based on
Highest number of accident happened by operators
Top 10 locations which had more accidents
Top 3 flights which have max accident history
Accidents based o regions
Location - Split 1
Count of airplane_crash
0
50
100
150
Brazil
Alaska
Russia
Canada
Colombia
California
France
England
India
China
Location - Split 1
Brazil
Alaska
Russia
Canada
Colombia
California
France
England
India
China
Data Source
Top 10 locations which had mor...
Top 3 flights which have max ac...
Accidents based on regions
Responsive and Design of Da...
Responsive and Design of Da...
Story 1

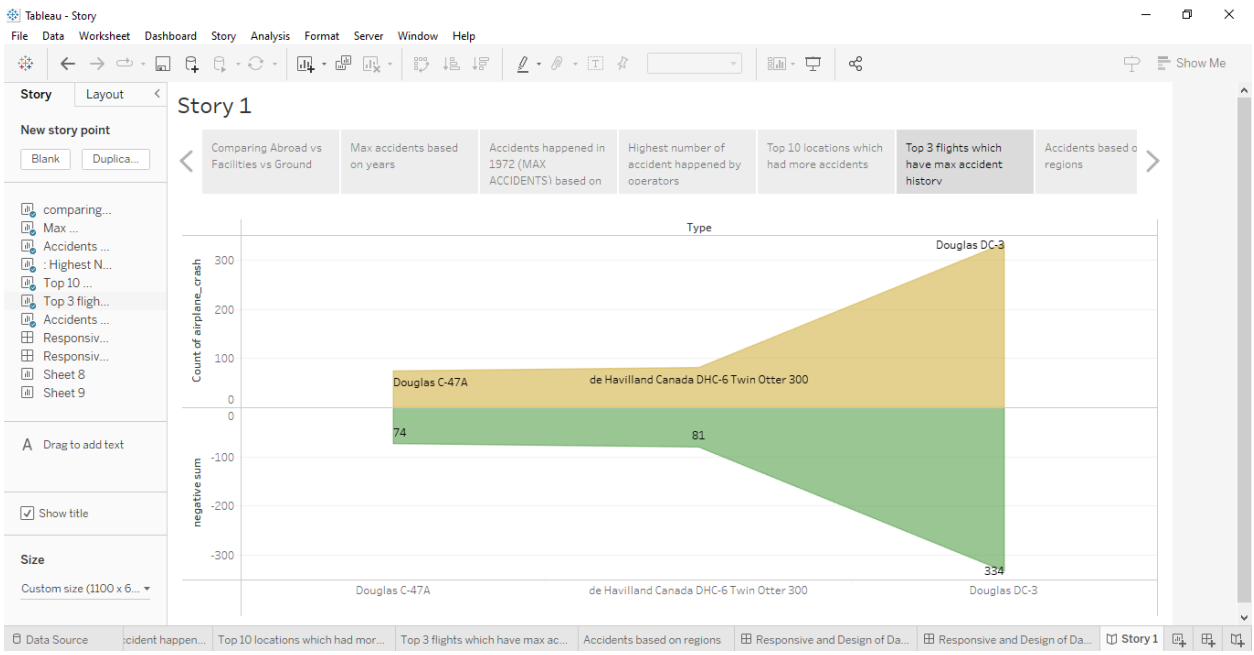
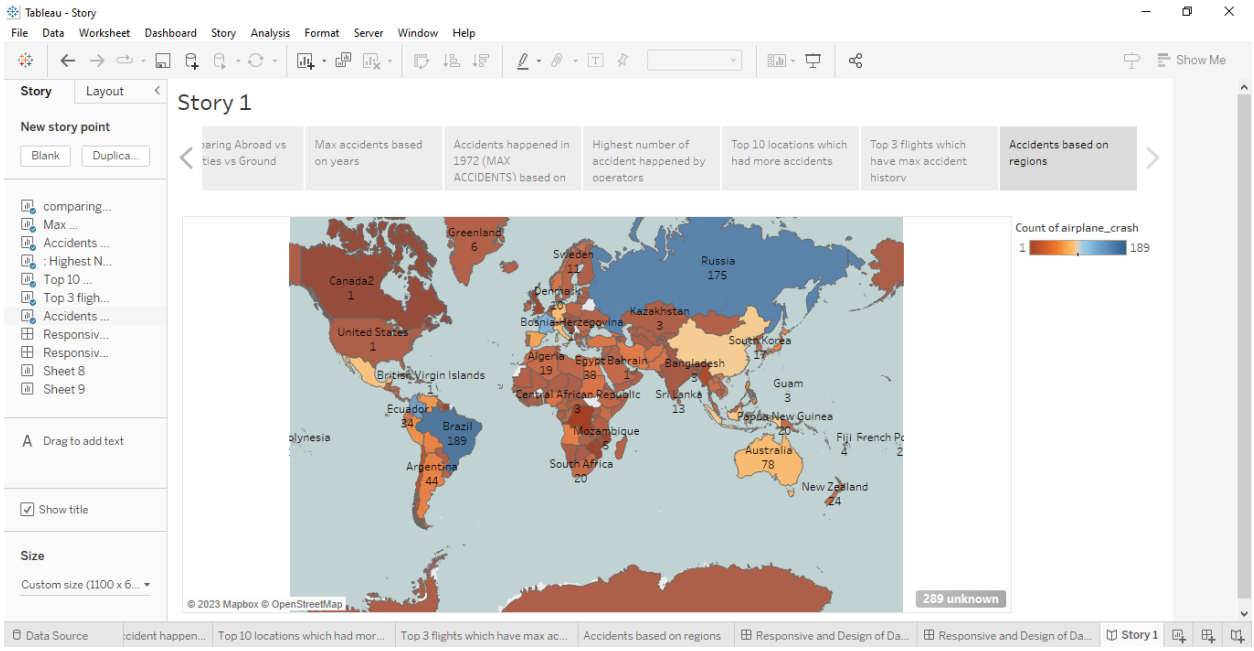
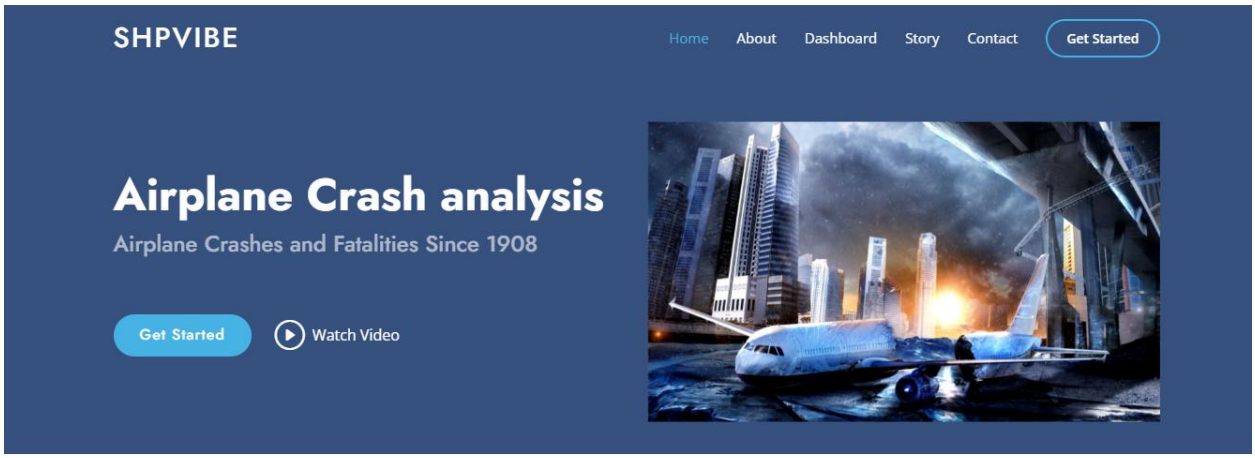


