

**Dr. ZAKIR HUSAIN COLLEGE, ILAYANGUDI**  
**DEPARTMENT OF PHYSICS**  
**DATA ANALYTICAL PROJECT**  
**ON**  
**A TRAGEDY OF FLIGHT- A COMPREHENSIVE CRASH ANALYSIS**

Submitted by,

**TEAM ID: NM2023TMID24608**

- |                           |             |                   |
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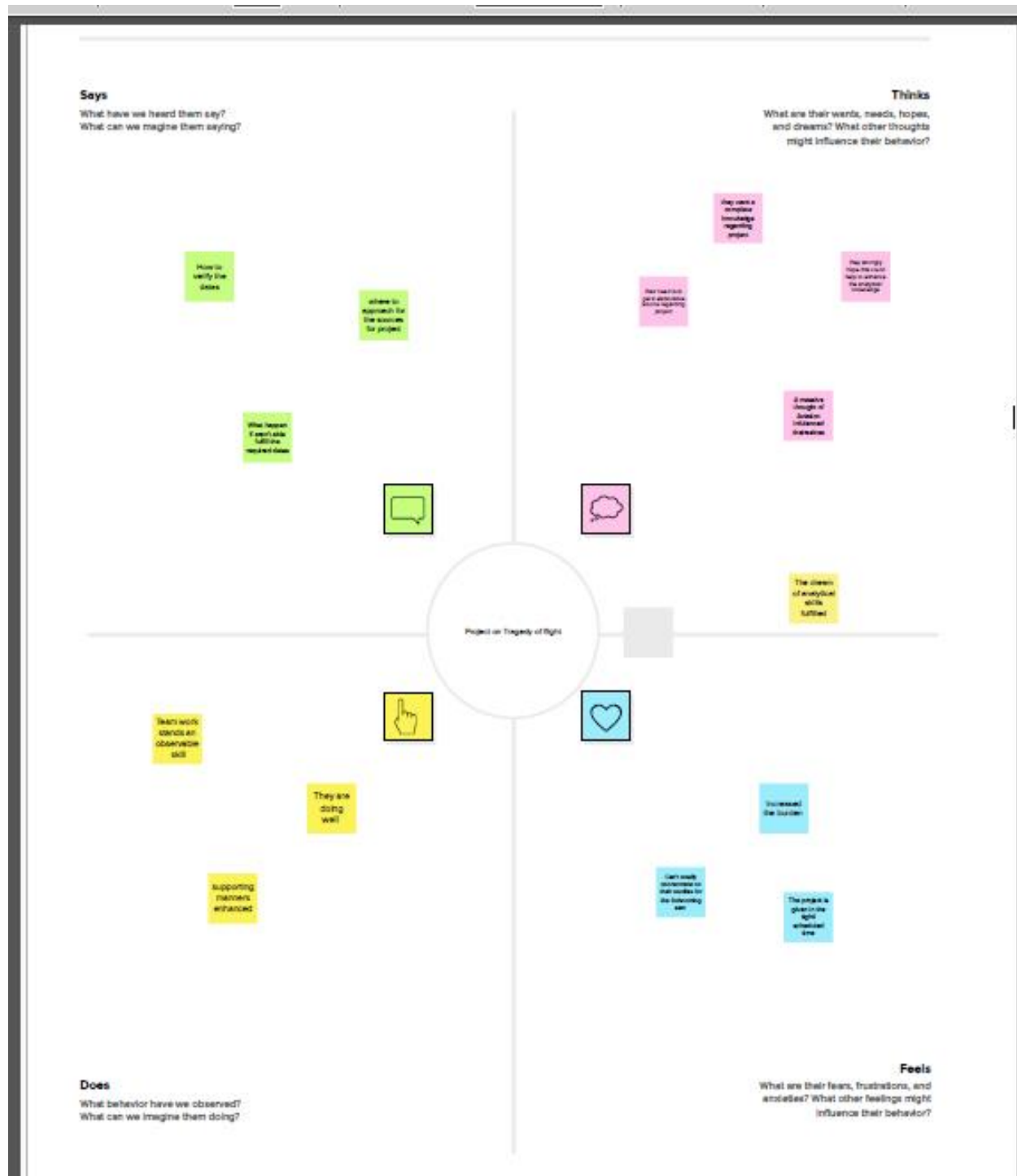
## **1. INTRODUCTION:**

### **OVERVIEW & PURPOSE:**


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.

## 2. PROBLEM DEFINING & DESIGN THINKING

### EMPATHY MAP



## BRAINSTORMING & IDEALISATION



## Brainstorming & idea prioritisation

### Identify your audience

Who is the target audience for your idea? What are their needs and interests? How can you tailor your idea to their needs and interests?

1. Identify the audience  
2. Research the audience  
3. Tailor the idea to the audience

### Identify your problem statement

What is the problem you are trying to solve? What are the symptoms of the problem? What are the causes of the problem? What are the consequences of the problem?

1. Identify the problem  
2. Research the problem  
3. Tailor the idea to the problem

### Brainstorming

Brainstorming is a technique for generating ideas. It involves a group of people brainstorming ideas for a specific problem. The ideas are then evaluated and prioritised.

1. Identify the problem  
2. Research the problem  
3. Tailor the idea to the problem

### Idea prioritisation


Idea prioritisation is a technique for evaluating and prioritising ideas. It involves a group of people evaluating ideas based on their feasibility, desirability, and effort. The ideas are then prioritised based on their score.

