1.Introduction

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. 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 analyzed through tableau, to identify any potential causes of the accident. 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

1.1 Overview

- Define Problem / Problem Understanding
    - ✓ Specify the business problem
    - ✓ Business requirements
    - ✓ Literature survey
    - ✓ Social or Business impact
- Data collection & Extraction from Database
    - ✓ Collect the dataset
    - ✓ Storing Data in DB
    - ✓ Perform SQL Operations
    - ✓ Connect DB with Tableau
- Data Visualizations
    - ✓ No of Unique Visualizations
- Data Preparation
    - ✓ Prepare the Data for Visualization

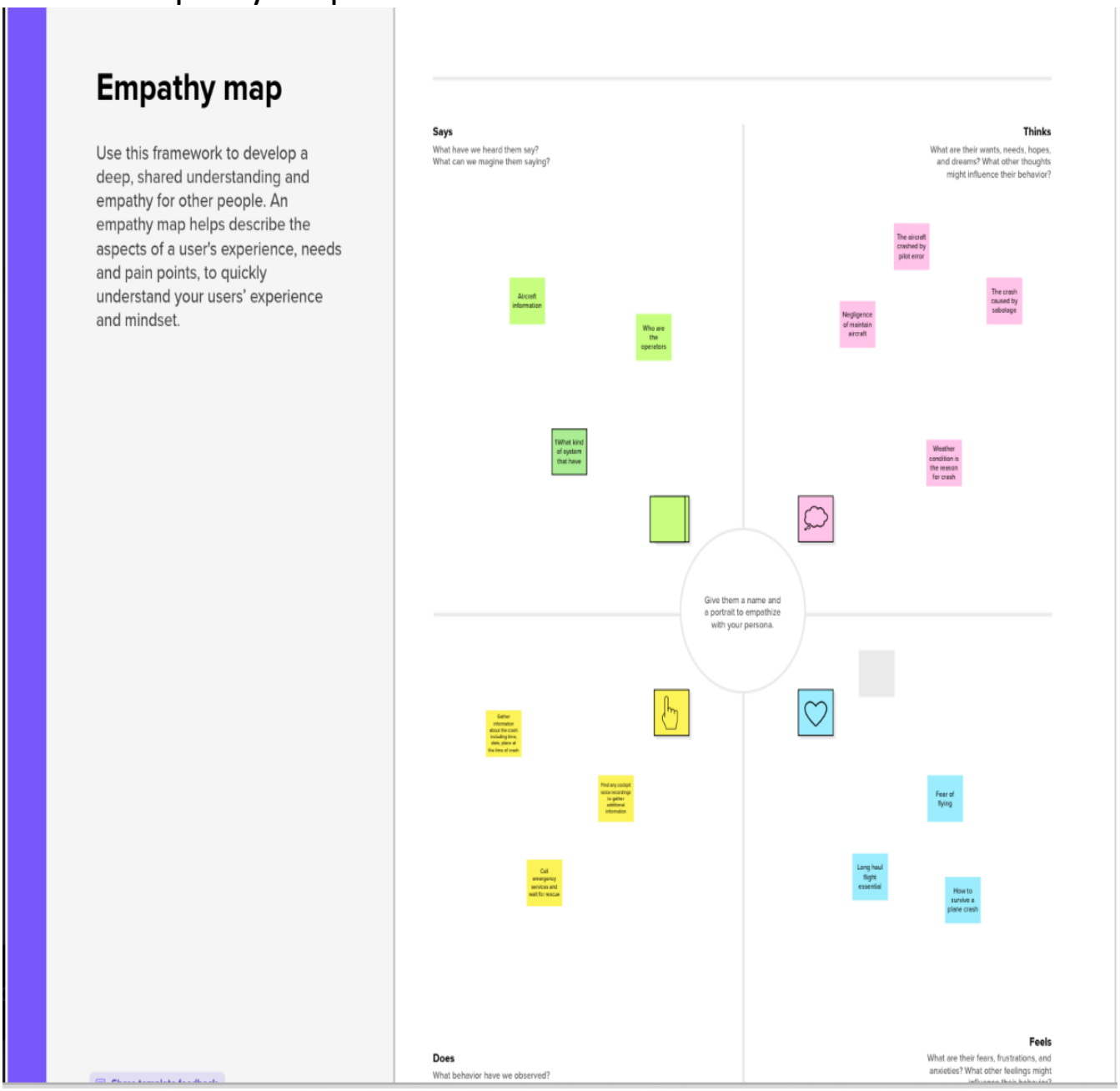
- Dashboard
    - ✓ Responsive and Design of Dashboard
- Story
    - ✓ No of Scenes of Story
- Performance Testing
    - ✓ Amount of Data Rendered to DB
    - ✓ Utilization of Data Filters
    - ✓ No of Calculation Fields
    - ✓ No of Visualizations/Graphs
- Web Integration
    - ✓ Dashboard and Story embed with UI with Flask
- Project Demonstration & Documentation
    - ✓ Record explanation Video for project end to end solution
    - ✓ Project Documentation-Step by step project development procedure

