Dr. ZAKIR HUSAIN COLLEGE, ILAYANGUDI, SIVAGANGAI, TAMILNADU

P.G. DEPARTMENT OF MATHEMATICS

NAAN MUDHALAVAN SCHEME FOR ARTS AND SCIENCE COURSES

INITIATIVE BY GOVERNMENT OF TAMILNADU

COLLABRATED WITH SMARTINTERNZ PVT.LMT

DATA ANALYTICS WITH TABLEAU

THE TRAGEDY OF A FLIGHT: A COMPREHENSIVE CRASH ANALYSIS

TEAM ID : NM2023TMID09466

TEAM NAME: B05

FACULTY INCHARGE: Dr. B. FATHIMA KANI,
ASSISTANT PROFESSOR,
P.G. DEPARTMENT OF MATHEMATICS,
Dr. ZAKIR HUSAIN COLLEGE, ILAYANGUDI.

TEAM LEAD AND MEMBERS DETAILS :

NAME	UNI. REG. NO	NM. ID	SMARTINTERNZ. ID
DEEPAKKUMAR. M	0620121051	asalu6620121051	C8786ED62988BD99683407D22F5A7BB7
GOPINATH. R	0620121053	asalu6620121053	204025031A56D16886D4B7E93899F5A0
KRISHNA KANNAN. S	0620121055	asalu6620121055	F486860465B6BBA81DE4B2F7FFC70893
MOHANDASS. P	0620121058	asalu6620121059	213BA8D4ECC554E8FCF4A6C5D93DA153

PROJECT REPORT

1. INTRODUCTION

1.1 : OVERVIEW

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 analysed 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.

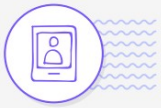
1.2 : PURPOSE

Aviation accident analysis is performed to determine the cause of errors once an accident has happened. In the modern aviation industry, it is also used to analyze a database of past accidents in order to prevent an accident from happening.

2. PROBLEM DEFINITION AND DESIGN THINKING

2.1 : EMPATHY MAP

Template



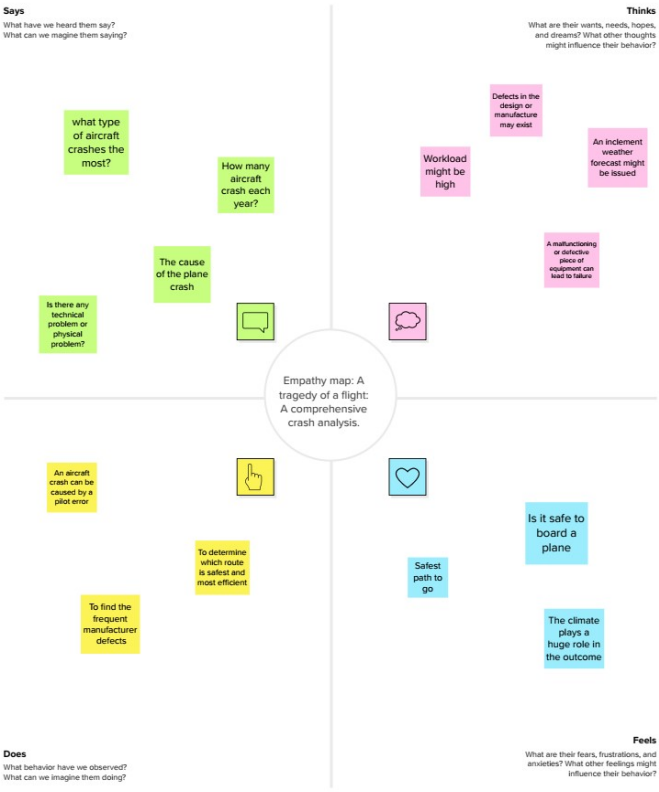
Empathy map

Use this framework to develop a deep, shared understanding and empathy for other people. An empathy map helps describe the aspects of a user's experience, needs and pain points, to quickly understand your users' experience and mindset.

