TRAGEDY OF FLIGHT: A COMPREHENSIVE CRASH ANALYSIS

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 factor .The causes of a tragedy involving a flight can be complex and multifaceted and can vary depending on the specific incident. Through this project we could 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 safely and preventing similar accidents in the future. These recommendations may be implemented by the relevant authourities or industry organisations.

PURPOSE:

The use of the project is to identify the cause and factors involved in flight crash accidents. It is also used to analyze a database of past accidents in order to prevent an accident from happening. Many models have been used not only for the accident investigation but also for educational purpose. Investigation and analysis of safety occurences 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 , incident and safety issues. Accident analysis is carried out in order to determine the cause or causes of an accident (that can result in single or multiple outcomes) so as to prevent further accidents of similar kind. A Flight Data Monitoring assists an operator to identify , quantify ,assess and address operational risks . I t can be effectively used to support a range of airworthiness and operational safety tasks . The purpose of the incident Management process is to restore normal service operation as quickly as possible

and minimize the adverse impact on business operations , ensuring that agreed levels of service quality are maintained .

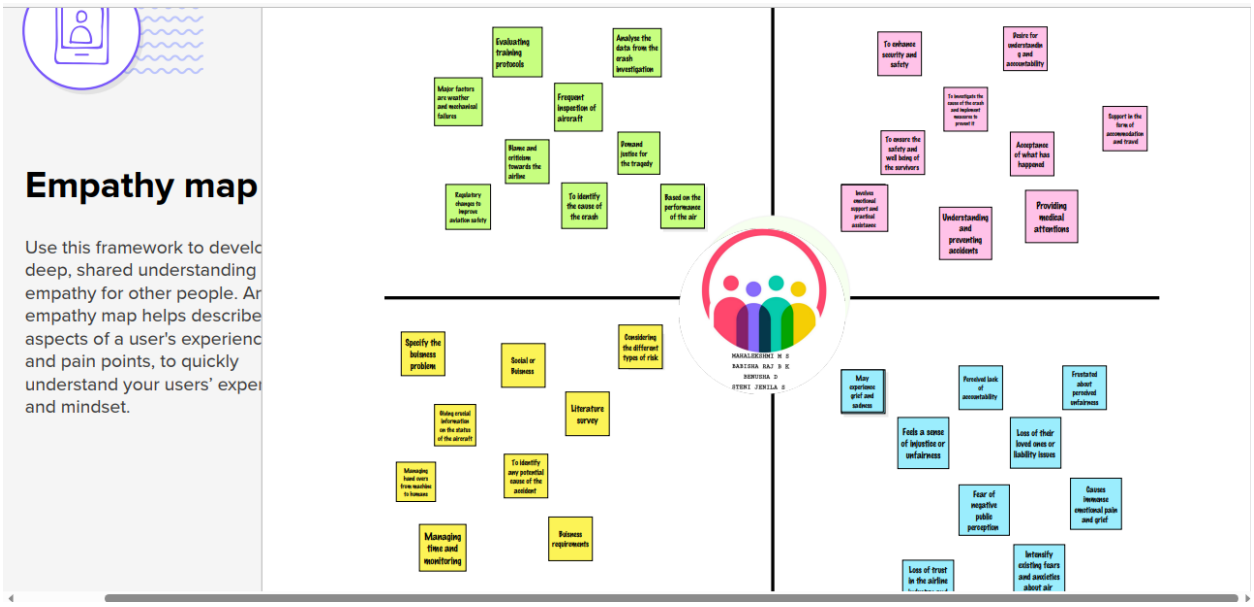
EMPATHY MAP

An empathy map is a template that organizes a user's behaviors and feelings to create a sense of empathy between the user and your team. The empathy map represents a principal user and helps teams better understand their motivations, concerns, and user experience. Empathy mapping is a simple yet effective workshop that can be conducted with a variety of different users in mind, anywhere from stakeholders, individual use cases, or entire teams of people. It can be conducted by many different teams such as design teams, sales, product development or customer service. Essentially, it is an exercise that seeks to get inside the head of the customer as they interact with your product/service.