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### Brainstorming & idea prioritisation

Brainstorming and idea prioritisation are two techniques for generating and evaluating ideas. Brainstorming is a technique for generating ideas, and idea prioritisation is a technique for evaluating and prioritising ideas. Together, they form a powerful tool for innovation.

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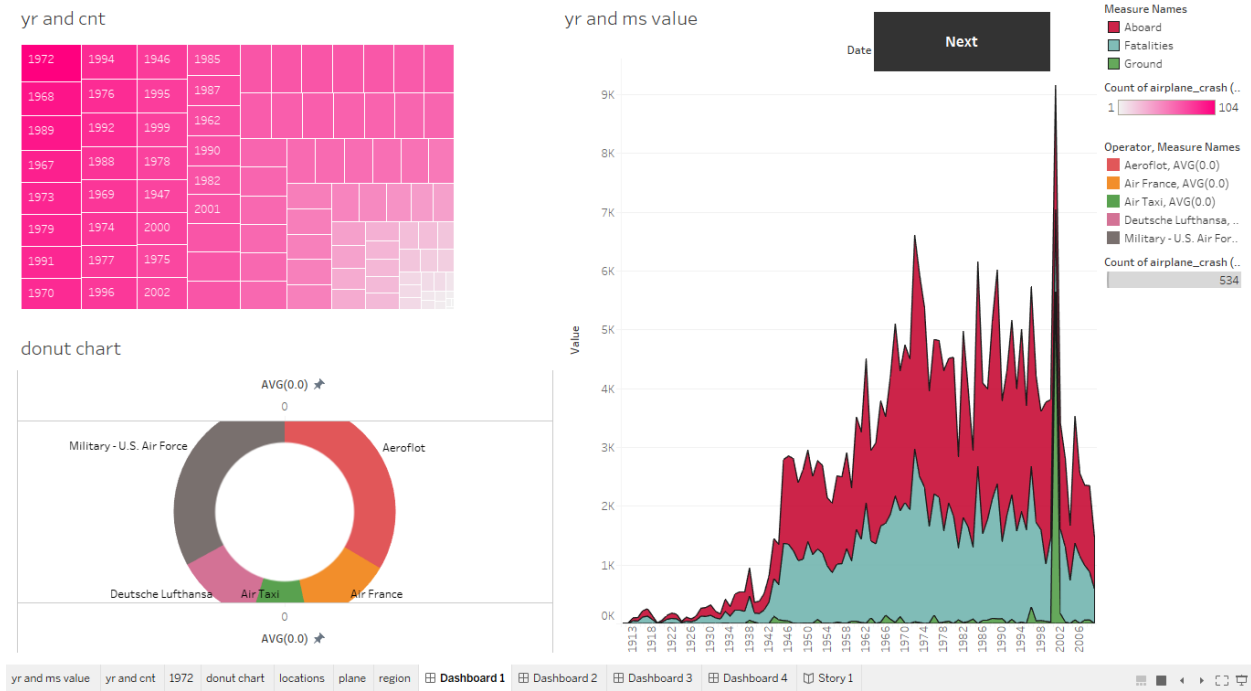
### Brainstorming & idea prioritisation