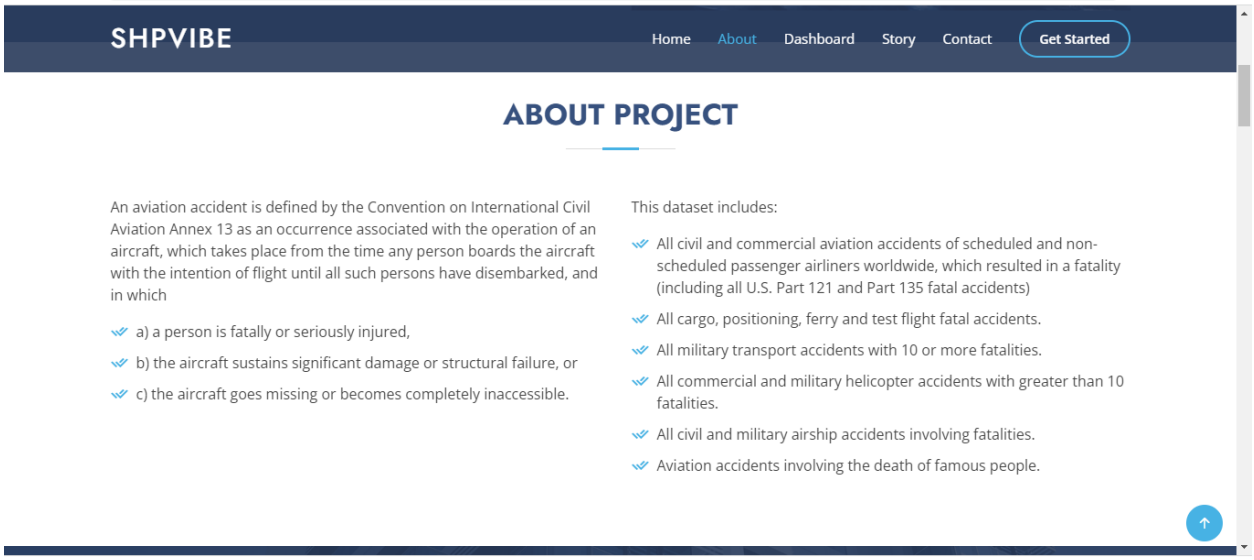
Tableau - Story
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story Layout
New story point
Blank Duplica...
comparing...
Max ...
Accidents ...
: Highest N...
Top 10 ...
Top 3 fligh...
Accidents ...
Responsiv...
Responsiv...
Sheet 8
Sheet 9
Drag to add text
Show title
Size
Custom size (1100 x 6...
Story 1
Comparing Abroad vs Facilities vs Ground
Max accidents based on years
Accidents happened in 1972 (MAX ACCIDENTS) based on
Highest number of accident happened by operators
Top 10 locations which had more accidents
Top 3 flights which have max accident history
Accidents based o regions
Type
Count of airplane_crash
negative sum
Douglas DC-3
Douglas C-47A
de Havilland Canada DHC-6 Twin Otter 300
74
81
334
Douglas C-47A
de Havilland Canada DHC-6 Twin Otter 300
Douglas DC-3
Data Source
Top 10 locations which had mor...
Top 3 flights which have max ac...
Accidents based on regions
Responsive and Design of Da...
Responsive and Design of Da...
Story 1