While the main importance of an empathy map is creating empathy between you and the user, there are some other important facets of using one that offer different benefits to your team. Creating an empathy map takes many factors into consideration in relation to the customer’s overall experience. These could be the specific problems they handle, how they use the product/service within a larger team, and who really experiences the brunt of the problem.

These details are important to creating a holistic view of their experience but also important because they illuminate the problem in the mind of your team. This is equally as important and helps build an overall understanding of how users interact with your product/service.

EMPATHY MAP SCREENSHOT

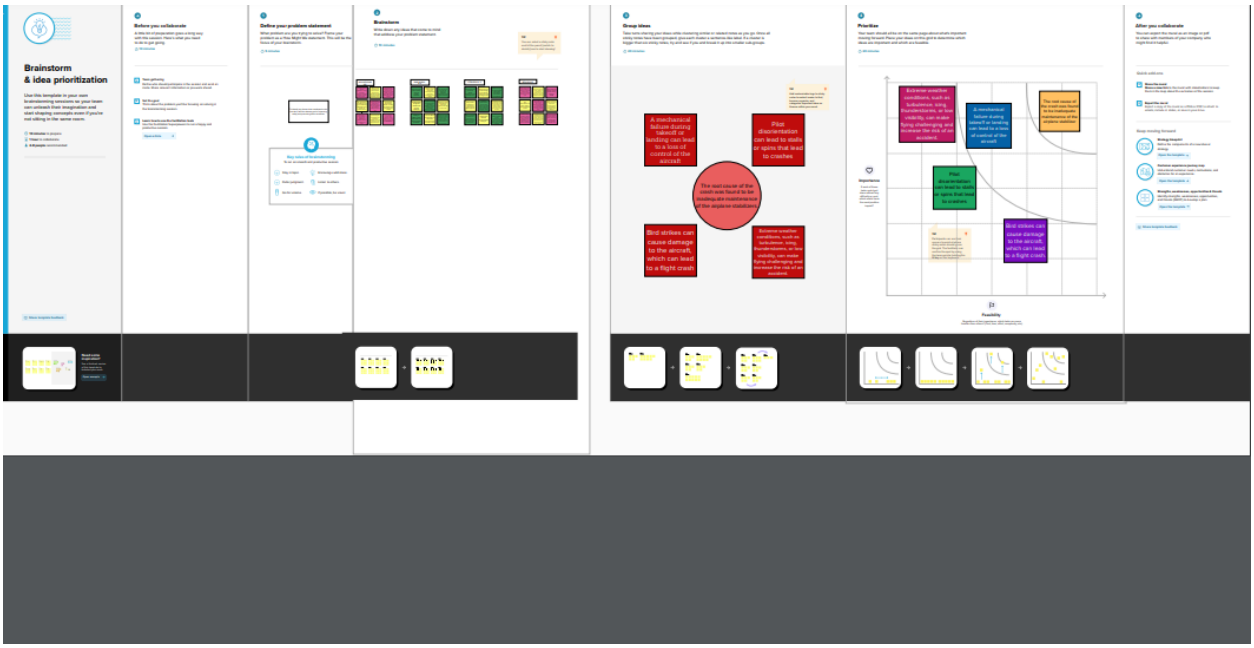


IDEATION AND BRAINSTORMING MAP

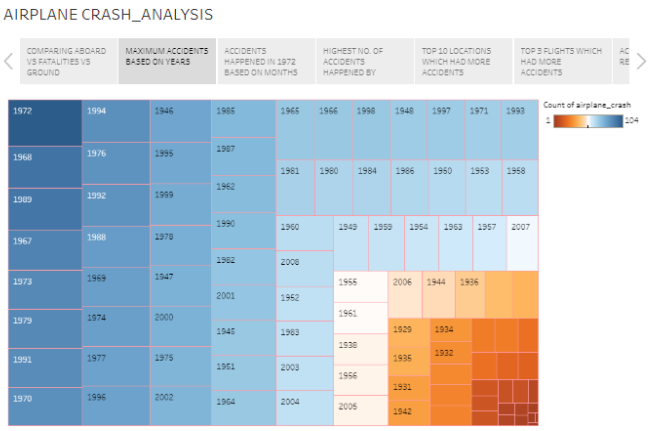
Brainstorming is a group problem-solving method that involves the spontaneous contribution of creative ideas and solutions. This technique requires intensive, freewheeling discussion in which every member of the group is encouraged to think aloud and suggest as many ideas as possible based on their diverse knowledge.

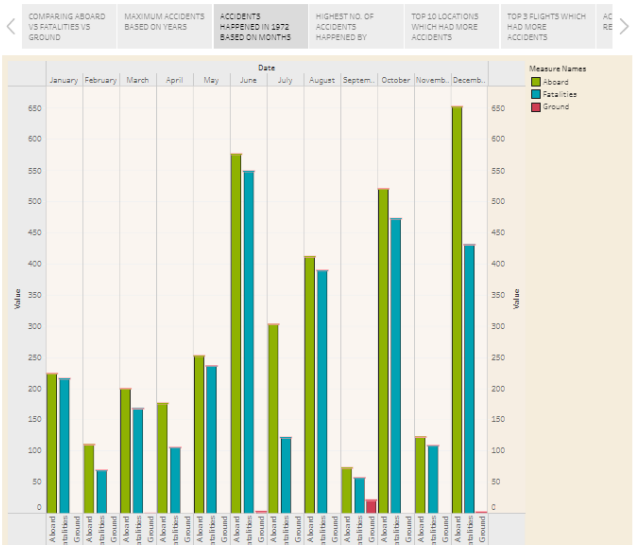
Brainstorming combines an informal approach to problem-solving with lateral thinking, which is a method for developing new concepts to solve problems by looking at them in innovative ways. Some of these ideas can be built into original,

creative solutions to a problem, while others can generate additional ideas.

