The Tragedy of a Flight : A Comprehensive Crash Analysis.

1.Introduction:

1.1 Overview:

An airplane crash analysis is a detailed investigation into the causes of an aviation accident. An aviation accident can be traced to a variety of causes including pilot error, air traffic controller error, designs and manufacturer defects, maintenance failures, sabotage or inclement weather etc.The goal of an airplane crash analysis is to identify improving safety and preventing future accidents.

Some causes of an aviation accidents are given below:

- Improper level off.
- Mismanagement of fuel.
- Improper in flight decision or planning.
- Misjudgement of distance and speed.
- Selection of unsuitable terrain.
- Improper operations of flight controls.

1.2 Purpose:

The purpose of the project is to improve the safety from airplane crashes and prevent future accidents.Safety has been the highest priority. Weather Radar is making air travel safer. Aircraft design may eventually have to change more dramatically ,especially if flying is to be kept affordable as fuel costs climb in future.

How to prevent future accidents?

- Improving aviation safety facilities.
- Modernizing aviation safety services .
- Improving systems for ensuring the safety of aircraft.
- Improving air traffic information system.

These prevent aviation accidents.

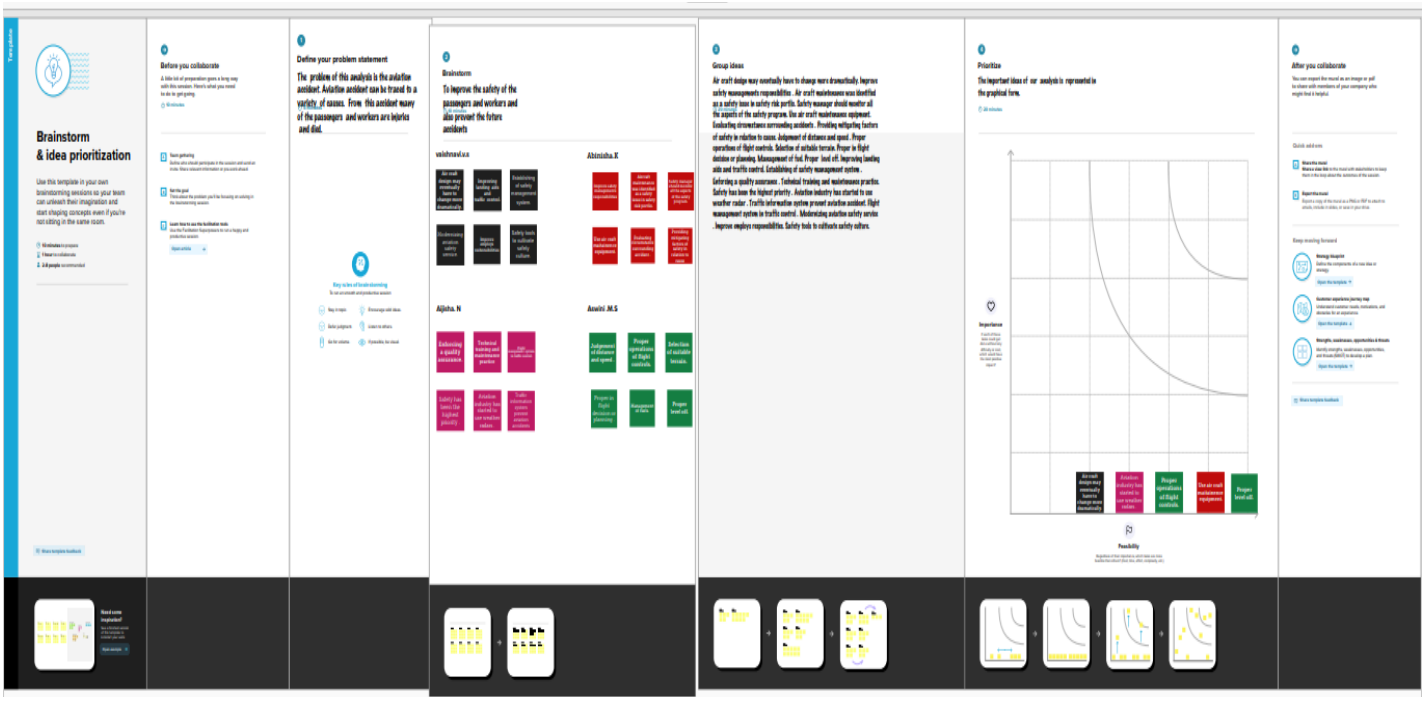
2.Problem Definition & Design Thinking:

2.1 Empathy map:

The empathy map is given below:

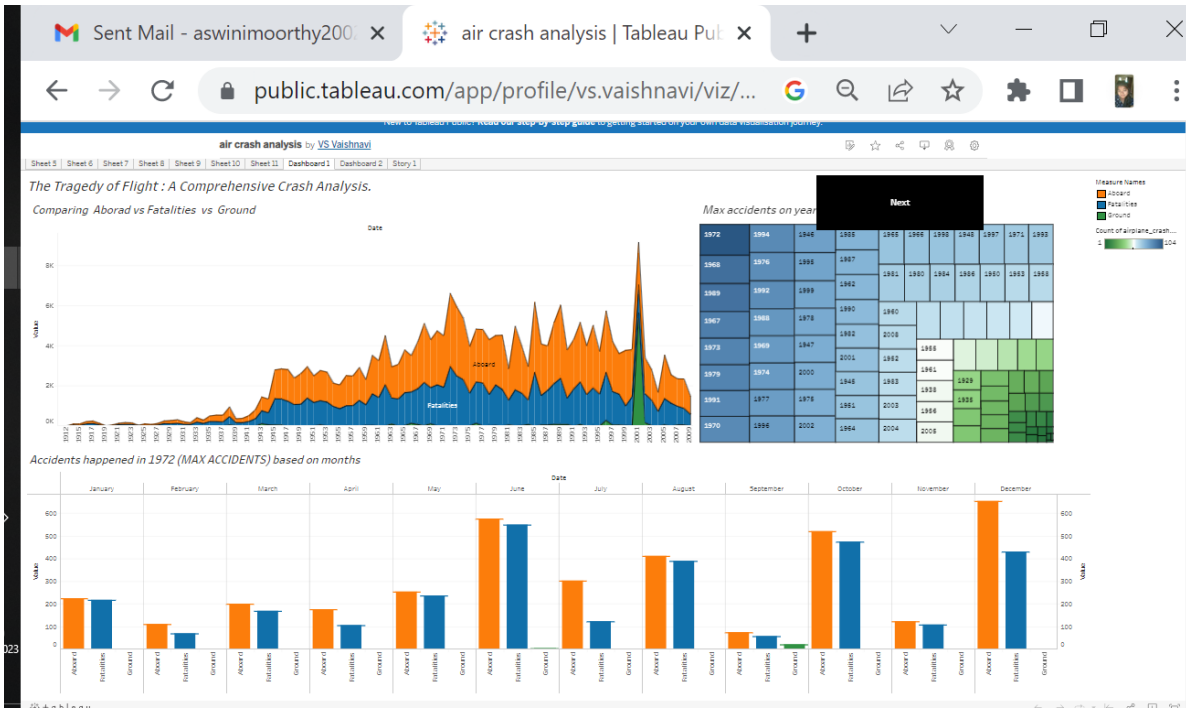
2.2 Ideation & Brainstorming Map:

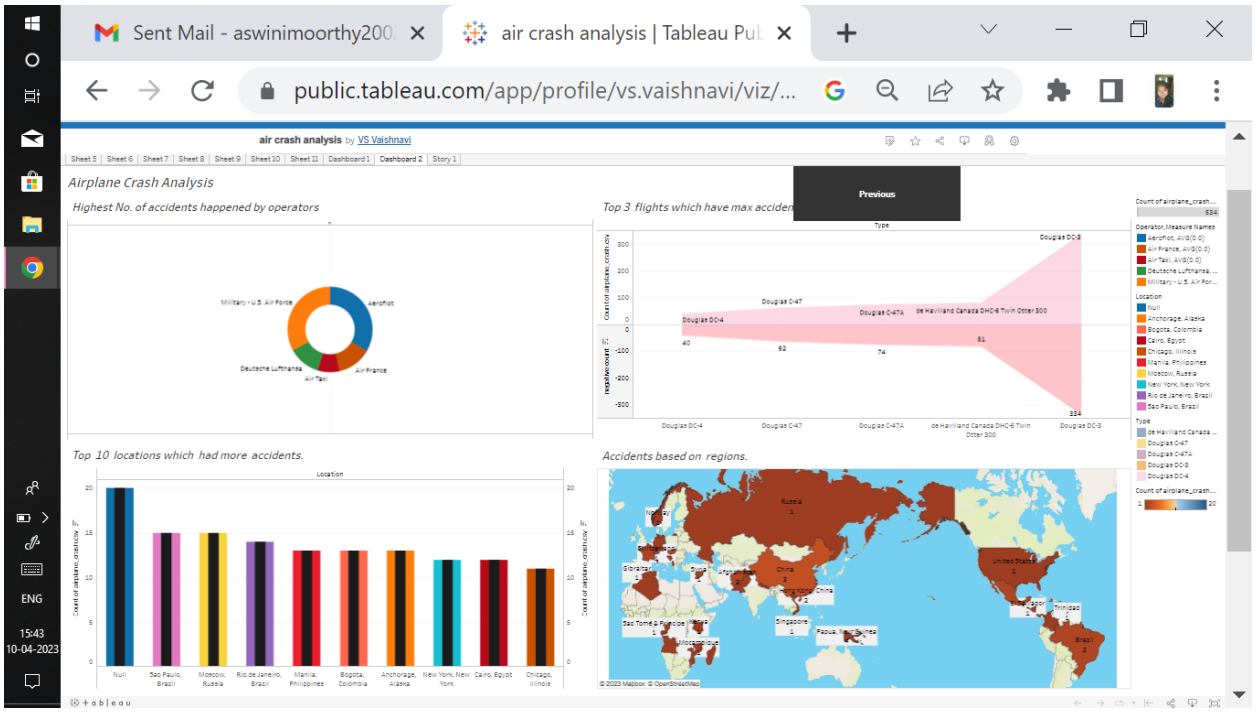
The Brainstorming map is given below:



3.Result:

Dashboard:





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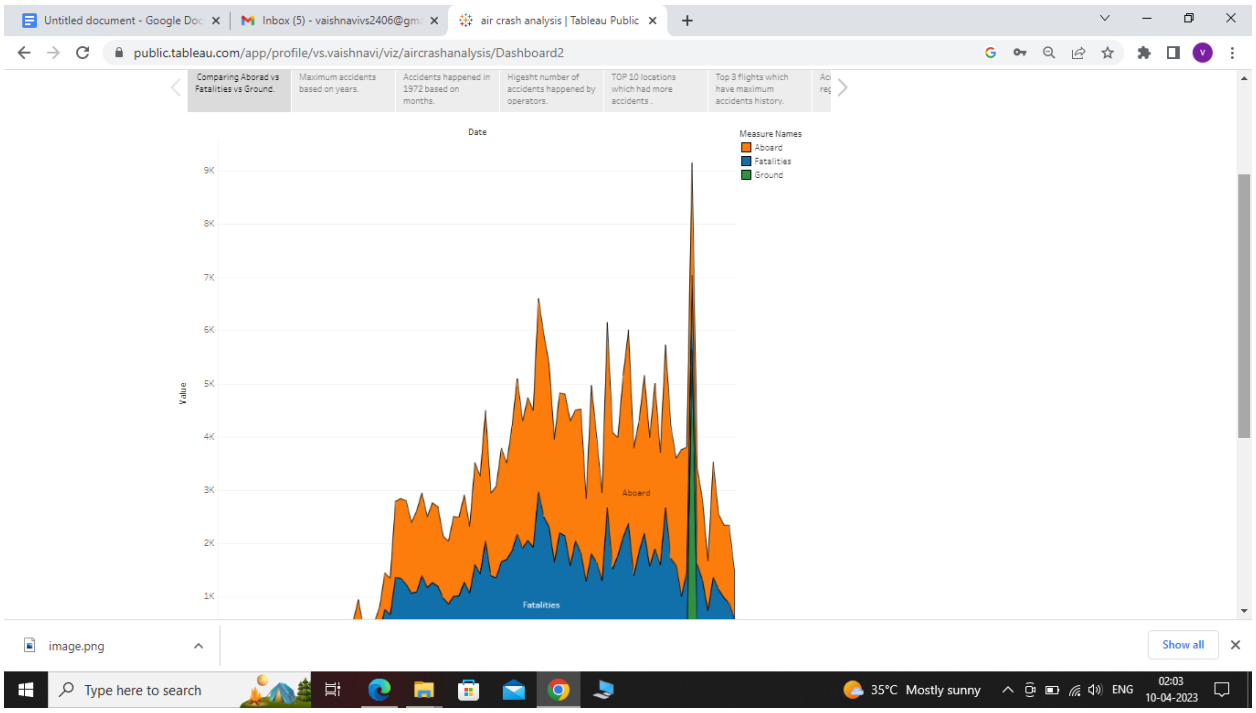
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Comparing Aborad vs Fatalities vs Ground.
Maximum accidents based on years.
Accidents happened in 1972 based on months.
Higesht number of accidents happened by operators.
TOP 10 locations which had more accidents .
Top 3 flights which have maximum accidents history.
Date
Measure Names
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Ground
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4K
3K
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Aboard
Fatalities