Share template feedback

Build empathy

The information you add here should be representative of the observations and research you've done about your users.

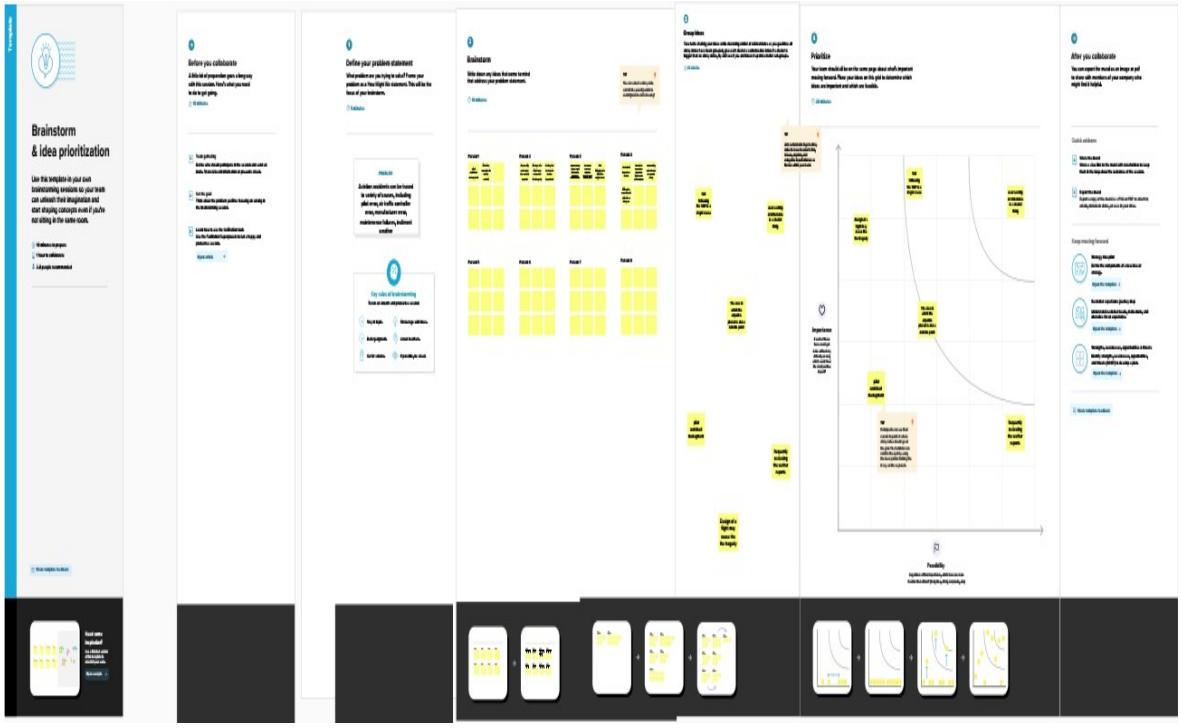


Need some inspiration?

See a finished version of this template to kickstart your work.