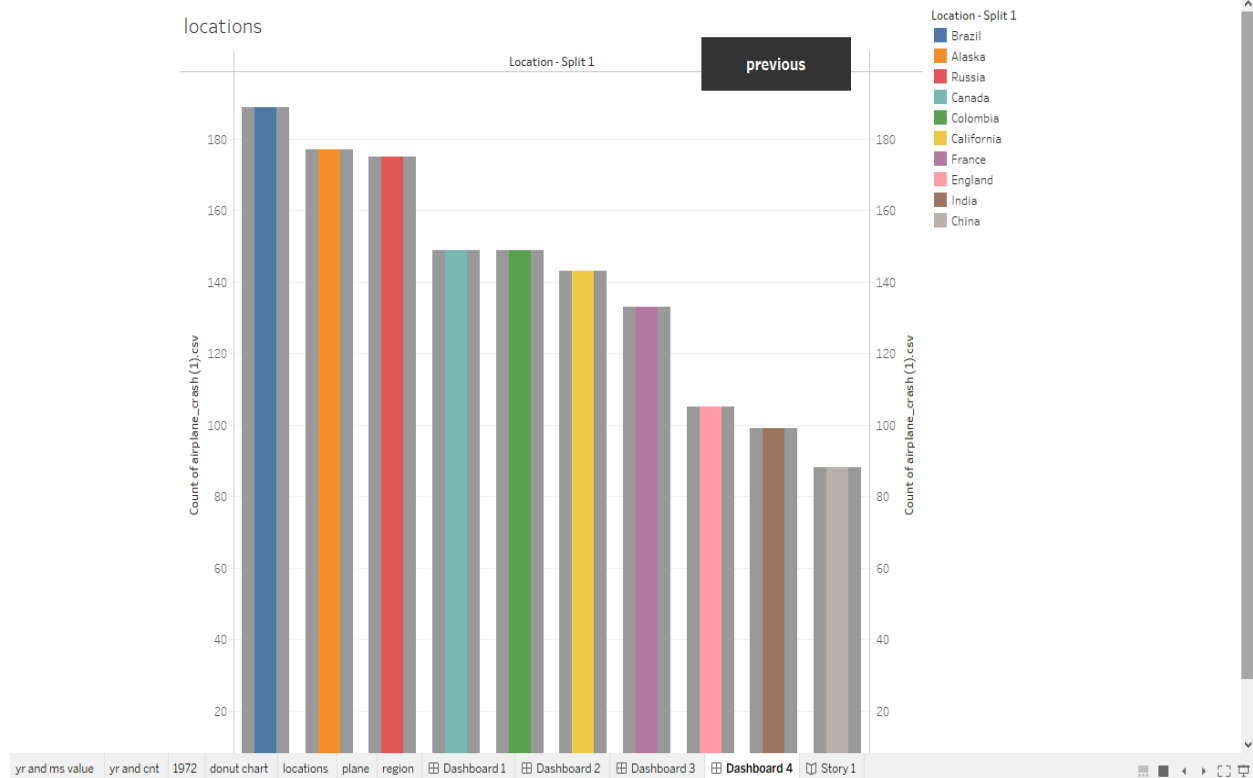
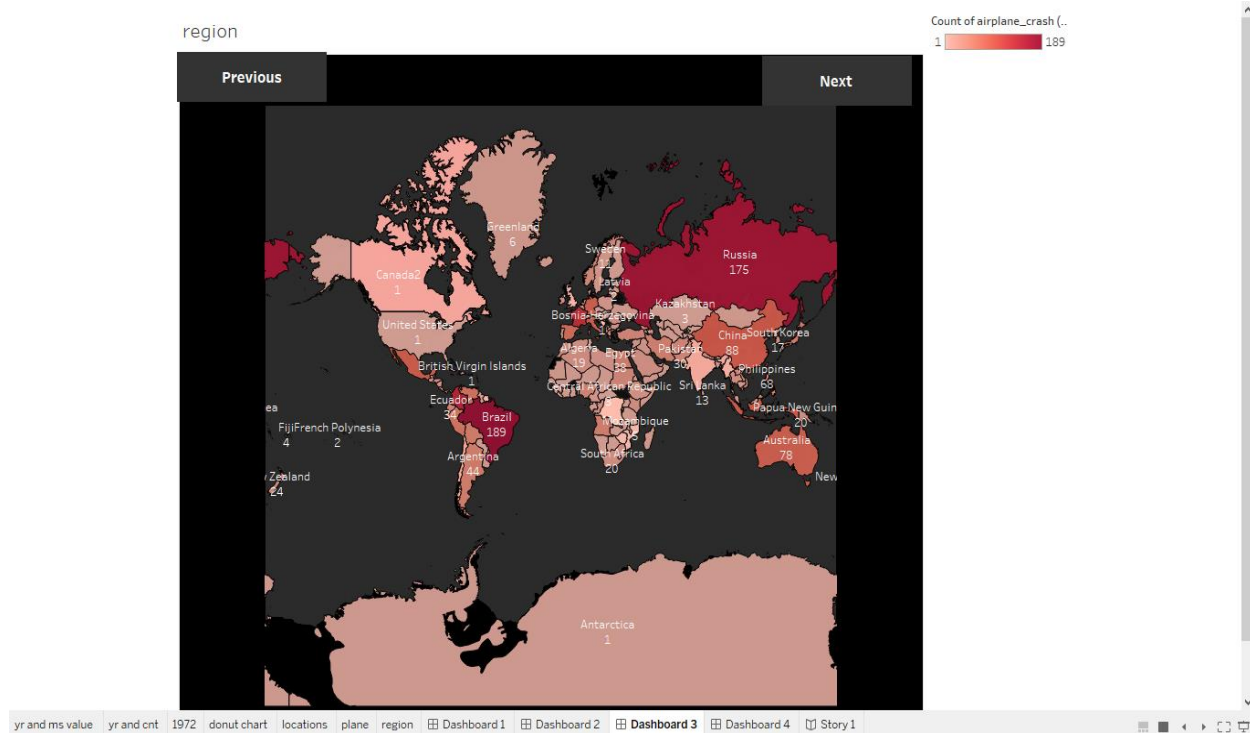
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