1.2 Purpose

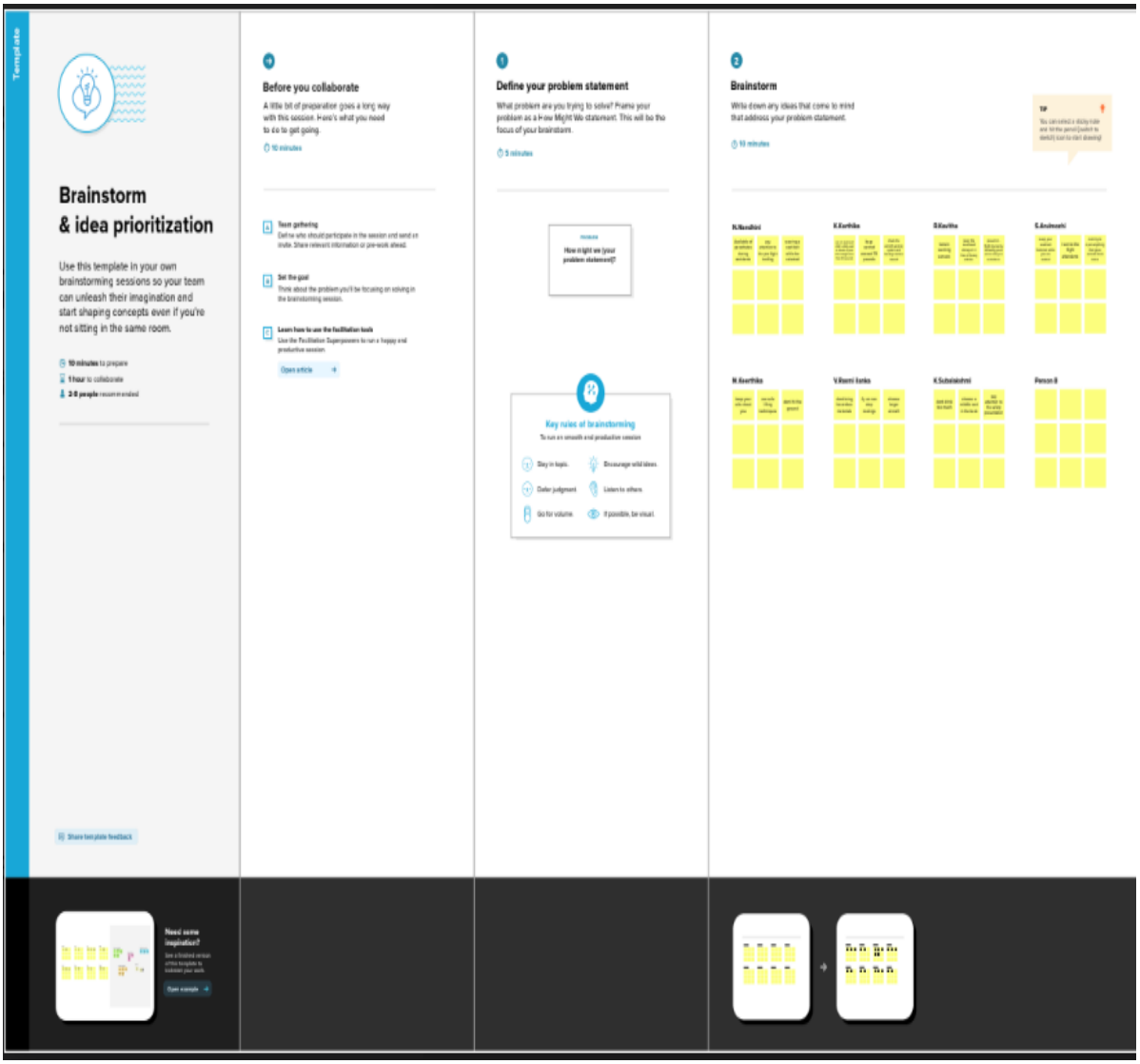
The Primary purpose of air crash investigators is to determine the cause of the crash and any contributing factors involved in the crash. Investigative authorities also provide recommendations for safe operations. Investigation and analysis of safety occurrences is an essential ingredient of the overall risk management process in aviation. Effective safety management systems largely depend on the quality of the investigation of reported accidents, incidents and safety issues.