Open example →

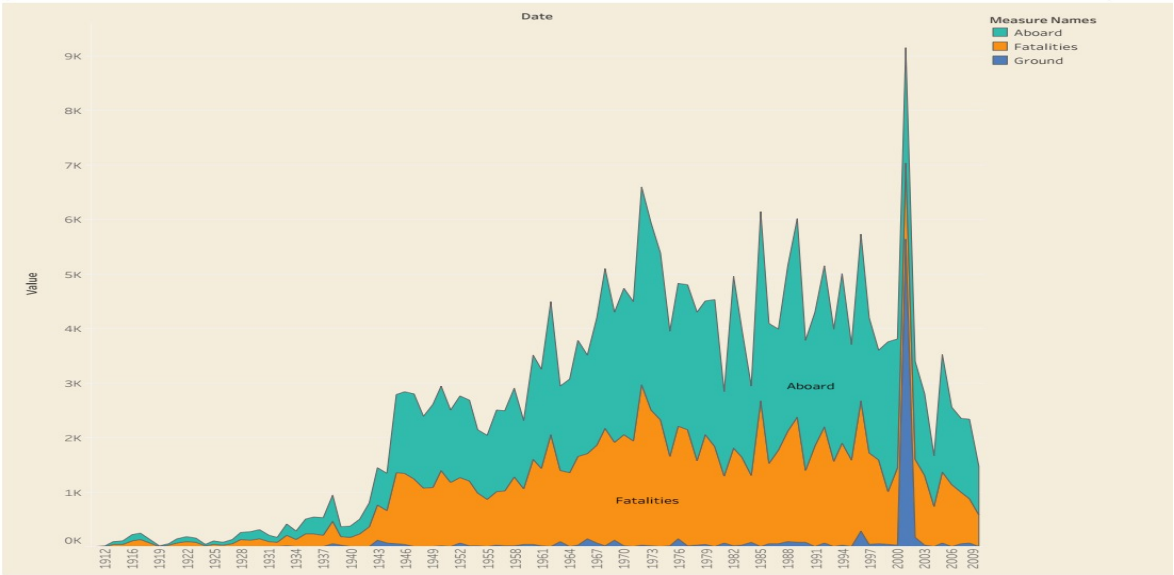
2.3 : IDEATION AND BRAINSTROMING MAP



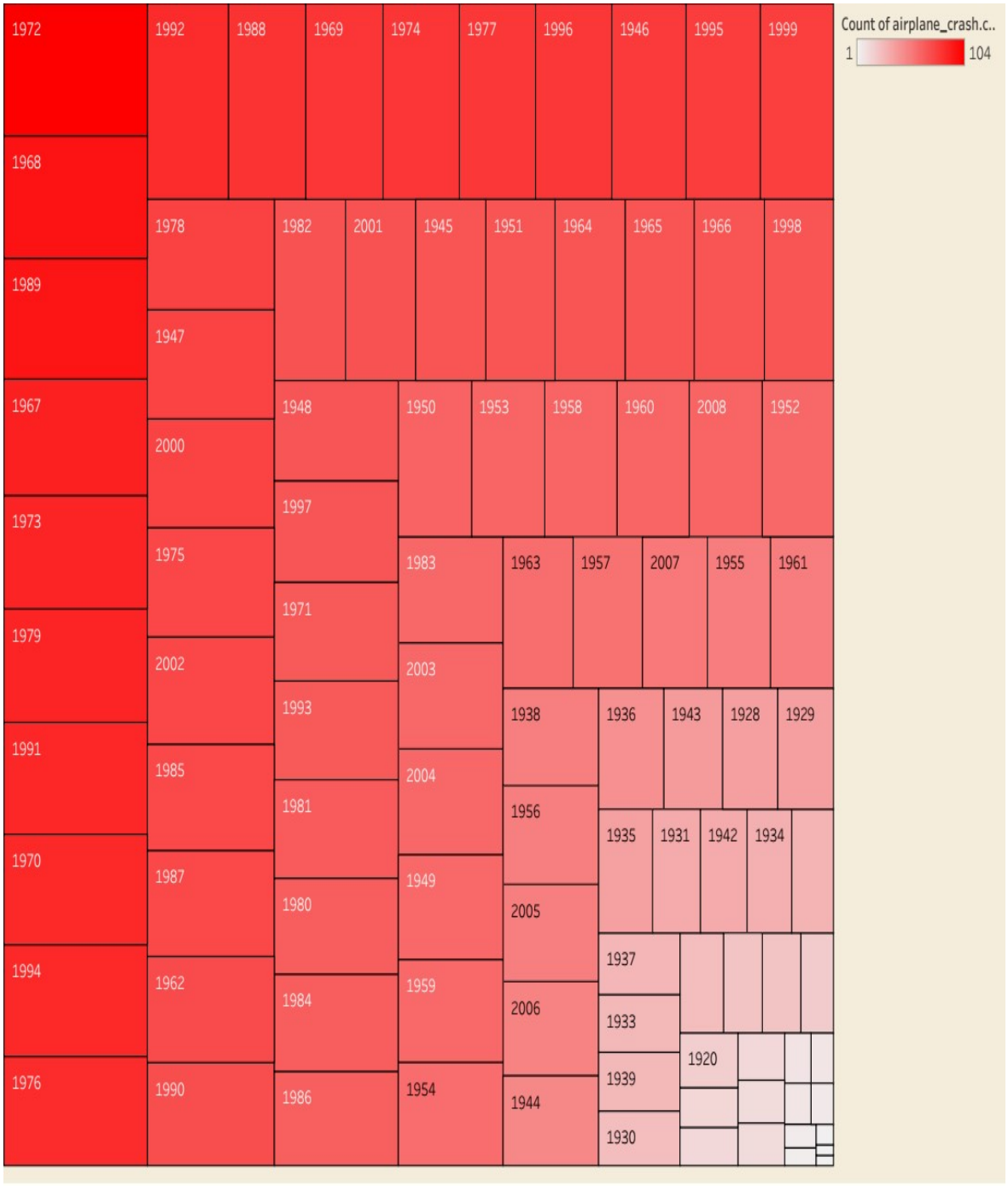