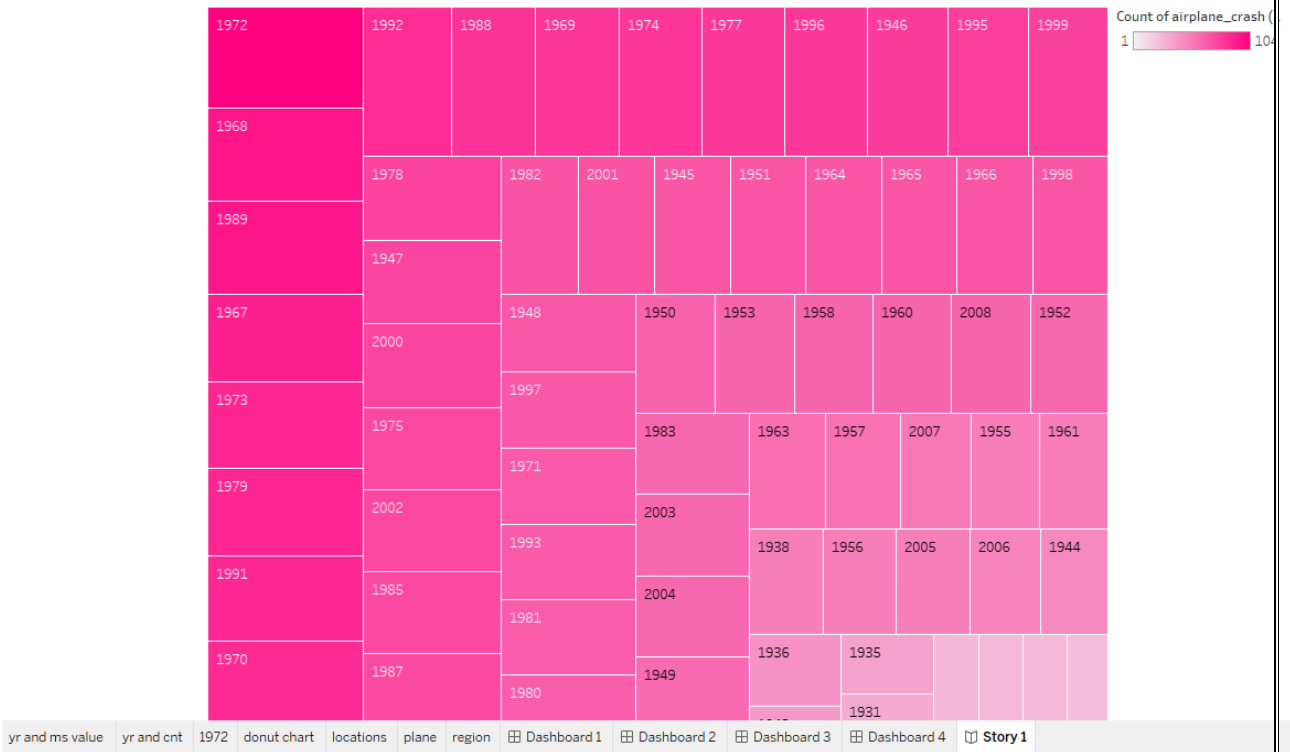
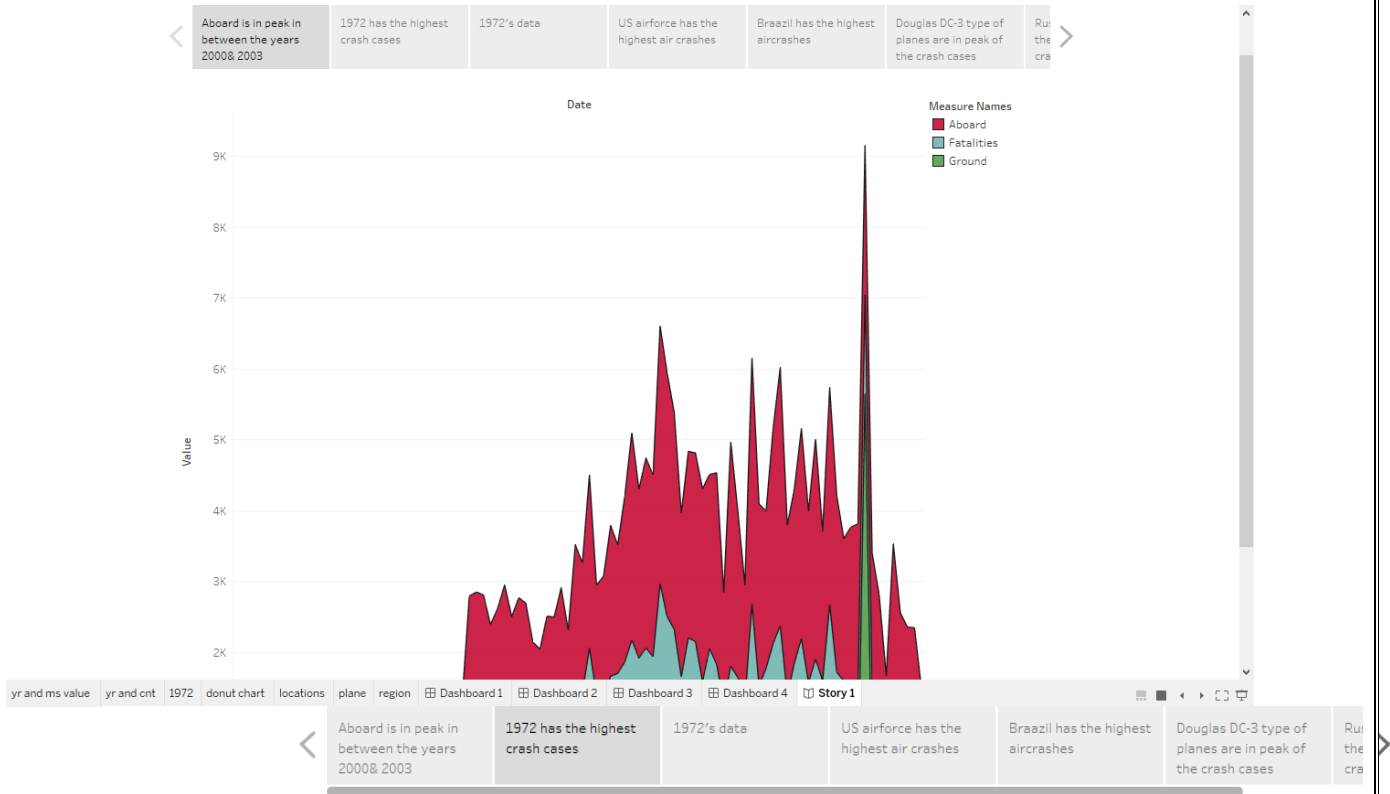
3. RESULTS:

DASHBOARDS:

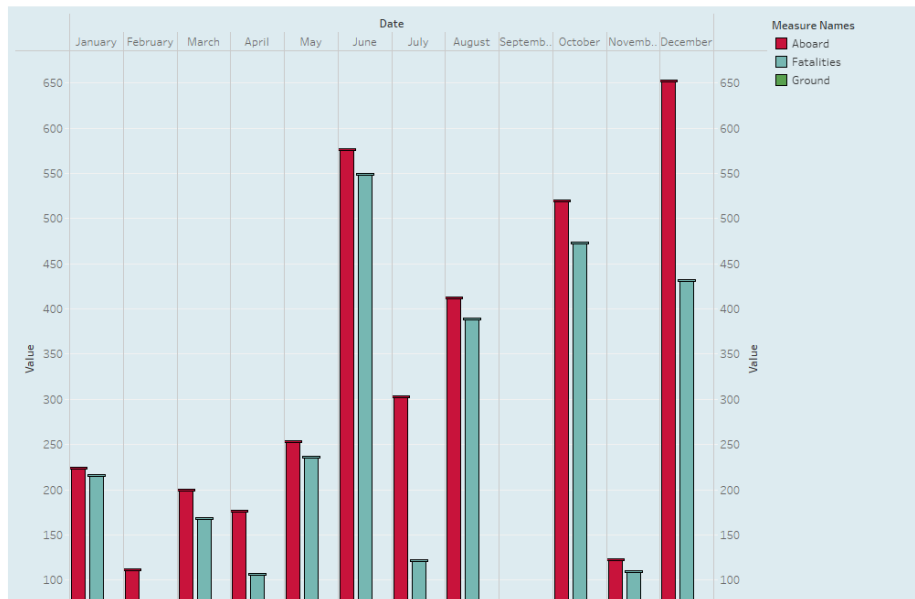




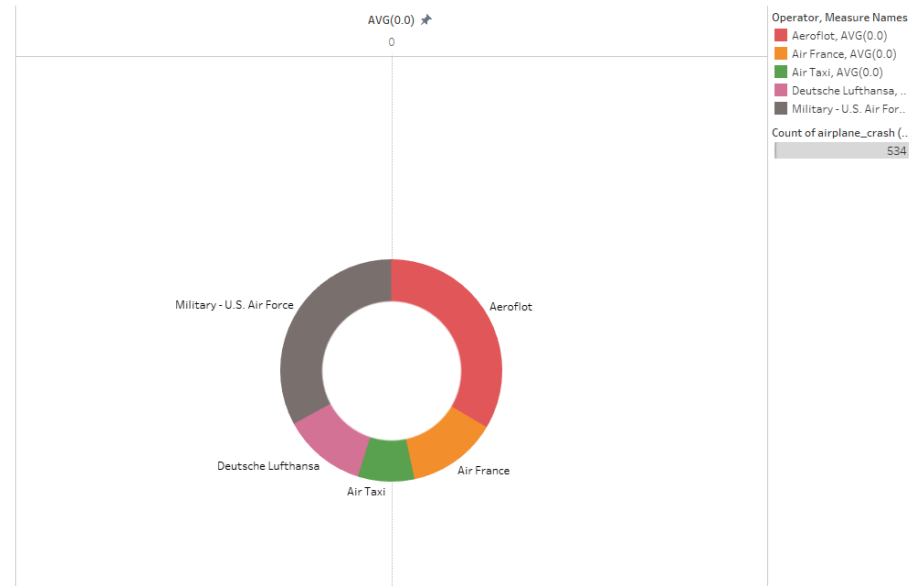
STORIES:



Aboard is in peak in between the years 2000& 2003  
 1972 has the highest crash cases  
 1972's data  
 US airforce has the highest air crashes  
 Brazil has the highest aircrashes  
 Douglas DC-3 type of planes are in peak of the crash cases  
 Run the cra



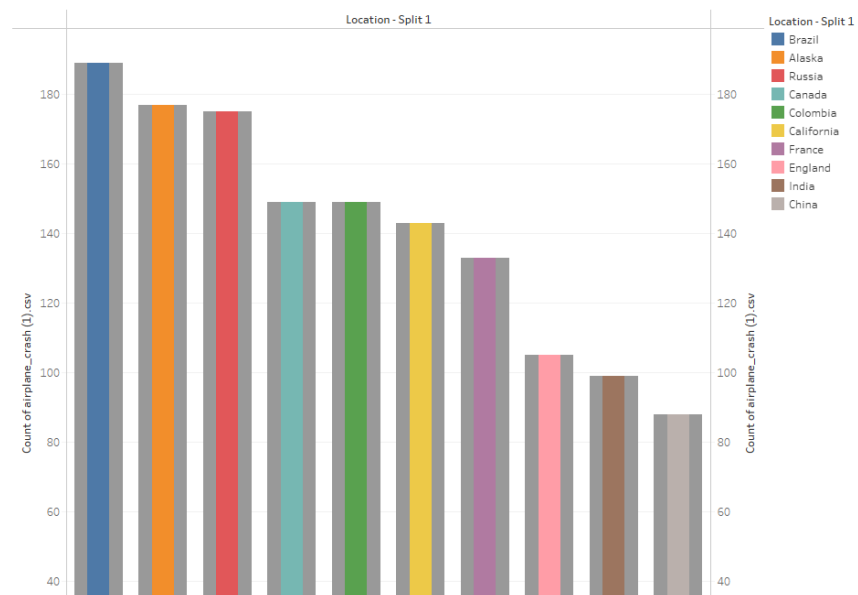
yr and ms value | yr and cnt | 1972 | donut chart | locations | plane | region | Dashboard 1 | Dashboard 2 | Dashboard 3 | Dashboard 4 | Story 1  
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yr and ms value | yr and cnt | 1972 | donut chart | locations | plane | region | Dashboard 1 | Dashboard 2 | Dashboard 3 | Dashboard 4 | Story 1