2. Problem Definition & Design Thinking

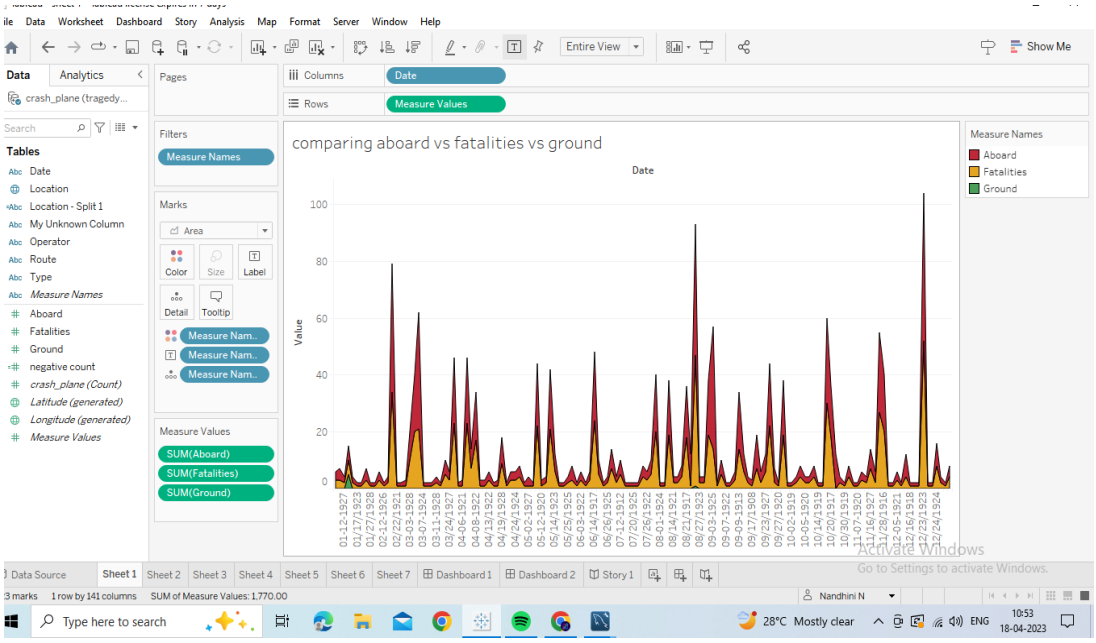
2.1 Empathy Map

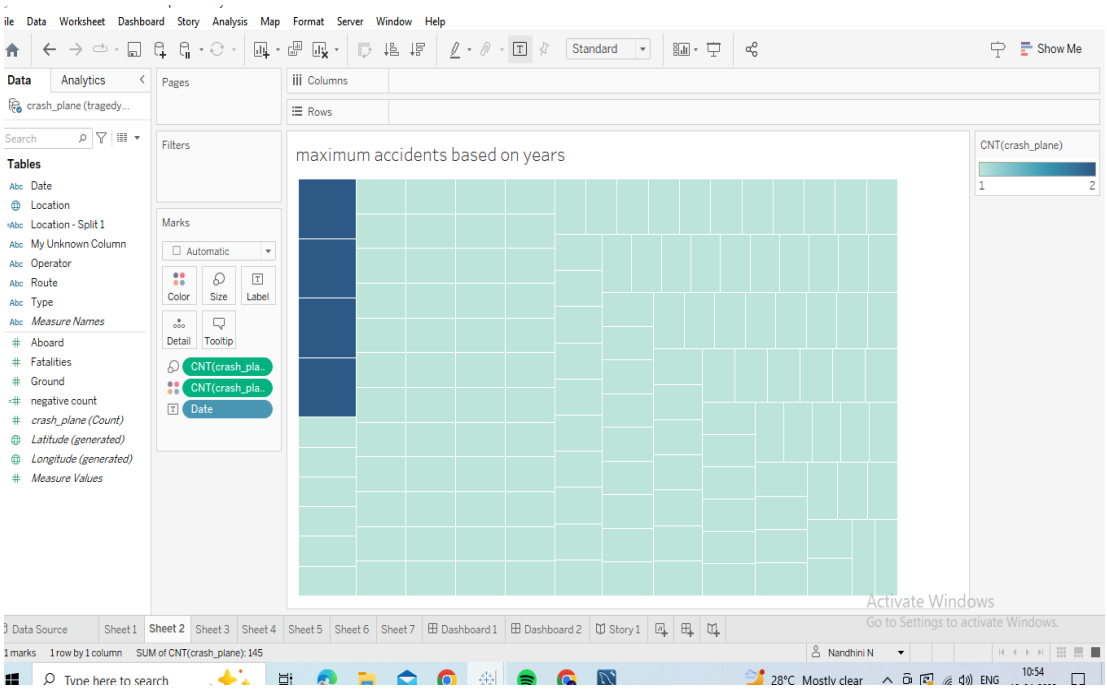


2.2 Ideation & Brainstorming Map



3. Result


comparing aboard vs fatalities vs ground
Date
Value
Measure Names
Aboard
Fatalities
Ground
Columns
Date
Rows
Measure Values
Filters
Measure Names
Marks
Area
Measure Values
SUM(Aboard)
SUM(Fatalities)
SUM(Ground)
Tables
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Dashboard 1
Dashboard 2
Story 1
3 marks
1 row by 141 columns
SUM of Measure Values: 1,770.00


maximum accidents based on years
CNT(crash_plane)
Columns
Rows
Filters
Marks
Automatic
Tables
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Dashboard 1
Dashboard 2
Story 1
1 marks
1 row by 1 column
SUM of CNT(crash_plane): 145