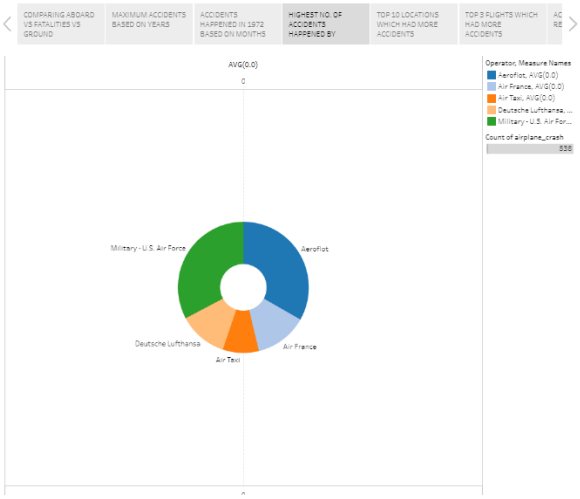


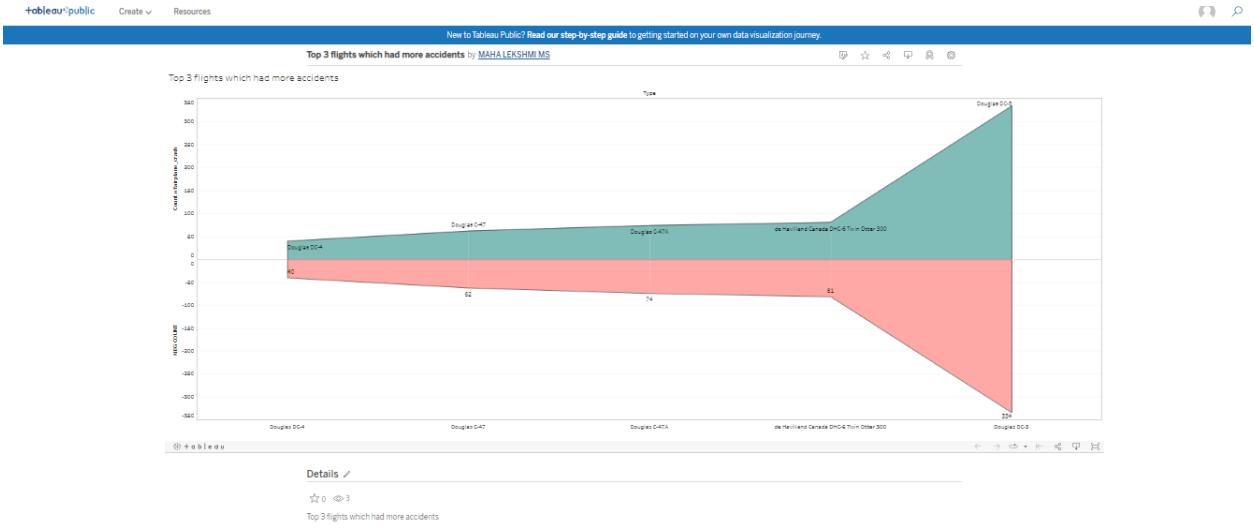
RESULT





AIRPLANE CRASH_ANALYSIS





Details

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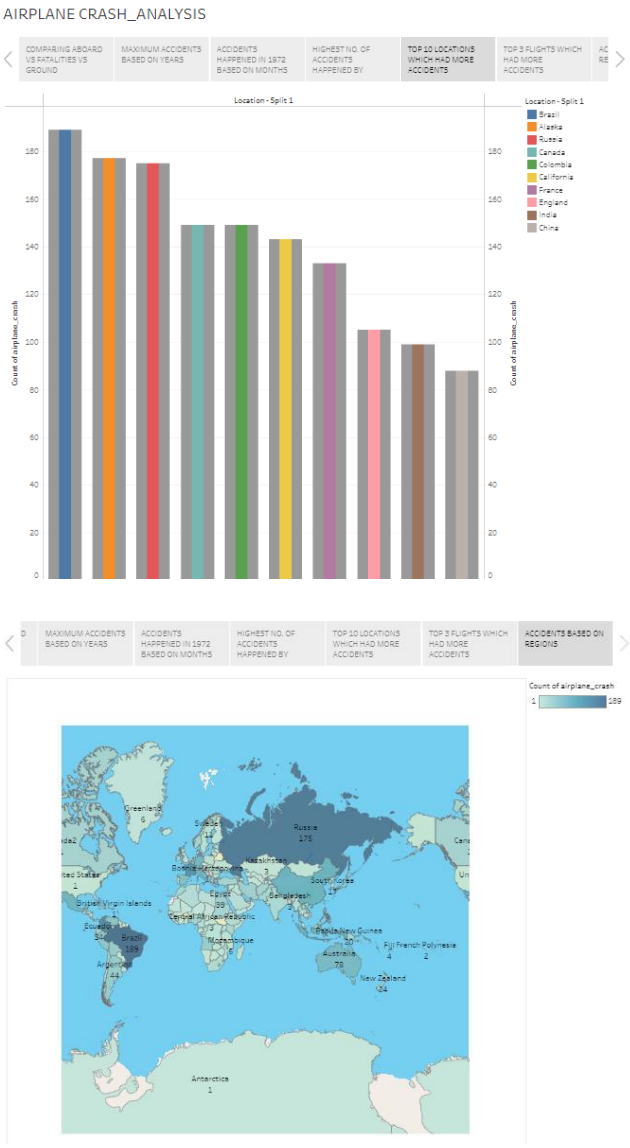
Top 3 flights which had more accidents



ADVANTAGES

- ✓ High Speed.
- ✓ It is the fast speed means of transport.
- ✓ Minimum Cost.
- ✓ Strategic Importance.
- ✓ Easy transport of costly and light goods.
- ✓ Free from physical barriers.
- ✓ Useful for Agriculture.
- ✓ Useful in natural calamities.
- ✓ Fast delivery times.
- ✓ Undoubtedly, one of the most advantageous features offered by air transport is its speedy delivery times.