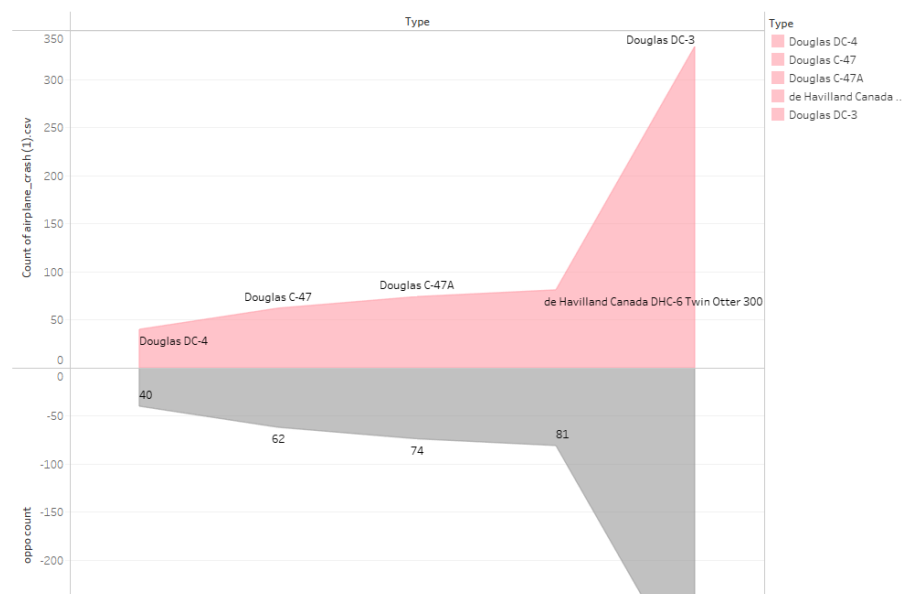


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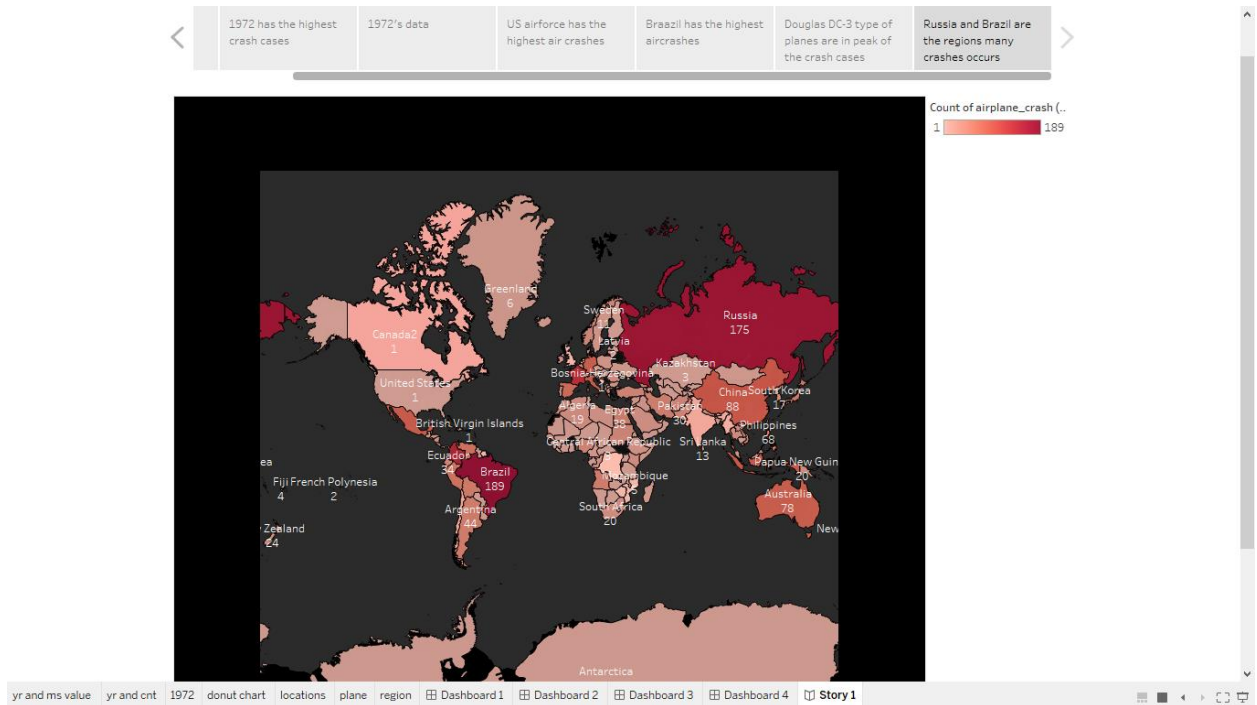


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yr and ms value yr and cnt 1972 donut chart locations plane region Dashboard 1 Dashboard 2 Dashboard 3 Dashboard 4 Story 1



## 4. ADVANTAGES & DISADVANTAGES

### ADVANTAGES:

Airplane crashes negatively impact the financial performance of airlines. In fact, airlines experience a significant stock price drop of 2.17% on the day an airplane crashes, and the price decline remains significant for at least two days after the event . This negative financial impact on airlines also affects national economies and the overall aviation industry. Taking these impacts into consideration, this project aims to discover and analyze correlations for airplane crashes, raise awareness of flight safety, and better understand its problems and progress.