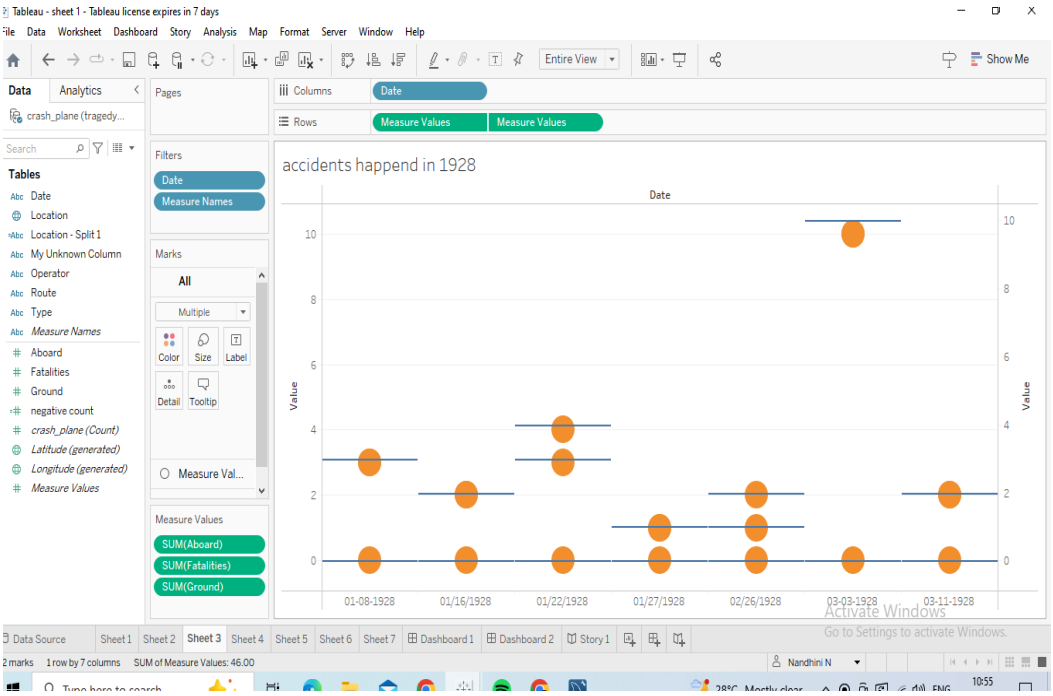


Tableau - sheet 1 - Tableau license expires in 7 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Entire View
Show Me
Data
Analytics
crash_plane (tragedy...
Tables
Date
Location
Location - Split 1
My Unknown Column
Operator
Route
Type
Measure Names
Aboard
Fatalities
Ground
negative count
crash_plane (Count)
Latitude (generated)
Longitude (generated)
Measure Values
Pages
Columns
Date
Rows
Measure Values
Measure Values
Filters
Date
Measure Names
Marks
All
Multiple
Color
Size
Label
Detail
Tooltip
Measure Val...
Measure Values
SUM(Aboard)
SUM(Fatalities)
SUM(Ground)
accidents happend in 1928
Date
Value
01-08-1928
01/16/1928
01/22/1928
01/27/1928
02/26/1928
03-03-1928
03-11-1928
Activate Windows
Go to Settings to activate Windows.
Data Source
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Dashboard 1
Dashboard 2
Story 1
2 marks
1 row by 7 columns
SUM of Measure Values: 46.00
Nandhini N
10:55