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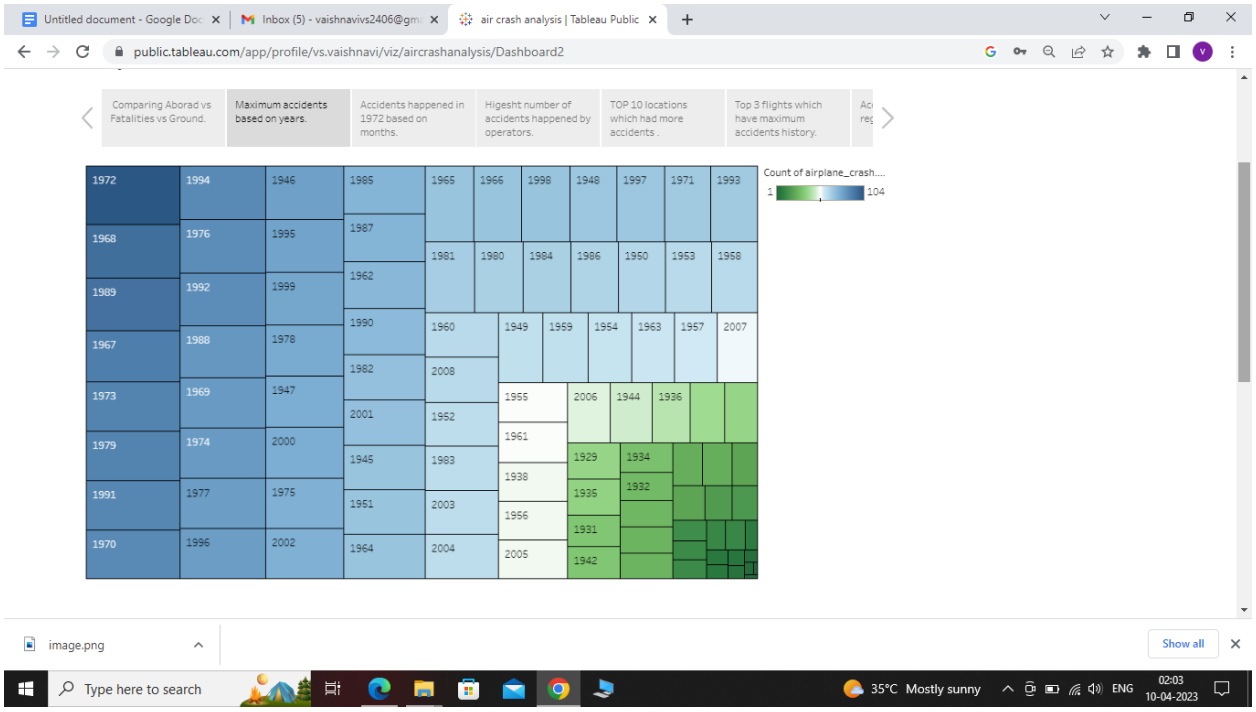
10-04-2023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Count of airplane_crash....
1
104
1972
1994
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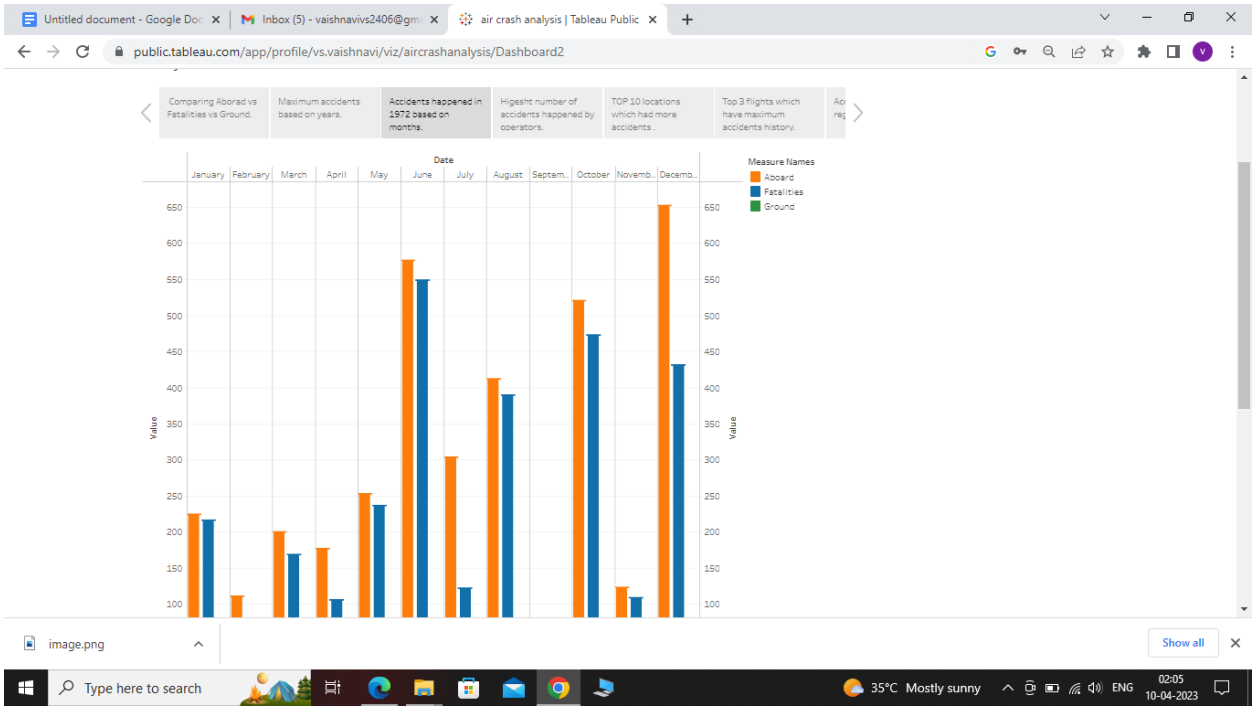
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Date
January
February
March
April
May
June
July
August
Septem..
October
Novemb..
Decemb..
Measure Names
Aboard
Fatalities
Ground
Value
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600
550
500
450
400
350
300
250
200
150
100
image.png
Show all
Type here to search
35°C Mostly sunny
ENG
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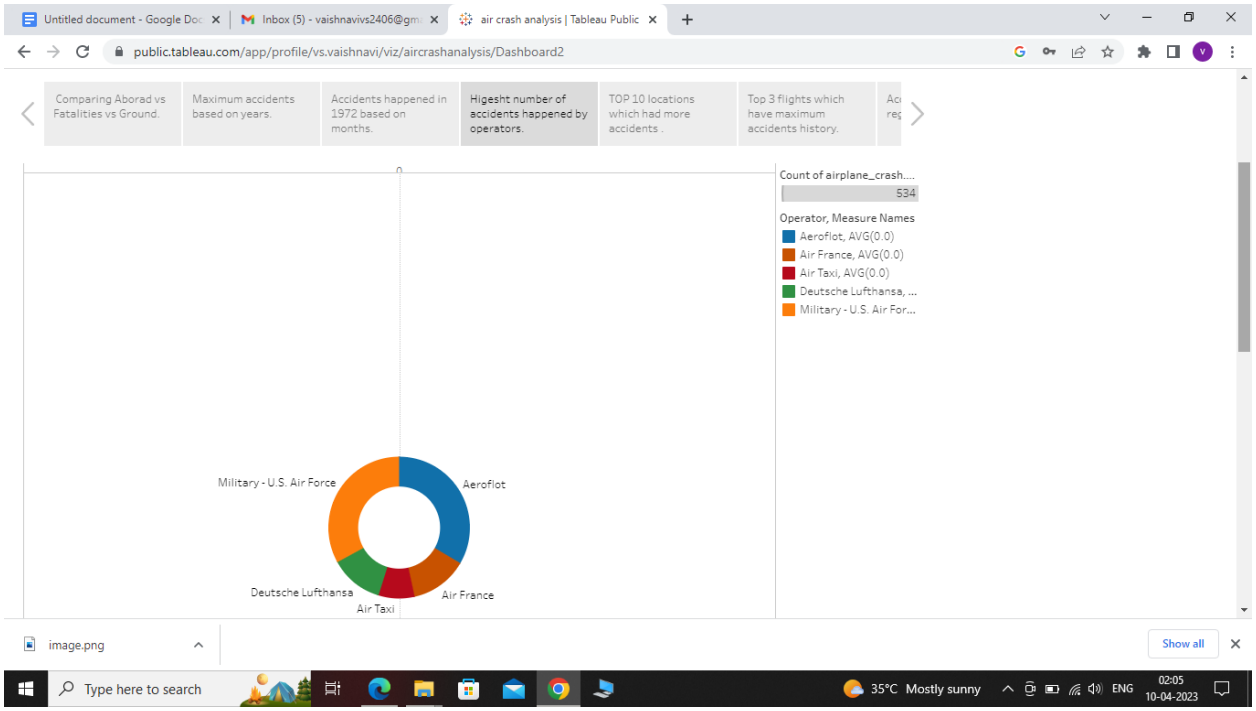