## **5. DISADVANTAGES**

The analyzation of the project took a large amount of time to verify and its a pretty difficult to spend more time on the tightly schedule but its become slightly easy that we have given a data base by the team.

## **APPLICATIONS:**

This project aims to: (1) find some factors that contribute to crashes, (2) analyze patterns of the data collected from all over the world in the past decades, and (3) find replicable solutions for both aviation industry and customers. This paper looks for correlations between crashes and different variables and predicts when crashes are most likely to happen in a year.

The analysis of over 73,000 data points, collected from a subsidiary of Google LLC Kaggle, displays a decrease in the number of airplane crashes and fatalities over the years, an increase in the number of passengers, predictive values for the future years, correlations between different variables, and strong correlations between the occurrence of crashes and the following time variable: yearly, monthly, and daily.

The results found in this project will benefit the ongoing investigations into this important topic. Understanding what factors cause airplane crashes helps aviation industries make continuous improvement in flight safety, and help raise customer confidence with the use of statistical evidence.

## **CONCLUSION:**

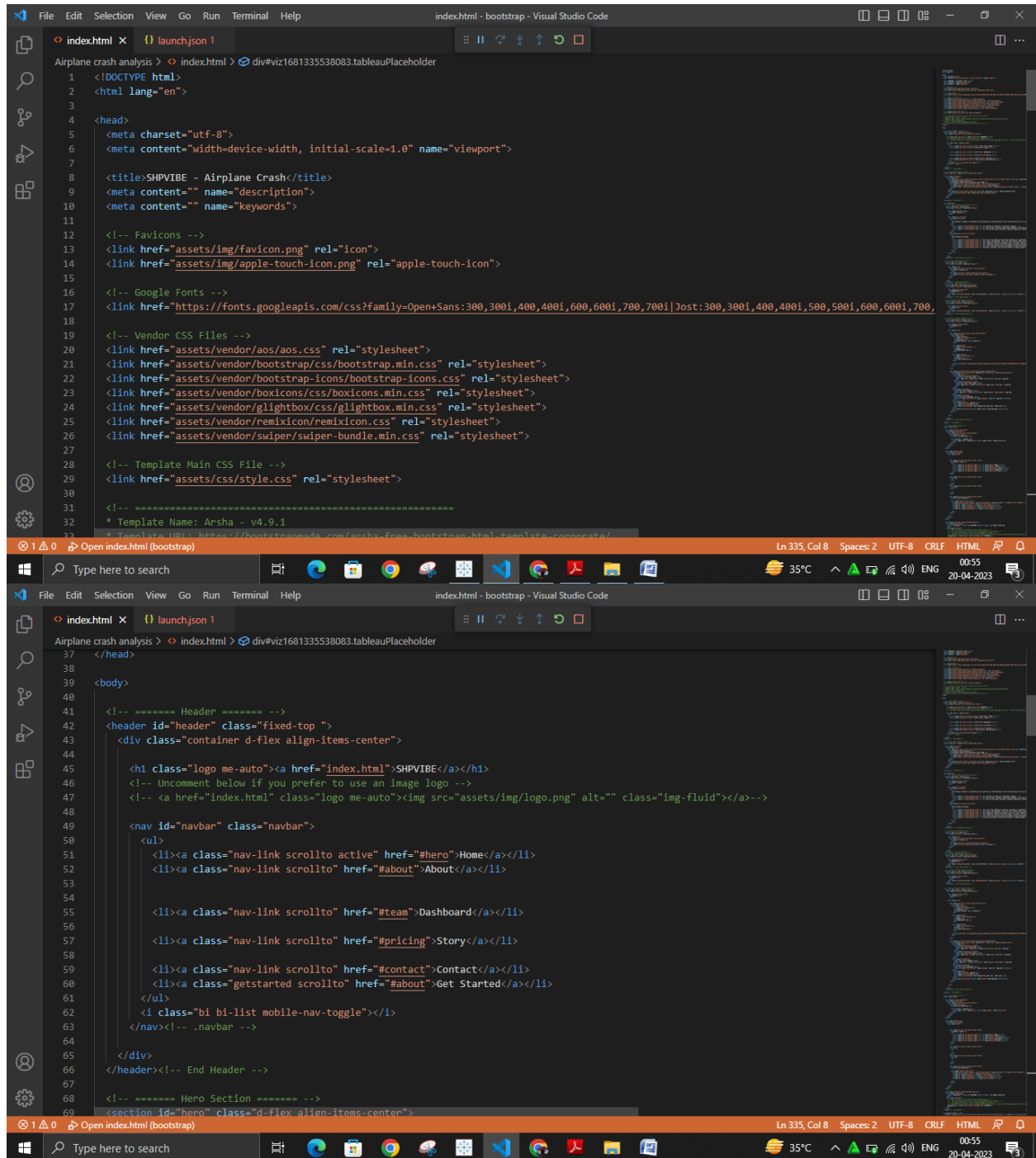
This research has discovered some compelling patterns for airplane crashes. The most prominent finding is that crashes and fatalities have decreased while the number of passengers has increased. Furthermore, patterns on each different variable, such as location, operator, and phase of flight, provide us with deeper insights into the airplane crash patterns.