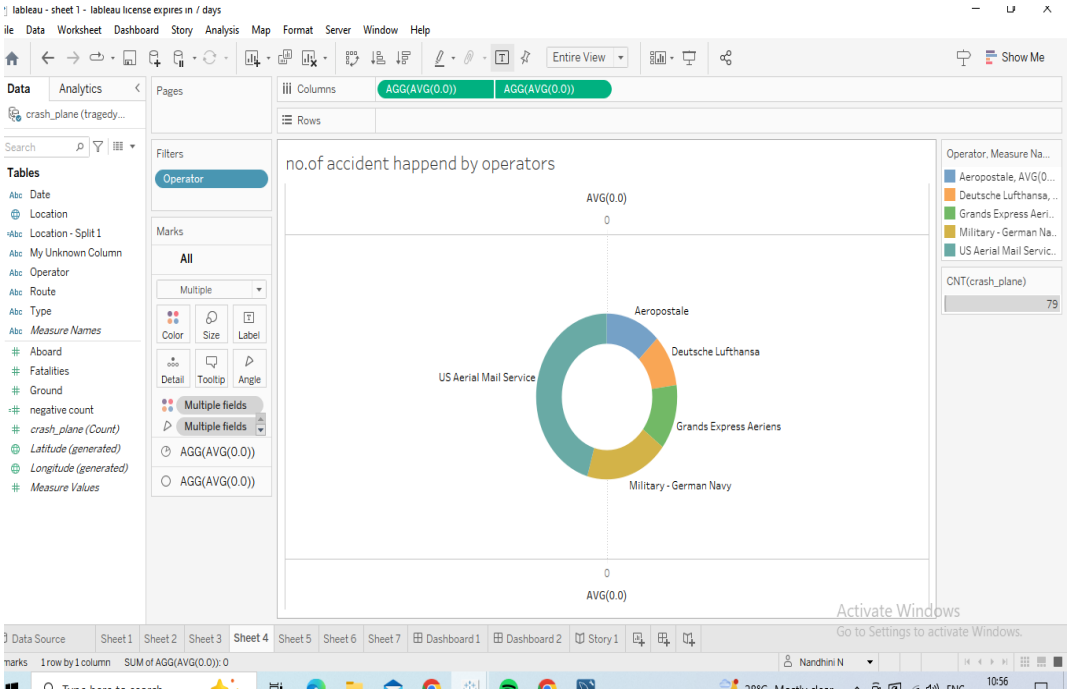
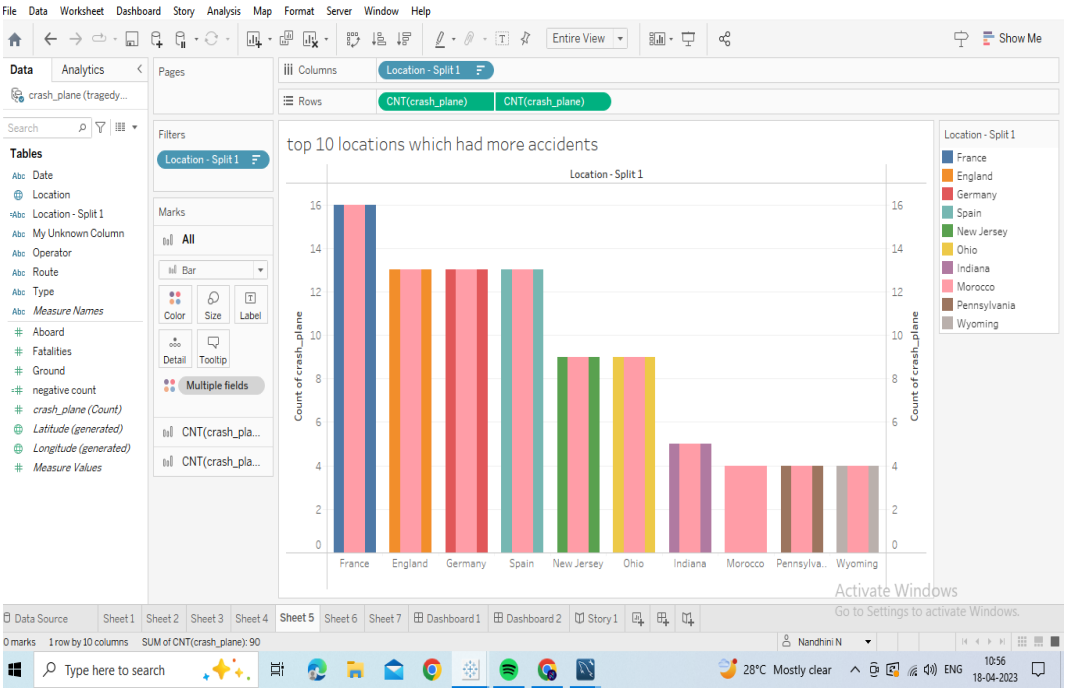
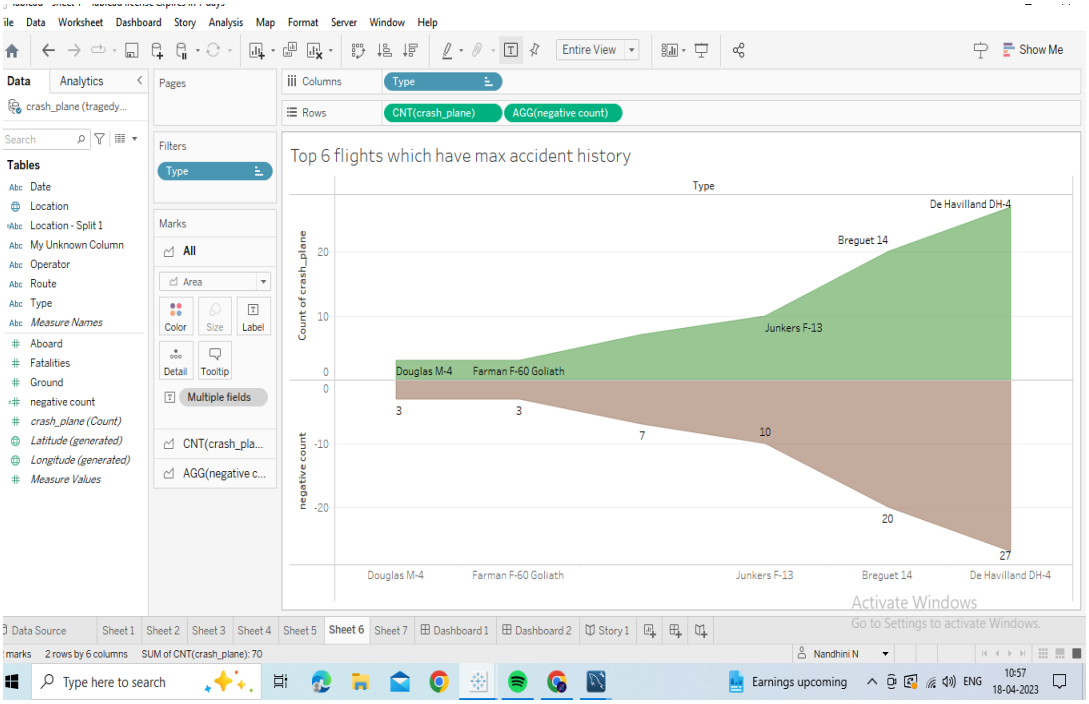


Tableau - sheet 1 - Tableau license expires in 7 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Entire View
Show Me
Data
Analytics
crash_plane (tragedy...
Tables
Date
Location
Location - Split 1
My Unknown Column
Operator
Route
Type
Measure Names
Aboard
Fatalities
Ground
negative count
crash_plane (Count)
Latitude (generated)
Longitude (generated)
Measure Values
Pages
Columns
AGG(AVG(0.0))
AGG(AVG(0.0))
Rows
Filters
Operator
Marks
All
Multiple
Color
Size
Label
Detail
Tooltip
Angle
Multiple fields
Multiple fields
AGG(AVG(0.0))
AGG(AVG(0.0))
no.of accident happend by operators
AVG(0.0)
0
Aeropostale
Deutsche Lufthansa
US Aerial Mail Service
Grands Express Aeriens
Military - German Navy
0
AVG(0.0)
Operator, Measure Na...
Aeropostale, AVG(0...
Deutsche Lufthansa, ..
Grands Express Aeri..
Military - German Na..
US Aerial Mail Servic..
CNT(crash_plane)
79
Activate Windows
Go to Settings to activate Windows.
Data Source
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Dashboard 1
Dashboard 2
Story 1
marks
1 row by 1 column
SUM of AGG(AVG(0.0)): 0
Nandhini N
10:56


top 10 locations which had more accidents
Location - Split 1
Count of crash_plane
France
England
Germany
Spain
New Jersey
Ohio
Indiana
Morocco
Pennsylva..
Wyoming
Location - Split 1
Activate Windows
Go to Settings to activate Windows.