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TOP 10 locations which had more accidents .
Top 3 flights which have maximum accidents history.
Count of airplane_crash....
534
Operator, Measure Names
Aeroflot, AVG(0.0)
Air France, AVG(0.0)
Air Taxi, AVG(0.0)
Deutsche Lufthansa, ...
Military - U.S. Air For...
Military - U.S. Air Force
Aeroflot
Deutsche Lufthansa
Air France
Air Taxi
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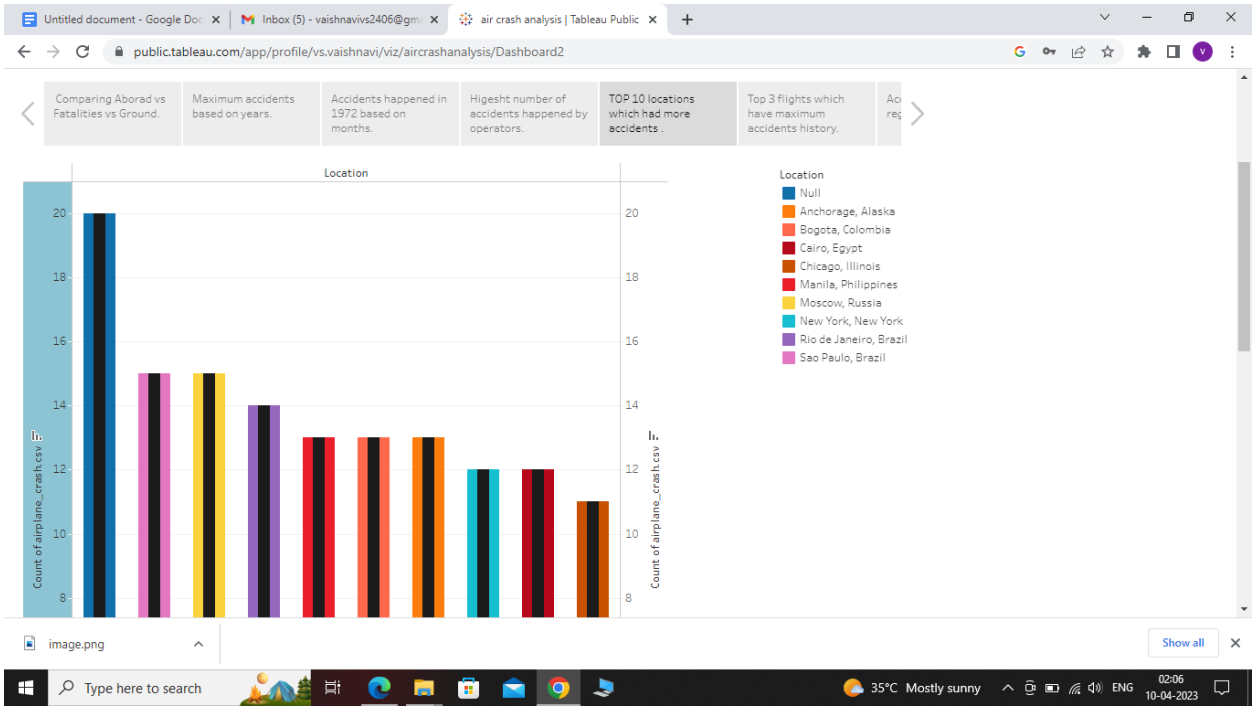
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Location
Count of airplane_crash.csv
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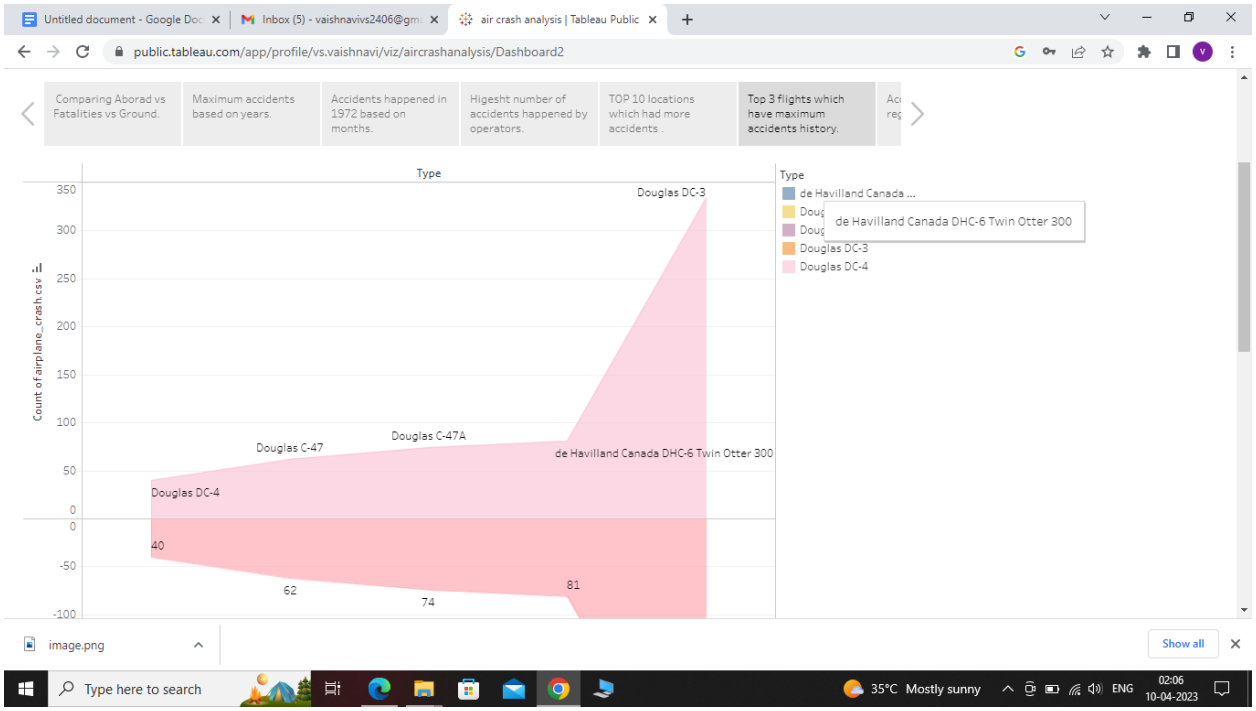