3. RESULT

HERE, WE'VE PRESENTED THE VISUALIZATION RESULTS.

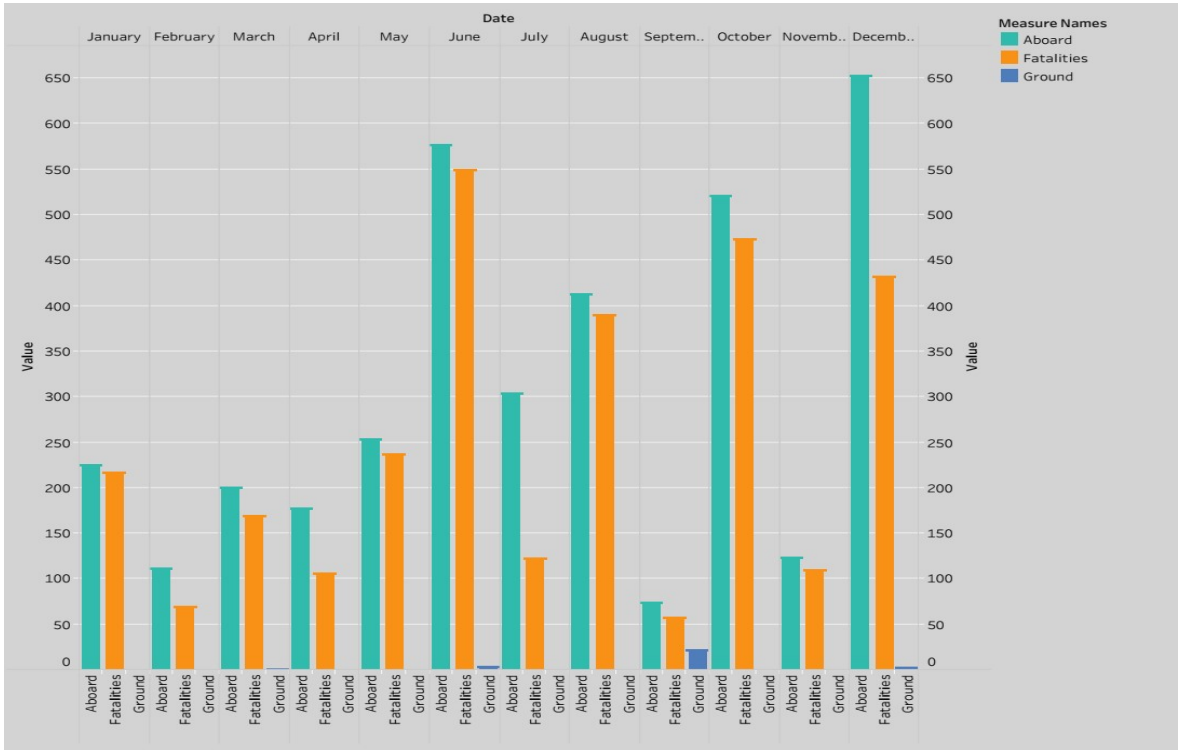
COMPARING ABOARD vs FATALITIES vs GROUND