Top 6 flights which have max accident history
Type
Count of crash_plane
negative count
De Havilland DH-4
Breguet 14
Junkers F-13
Douglas M-4
Farman F-60 Goliath
3
3
7
10
20
27
Activate Windows
Go to Settings to activate Windows.

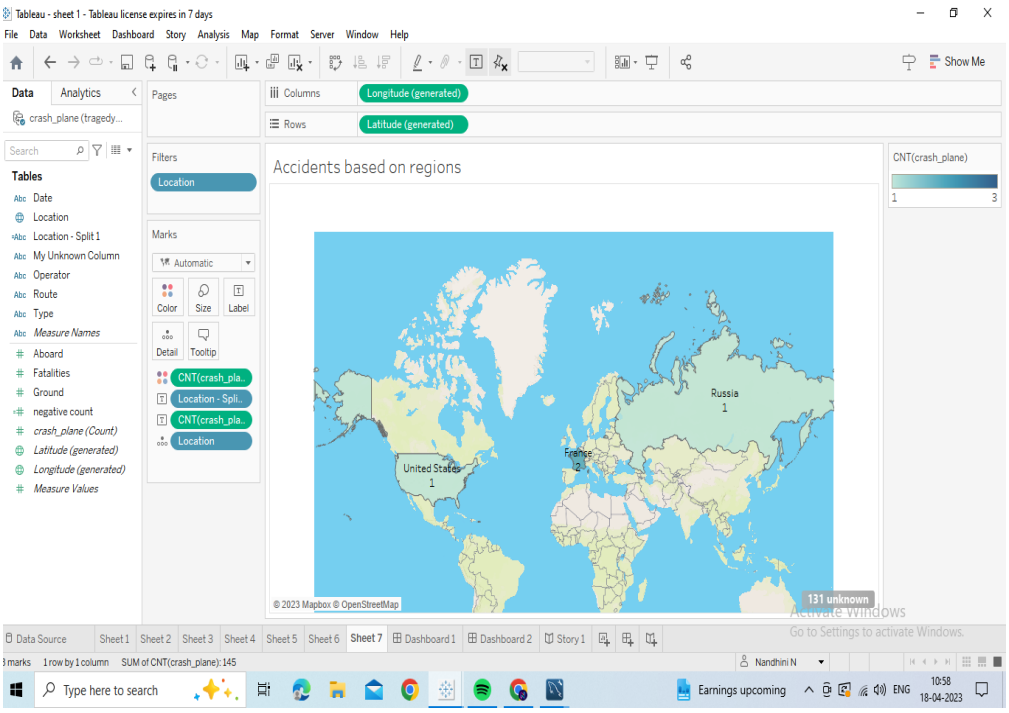
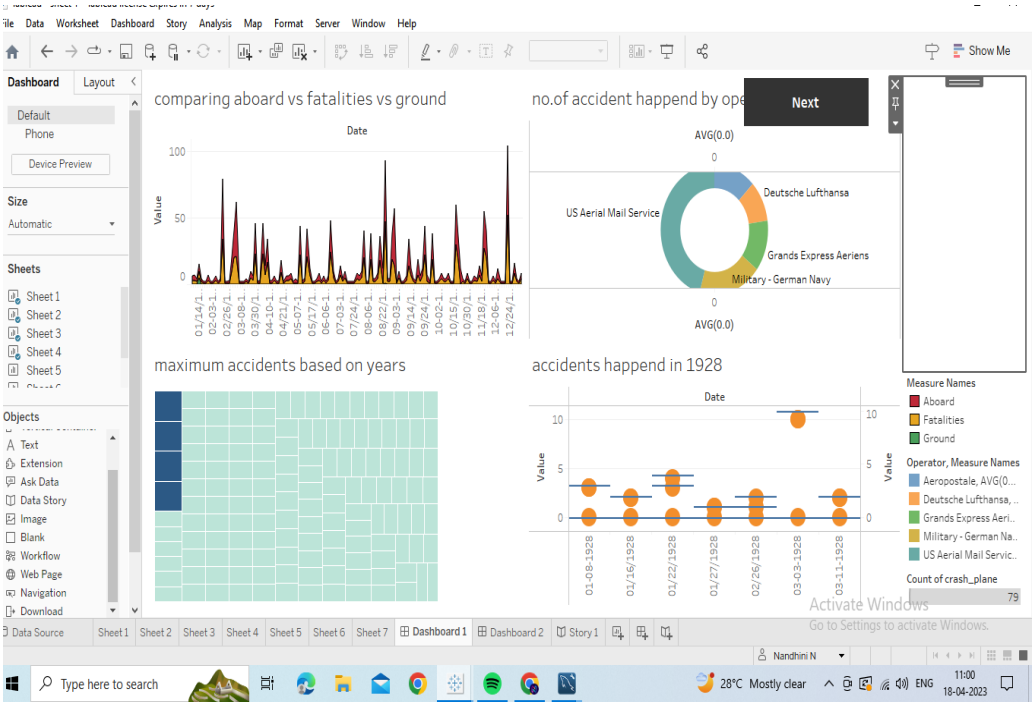
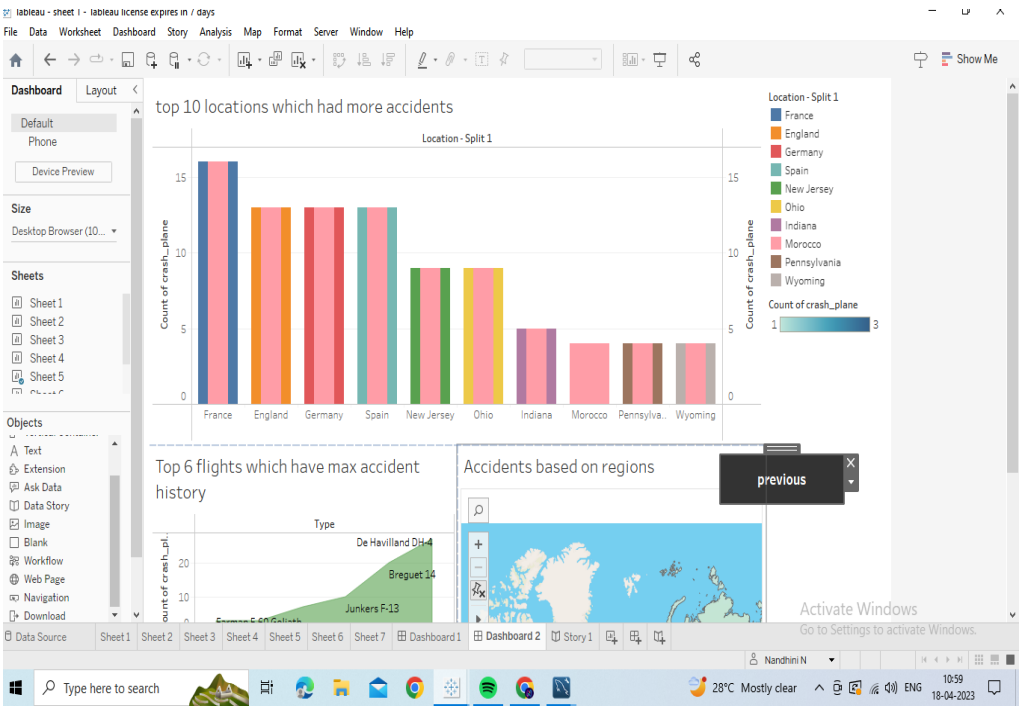
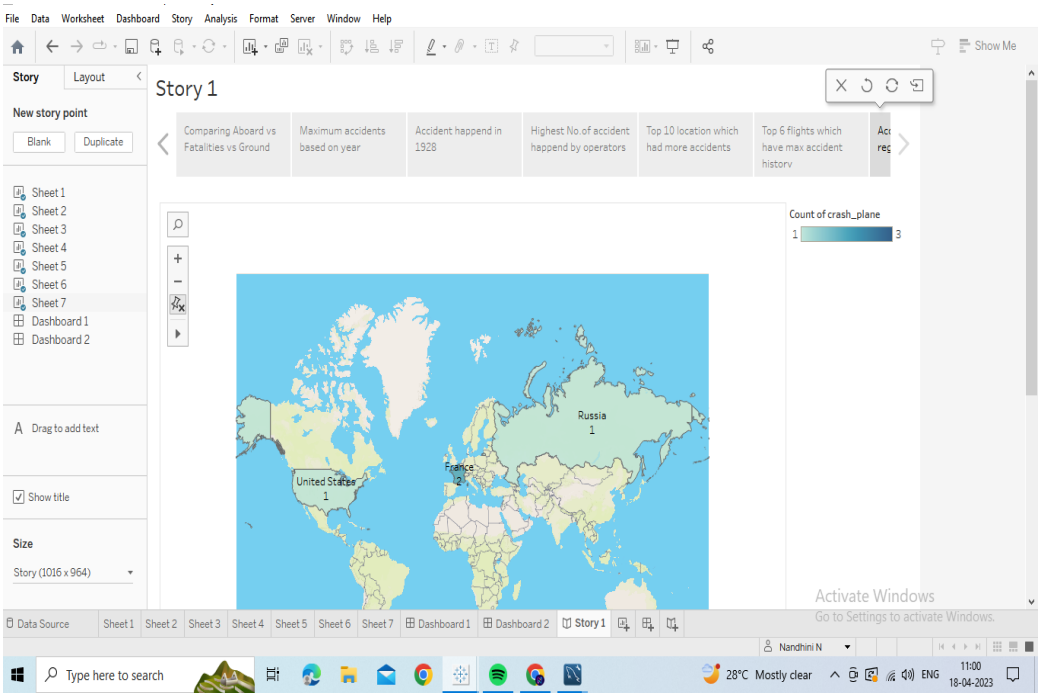