Anchorage, Alaska
Bogota, Colombia
Cairo, Egypt
Chicago, Illinois
Manila, Philippines
Moscow, Russia
New York, New York
Rio de Janeiro, Brazil
Sao Paulo, Brazil
image.png
Show all
Type here to search
35°C Mostly sunny
ENG
02:06
10-04-2023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Type
Count of airplane_crash.csv
Douglas DC-3
Douglas C-47
Douglas C-47A
de Havilland Canada DHC-6 Twin Otter 300
Douglas DC-4
40
62
74
81
de Havilland Canada DHC-6 Twin Otter 300
Douglas DC-3
Douglas DC-4
image.png
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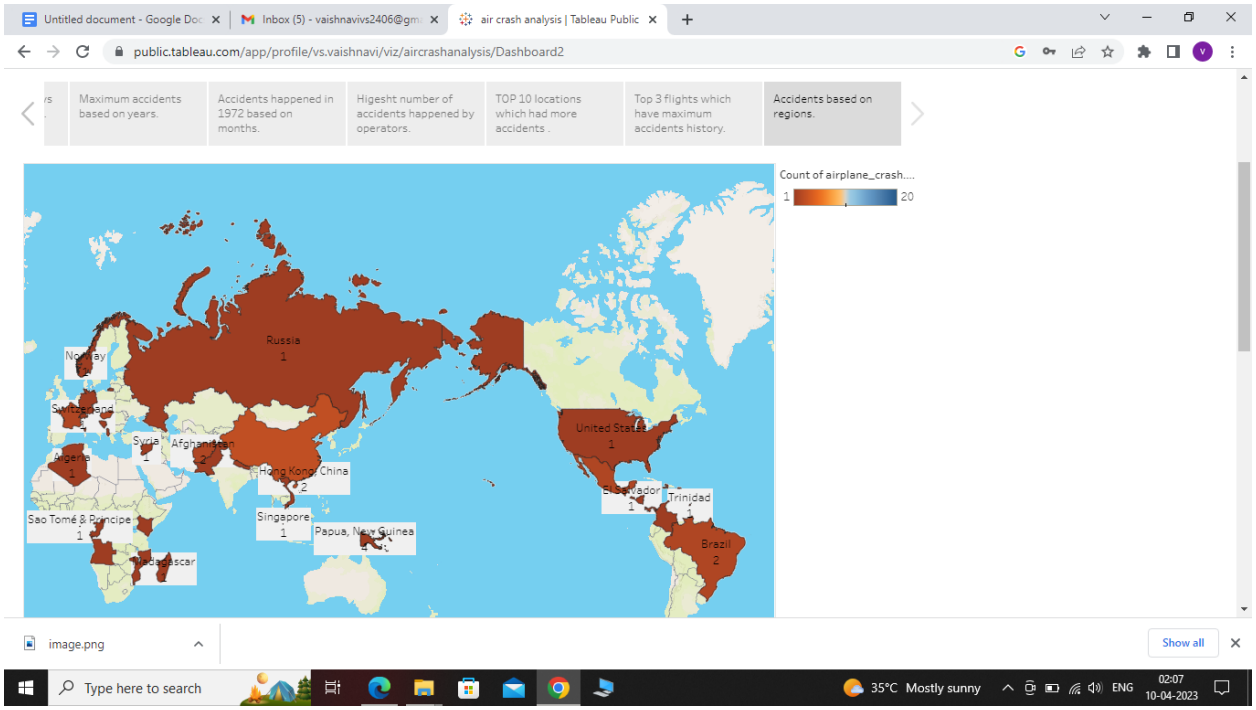
10-04-2023