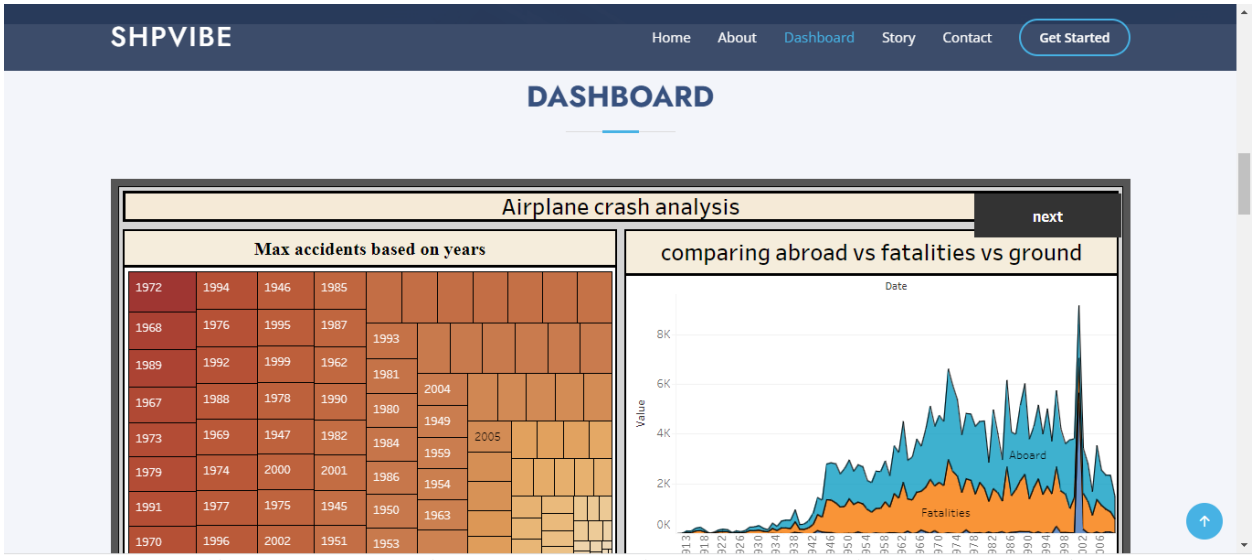


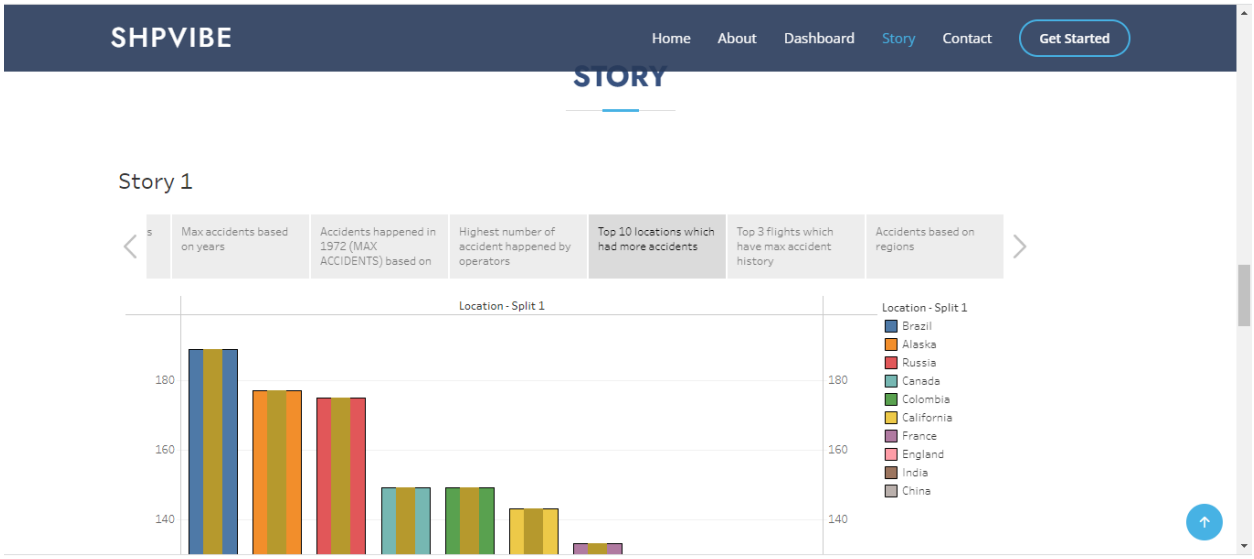
3.3 Web integration

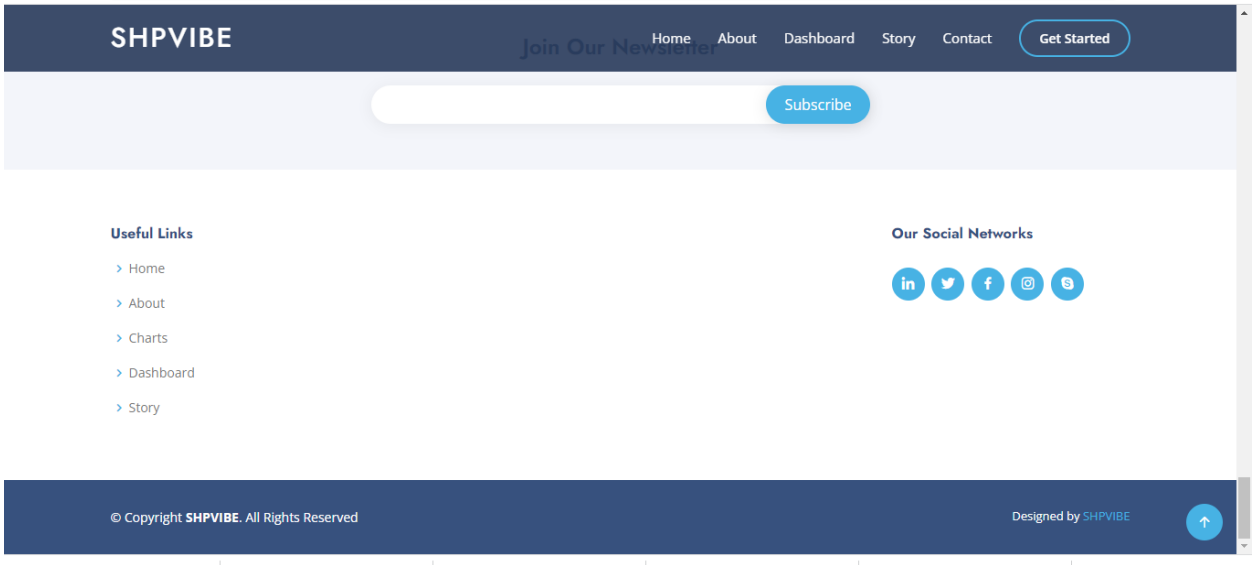


ABOUT PROJECT


SHPVIBE
Home
About
Dashboard
Story
Contact
Get Started
ABOUT PROJECT
An aviation accident is defined by the Convention on International Civil Aviation Annex 13 as an occurrence associated with the operation of an aircraft, which takes place from the time any person boards the aircraft with the intention of flight until all such persons have disembarked, and in which
a) a person is fatally or seriously injured,
b) the aircraft sustains significant damage or structural failure, or
c) the aircraft goes missing or becomes completely inaccessible.
This dataset includes:
All civil and commercial aviation accidents of scheduled and non-scheduled passenger airliners worldwide, which resulted in a fatality (including all U.S. Part 121 and Part 135 fatal accidents)
All cargo, positioning, ferry and test flight fatal accidents.
All military transport accidents with 10 or more fatalities.
All commercial and military helicopter accidents with greater than 10 fatalities.
All civil and military airship accidents involving fatalities.
Aviation accidents involving the death of famous people.


SHPVIBE
Home
About
Dashboard
Story
Contact
Get Started
DASHBOARD
Airplane crash analysis
next
Max accidents based on years
1972
1994
1946
1985
1968
1976
1995
1987
1989
1992
1999
1962
1967
1988
1978
1990
1973
1969
1947
1982
1979
1974
2000
2001
1991
1977
1975
1945
1970
1996
2002
1951
1993
1981
1980
1984
1986
1950
1953
2004
1949
1959
1954
1963
2005
comparing abroad vs fatalities vs ground
Date
Value
8K
6K
4K
2K
0K
Aboard
Fatalities


SHPVIBE
Home
About
Dashboard
Story
Contact
Get Started
STORY
Story 1
Max accidents based on years
Accidents happened in 1972 (MAX ACCIDENTS) based on
Highest number of accident happened by operators
Top 10 locations which had more accidents
Top 3 flights which have max accident history
Accidents based on regions
Location - Split 1
180
160
140
Location - Split 1
Brazil
Alaska
Russia
Canada
Colombia