MAX ACCIDENTS BASED ON YEARS

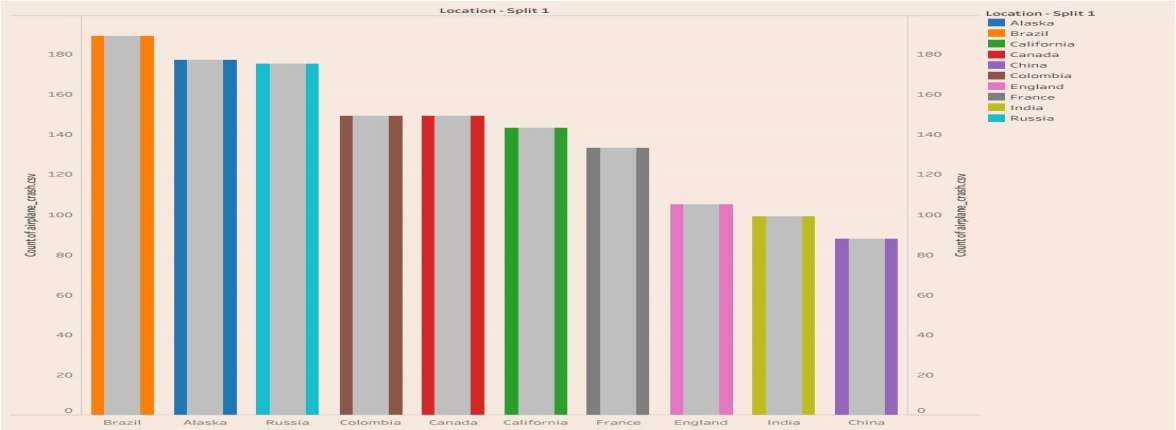


ACCIDENTS HAPPENED IN 1972 BASED ON MONTHS

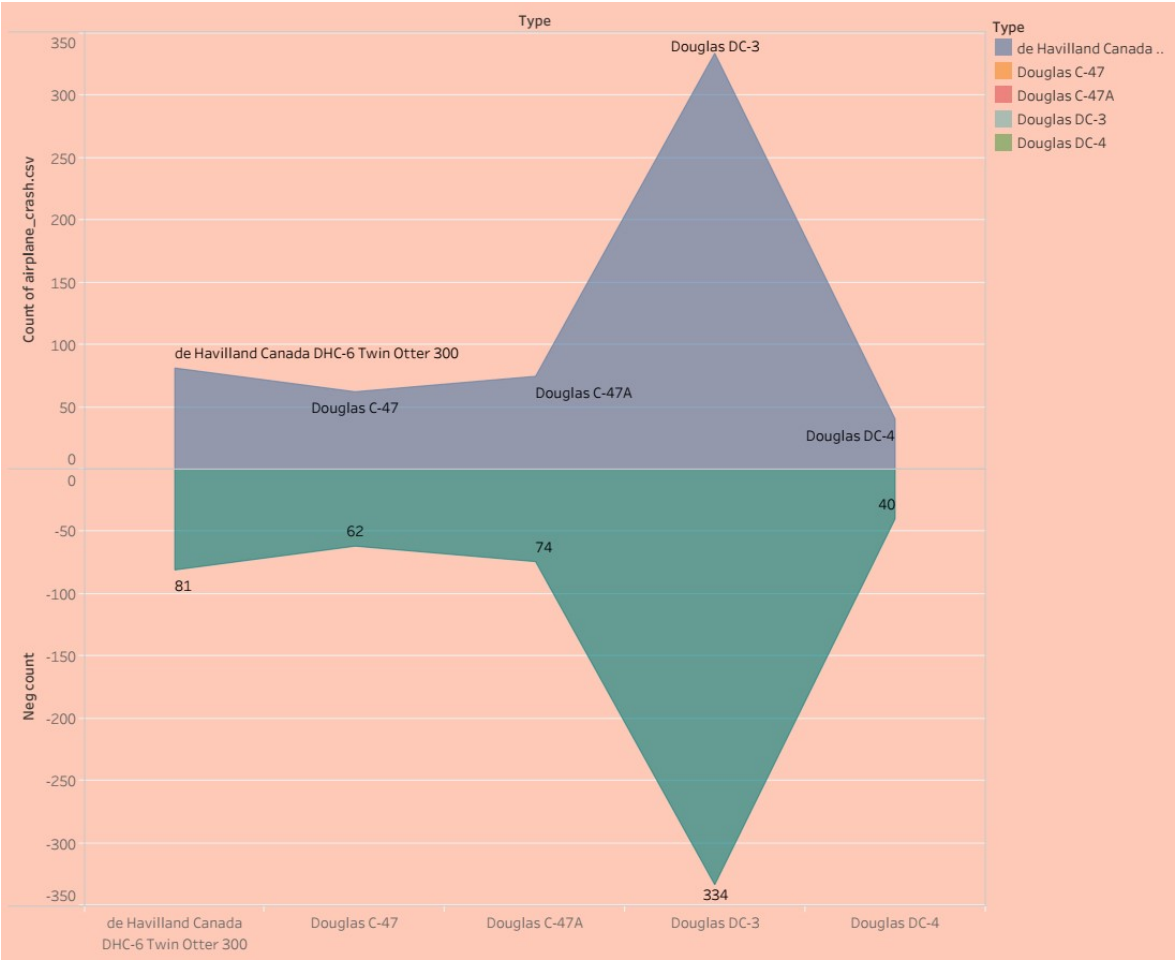


HIGHEST NO.OF ACCIDENT HAPPENED BY OPERATORS

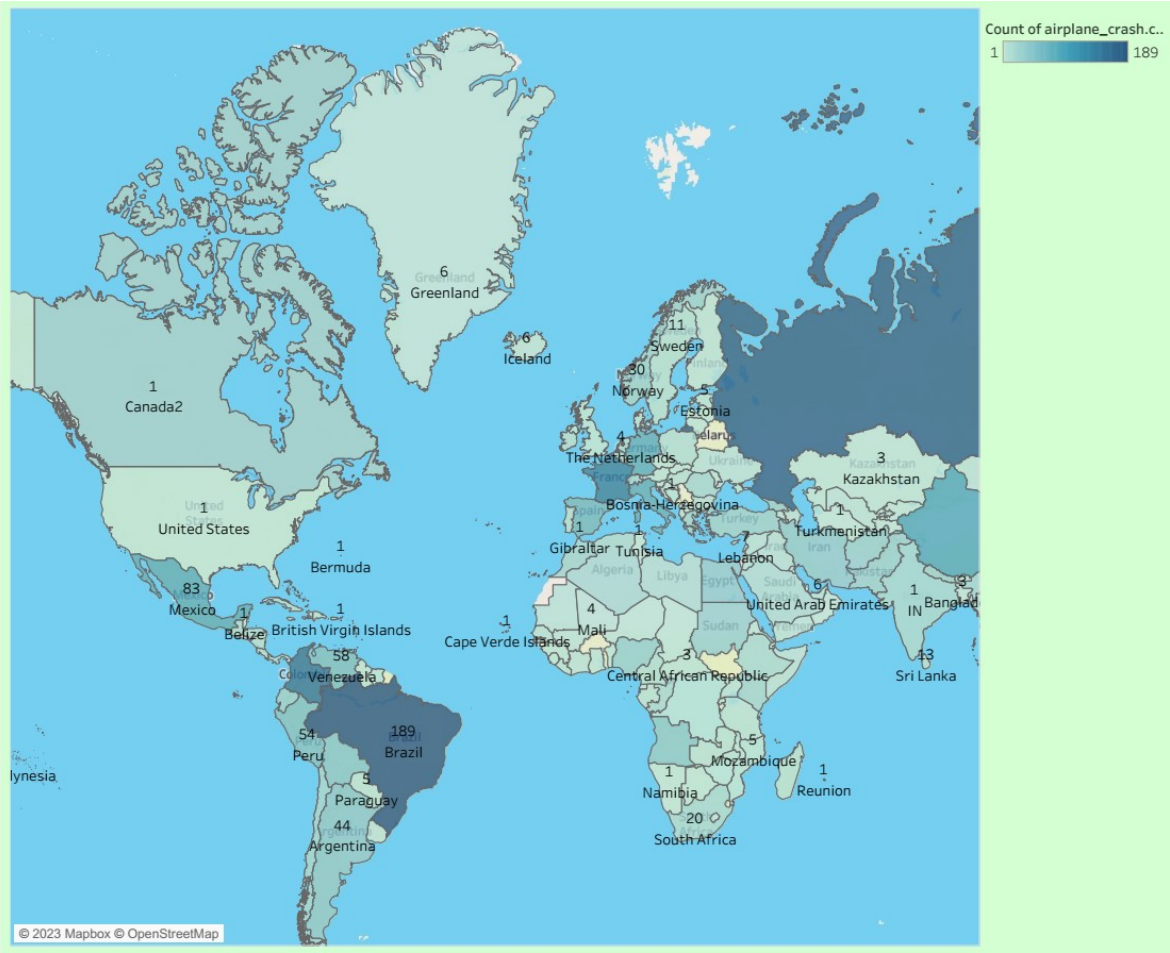
TOP 10 LOCATIONS WHICH HAD MORE ACCIDENTS



TOP 3 FLIGHTS WHICH HAS MAX ACCIDENT HISTORY



ACCIDENTS BASED ON REGIONS



4. ADVANTAGES AND DISADVANTAGES

1. 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.

2. The analysied data will give us a clear vision about the mechanical issues which happenes frequently, from the data we can improvise and avoid the crash.

3. Aviation accident analysis is an important part of aviation safety research. We used long-term sequence aviation accident statistics to **analyze the characteristics of historical aviation accidents and predict the future direction of aviation accidents**