Advantages & Disadvantages:

The following are the main advantages of preventing aviation accidents:

- Improvement of safety material.
- Selection of suitable terrain.
- Proper operations of flight controls.
- Providing mitigation factors of the safety in relation to cause.
- Modernizing aviation safety service.
- Improving landing aids and traffic controls.
- Proper level off.
- Proper inflight decision and planning.
- Improvement of safety management responsibilities.

The following are the main disadvantages of preventing aviation accident:

- Undependable and risky,since it depends on weather conditions.
- More accident prone than other modes.
- Bad weather conditions.
- Irresponsible of workers.
- Mismanagement of fuels.
- Failure to maintain directional control.
- Failure to maintain flying speed.

5.Application:

Mostly in accidental areas the application is used. This application is used in airplanes. The applications were used to save the passengers and the workers who work in the airplane. Maintain safety of the passenger. The prevention of future accidents is mostly applied to the recently crashed airplanes.

6.Conclusion:

The cause of this accident is the combination of several factors such as pilot error, bad weather conditions,air traffic controller errors, designs and manufacturer defects, maintenance failures, sabotage or inclement weather etc.The goal of an airplane crash analysis is to identify improving safety and preventing future accidents.

To improve the safety from airplane crashes and prevent future accidents.Safety has been the highest priority. Weather Radar is making air travel safer. Aircraft design may eventually have to change more dramatically ,especially if flying is to be kept affordable as fuel costs climb in future. Improving aviation safety facilities. Modernizing aviation safety services .Improving systems for ensuring the safety of aircraft.Improving air traffic information system.

7.Future Scope:

- Variations were noted across the industry in the implementation of stabilized approach SOPs recommended by aircraft manufacturers.
- Deviations by pilots from the operators' SOPs and industry best practices for stabilized approach criteria,as well as missed approaches and go-arounds.
- Lack of an industry-accepted definition of "high risk" UAs, which might help operators focus resources and achieve effective improvements in the UA rates.
- Lack of participation in industry safety information-sharing programs, and local and regional safety groups,which could produce systematic industry improvements in UA rates.
- Wider use of the 3rd edition of Unstable Approaches: Risk Mitigation Policies, Procedures and Best Practices and other industry documents is of paramount importance.
- Punitive safety cultures.
- Ineffective crew resource management.

8.Appendix:

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<Introduction:>
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<h1>Dashboard & Story</h1>

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