Tableau - sheet 1 - Tableau license expires in 7 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Show Me
Data Analytics
crash_plane (tragedy...
Search
Tables
Abc Date
Location
Abc Location - Split 1
Abc My Unknown Column
Abc Operator
Abc Route
Abc Type
Abc Measure Names
Aboard
Fatalities
Ground
negative count
crash_plane (Count)
Latitude (generated)
Longitude (generated)
Measure Values
Pages
Columns Longitude (generated)
Rows Latitude (generated)
Filters
Location
Marks
Automatic
Color
Size
Label
Detail
Tooltip
CNT(crash_pla..
Location - Spli..
CNT(crash_pla..
Location
Accidents based on regions
CNT(crash_plane)
1
3
United States 1
France 2
Russia 1
© 2023 Mapbox © OpenStreetMap
131 unknown
Activate Windows
Go to Settings to activate Windows.
Data Source
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Dashboard 1
Dashboard 2
Story 1
1 row by 1 column
SUM of CNT(crash_plane): 145
Nandhini N
Type here to search
Earnings upcoming
ENG
10:58
18-04-2023


File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Show Me
Dashboard
Layout
Default
Phone
Device Preview
Size
Automatic
Sheets
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Objects
Text
Extension
Ask Data
Data Story
Image
Blank
Workflow
Web Page
Navigation
Download
comparing aboard vs fatalities vs ground
Date
Value
100
50
0
no.of accident happend by ope
Next
AVG(0.0)
0
US Aerial Mail Service
Deutsche Lufthansa
Grands Express Aeriens
Military - German Navy
maximum accidents based on years
accidents happend in 1928
Date
Value
10
5
0
01-08-1928
01-16-1928
01-22-1928
01-27-1928
02-26-1928
03-03-1928
03-11-1928
Measure Names
Aboard
Fatalities
Ground
Operator, Measure Names
Aeropostale, AVG(0...
Deutsche Lufthansa, ...
Grands Express Aeri..
Military - German Na..
US Aerial Mail Servic..
Count of crash_plane
79
Activate Windows
Go to Settings to activate Windows.
Data Source
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Dashboard 1
Dashboard 2
Story 1
Nandhini N
Type here to search
28°C Mostly clear
ENG
11:00
18-04-2023


top 10 locations which had more accidents
Location - Split 1
Count of crash_plane
France
England
Germany
Spain
New Jersey
Ohio
Indiana
Morocco
Pennsylva..
Wyoming
Location - Split 1
France
England
Germany
Spain
New Jersey
Ohio
Indiana
Morocco
Pennsylvania
Wyoming
Count of crash_plane
Top 6 flights which have max accident history
Type
De Havilland DH-4
Breguet 14
Junkers F-13
Accidents based on regions
previous
Dashboard
Layout
Default
Phone
Device Preview
Size
Desktop Browser (10...
Sheets
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Objects
Text
Extension
Ask Data
Data Story
Image
Blank
Workflow
Web Page
Navigation
Download
Data Source
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Dashboard 1
Dashboard 2
Story 1
Nandhini N
Type here to search
28°C Mostly clear
ENG
10:59
18-04-2023
Activate Windows
Go to Settings to activate Windows.


Story 1
Comparing Aboard vs Fatalities vs Ground
Maximum accidents based on year
Accident happend in 1928
Highest No.of accident happend by operators
Top 10 location which had more accidents
Top 6 flights which have max accident history
Count of crash_plane
Russia
1
France
2
United States
1
Story
Layout
New story point
Blank
Duplicate
Drag to add text
Show title
Size
Story (1016 x 964)
Data Source
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Dashboard 1
Dashboard 2
Story 1
Nandhini N
Type here to search
28°C Mostly clear
ENG
11:00
18-04-2023
Activate Windows
Go to Settings to activate Windows.

4. Advantages & Disadvantages

Advantages:

- Air travel is that you can fly to many different places.
- Air travel is the fastest way to travel long distances. This is because it cuts down on the time it would take to travel by car or train.
- Another advantage of Travelling by Plane is that they can carry a lot of height. This is because they are designed to transport large amounts of cargo, such as food and equipment.
- Air travel is also the most efficient way to travel long distances. This is because it uses less fuel than other methods of transport, such as cars or trains.

Disadvantages:

- Air travel is that security measures can be inconvenient and time consuming.
- Air travel is that you might have to fly at unsociable hours. This is because flights are often scheduled for the early morning or late at night.
- Air travel is that it can be expensive. This is because ticket prices can very depending on the route and the time of year.
- Another can of travelling by plane is that it can be uncomfortable for long journeys.

5. Applications

Typical aerospace applications include aeronautical engineering, satellite communications, guidance and tracking systems, destructive and non - destructive materials testing. Propulsion and engine testing, surveillance and electronic warfare, impact studies, mechanical testing and vibration analysis.

6. Conclusion

In this project, I have explained about the topic the tragedy of flight a comprehensive crash analysis by providing full details on it. This project also emphasizes on main ideas related to the topic.

7. Future Scope

To satisfy the growing demand by 2038, the country's aircraft fleet is anticipated to grow fourfold to about 2500 aircraft. The government has also pledged to build 100 additional airports by 2024 of the Ude Desh Ka Aam Nagrik (UDAN) scheme. The air flet number is also expected to increase from 600 to 1200.