California
France
England
India
China


SHPVIBE
Home
About
Dashboard
Story
Contact
Get Started
Subscribe
Useful Links
Home
About
Charts
Dashboard
Story
Our Social Networks
© Copyright SHPVIBE. All Rights Reserved
Designed by SHPVIBE

4. ADVANTAGES AND DISADVANTAGES

ADVANTAGES:

The biggest advantage of flying is that it is often the fastest way to get from one place to another, especially when long distances are involved. It helps us save a lot of time, so we can do more things. With this project , one can easily get to know the data of the airplane crashes with detailed information like why the accident occurred , when the accident took place etc… without much effort.

DISADVANTAGES:

The machine learning models used provide an accuracy of over 40% that represents a significant improvement over the random guess of 14% for seven causes. However, there is significant room for improvement through use of added features. This then represent the primary limitation of the study. Use of limited features. It also represents an opportunity for further study to enhance accuracy of prediction.

5. APPLICATIONS

The aircraft application to track physical aircraft and to store aircraft numbers and corresponding information, such as parent, location, vender, status, and maintenance costs. You can built the aircraft hierarchy as an arrangement of aircraft, pieces of equipment, and subassemblies. The aircraft hierarchy provides a convenient way to roll up maintenance costs so that you can check accumulated costs at any level, at any time.

6. CONCLUSION

The study suggests that machine learning techniques make it possible to predict the cause of airplane crashes. This could lead to significant saving for planner as well as those investigating air crashes.

7. FUTURE SCOPE

Emerging technologies are reshaping with robotics, artificial intelligence, the internet of things, unmanned aircraft systems and the push for hybrid and electric airplanes – just to name a few. Alternative fuels can significantly change the current scenario of aviation in support of the environmental protection.