- ✓ No Physical Limits.
- ✓ Very reliable transportation.
- ✓ Long Distances.
- ✓ Higher Cost.
- ✓ Less storage capacity.
- ✓ Restrictions on goods.

DISADVANTAGE

- ✓ It has capacity limits
- ✓ It is more polluting than other more sustainable means of transport such as electric vehicles.
- ✓ Cost of operating airlines is very high and so freight cost is very high as compared to sea transport.

- ✓ It is difficult to carry bulky, awkwardly shaped goods.

- ✓ Very risky in case of accident.

- ✓ It is controlled by climatic conditions; thus bad weather leads to uncertainty in its time table.

APPLICATIONS

- ✓ The analysis can provide closure to the families and loved ones of the victims of the crash, as well as to the broader public.
- ✓ It can also help to improve public confidence in the aviation industry by identifying and addressing any safety issues that may have contributed to the incident.
- ✓ The analysis can have significant business implications for the airline and aircraft manufacturer involved in the incident.

- ✓ If the analysis finds that the crash was caused by mechanical or design issues, the manufacturer may be liable for damages and may face significant financial losses
- ✓ A business requirement for a comprehensive crash analysis of The Tragedy of Flight would likely include the following elements.
- ✓ Detailed information about the crash, including the date, time, location, and weather conditions at the time of the incident.
- ✓ A thorough analysis of the events leading up to the crash, including any mechanical failures or human errors that may have contributed to the incident.
- ✓ A review of the flight data and cockpit voice recordings to gather additional information about the events leading up to the crash.
- ✓ Interviews with the flight crew, passengers, and any witnesses to the crash to gather additional information about the incident

CONCLUSION

The cause of this accident is the combination of several factors, ambiguously written procedures, inadequate training, unexpected operational situations or individual judgements. Situational awareness, environmental and crew coordination factors, as well as shortcomings in pilot technical knowledge, skills and experience, also can cause accidents. Other mistakes might be the result of improper airspace design or crew co ordination. The failure of an aircraft's equipment, such as the engine, avionics, or control systems, can also cause a crash. Pilots, air traffic controllers, and other personnel involved in the operation of a flight can make mistakes that lead to a crash. Extreme weather conditions, such as turbulence, icing, thunderstorms, or low visibility, can make flying challenging and increase the risk of an accident.

Implementing new technologies and processes to minimize the risk of human error and equipment failure.

FUTURE SCOPE:

- ✓ To prevent future crashes, aviation authorities and other stakeholders must work together to identify and address the root causes of accidents.
- ✓ Improve training for pilots and groundworkers
- ✓ The failure of an aircraft's equipment, such as the engine, avionics, or control systems, can also cause a crash. Pilots, air traffic controllers, and other personnel involved in the operation of a flight can make mistakes that lead to a crash . Extreme weather conditions, such as turbulence, icing, thunderstorms, or low visibility, can make flying challenging and increase the risk of an accident.
- ✓ Pilots are human beings, and they can make mistakes. That is why it is important for them to go through proper training before flying a plane. They must also be well-rested and not stressed out. Air traffic controllers also play a vital role in preventing accidents.
- ✓ Pilots have to be very careful while flying in bad weather conditions. They must always keep an eye on the radar and be in constant communication with the air traffic control tower.
- ✓ Pilots must be aware of the areas where there is a high risk of bird strikes. They should avoid flying in such areas. Airports should also take measures to keep birds away from the runway.
- ✓ It is important to have proper maintenance and inspection procedures in place so that such problems can be detected and fixed before they lead to an accident.
- ✓ It is important for everyone involved in flying the plane to have clear and concise communication.
- ✓ Groundworkers also play a vital role in ensuring the safety of airplanes. They are responsible for fueling the plane, checking the engine, and loading the baggage.

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