4. There are five causes are **human error, mechanical defects, weather problems, air traffic controller/other ground staff error, and other causes**. We cant control these types of errors at all that is a biggest disadvantage.

5. APPLICATIONS

From the previous point there are 5 types of errors. Aircrash analysis usually applied to find the errors caused . So, Roughly we can say Air crash analysis only applied to find the error and resolve it to not happen again.

1. Pilot Error – Roughly 50% of the aircraft losses incur due to pilot error. There are many chances for The pilots to cause errors from failing to program correctly to miscalculation of the required fuel.

2. Mechanical Failure -Despite developments in model and manufacturing standards of the aircrafts, mechanical failures account for 20% of aircraft losses.

3. Weather - Despite of having multiple electronic aids, aircrafts still struggle to function properly when the weather turns out to be unpleasant like in storms, snow and fog.

4. Sabotage - The dangers posed by sabotage are much less than many people seem to believe. Approximately 10% of aircraft losses occur due to sabotage.

5. Human Error – Mistakes can be made by humans operating when required to work for longer hours. Air traffic controllers, dispatchers, loaders, etc are some of the jobs that are operated by humans.

6. CONCLUSION

From the analysis we have done, we conclude that most of the tragedy caused by the mechanical errors and weather condition. Also, the errors slightly decreased when we compare it into the recent years. Because of the development in the industrial world.

7. FUTURE SCOPE

From these type of analysis, we expect that the airplane tragedy caused by the adequate errors will decrease so. Our future scope is to less the tragedies and increase the trust on the aviation transport