## **FUTURE SCOPE:**

The main objective of this project is to raise awareness of flight safety and better understand its problems and progress, so that aviation industries can continue to improve. We hope that more information and understanding will lead to industry changes that save lives.

## APPENDIX:

## SOURCE CODE:



```
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="utf-8">
6   <meta content="width=device-width, initial-scale=1.0" name="viewport">
7
8   <title>SHPVIBE - Airplane Crash</title>
9   <meta content="" name="description">
10  <meta content="" name="keywords">
11
12  <!-- Favicons -->
13  <link href="assets/img/favicon.png" rel="icon">
14  <link href="assets/img/apple-touch-icon.png" rel="apple-touch-icon">
15
16  <!-- Google Fonts -->
17  <link href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,400i,600,600i,700,700i|Jost:300,300i,400,400i,500,500i,600,600i,700,700i" rel="stylesheet">
18
19  <!-- Vendor CSS Files -->
20  <link href="assets/vendor/aos/aos.css" rel="stylesheet">
21  <link href="assets/vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
22  <link href="assets/vendor/bootstrap-icons/bootstrap-icons.css" rel="stylesheet">
23  <link href="assets/vendor/boxicons/css/boxicons.min.css" rel="stylesheet">
24  <link href="assets/vendor/glightbox/css/glightbox.min.css" rel="stylesheet">
25  <link href="assets/vendor/remixicon/remixicon.css" rel="stylesheet">
26  <link href="assets/vendor/swiper/swiper-bundle.min.css" rel="stylesheet">
27
28  <!-- Template Main CSS File -->
29  <link href="assets/css/style.css" rel="stylesheet">
30
31  <!-- =====
32  * Template Name: Arsha - v4.9.1
33  * Template URL: https://bootstrapmade.com/apache-freemix-bootstrap-html-template-commerce/
34  * Author: Arsha
35  * License: https://creativecommons.org/licenses/by/4.0/
36  * Copyright: 2023 Arsha
37  </head>
38
39 <body>
40
41  <!-- ===== Header ===== -->
42  <header id="header" class="fixed-top">
43    <div class="container d-flex align-items-center">
44
45      <h1 class="logo me-auto"><a href="index.html">SHPVIBE</a></h1>
46      <!-- Uncomment below if you prefer to use an image logo -->
47      <!-- <a href="index.html" class="logo me-auto"></a> -->
48
49      <nav id="navban" class="navbar">
50        <ul>
51          <li><a class="nav-link scrollto active" href="#hero">Home</a></li>
52          <li><a class="nav-link scrollto" href="#about">About</a></li>
53
54          <li><a class="nav-link scrollto" href="#team">Dashboard</a></li>
55          <li><a class="nav-link scrollto" href="#pricing">Story</a></li>
56          <li><a class="nav-link scrollto" href="#contact">Contact</a></li>
57          <li><a class="getstarted scrollto" href="#about">Get Started</a></li>
58        </ul>
59        <i class="bi bi-list mobile-nav-toggle"></i>
60      </nav><!-- .navbar -->
61    </div>
62  </header><!-- End Header -->
63
64  <!-- ===== Hero Section ===== -->
65  <section id="hero" class="d-flex align-items-center">
```





```
File Edit Selection View Go Run Terminal Help index.html - bootstrap - Visual Studio Code
index.html X launch.json
Airplane crash analysis > index.html > div#viz1681335538083.tableauPlaceholder
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<div class="my-3">
  <div class="loading">Loading</div>
  <div class="error-message"></div>
  <div class="sent-message">Your message has been sent. Thank you!</div>
</div>
<div class="text-center"><button type="submit">Send Message</button></div>
</form>
</div>
</div>
</div>
</section><!-- End Contact Section -->
</main><!-- End #main -->
<!-- ===== Footer ===== -->
<footer id="footer">
  <div class="footer-newsletter">
    <div class="container">
      <div class="row justify-content-center">
        <div class="col-lg-6">
          <h4>Join Our Newsletter</h4>
          <form action="" method="post">
            <input type="email" name="email"><input type="submit" value="Subscribe">
          </form>
        </div>
      </div>
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<div class="footer-top">
  <div class="container">
    <div class="row">
      <div class="col-lg-3 col-md-6 footer-links">
        <h4>Useful Links</h4>
        <ul>
          <li><i class="bx bx-chevron-right"></i> <a href="#hero">Home</a></li>
          <li><i class="bx bx-chevron-right"></i> <a href="#about">About</a></li>
          <li><i class="bx bx-chevron-right"></i> <a href="#portfolio">Charts</a></li>
          <li><i class="bx bx-chevron-right"></i> <a href="#team">Dashboard</a></li>
          <li><i class="bx bx-chevron-right"></i> <a href="#pricing">Story</a></li>
        </ul>
      </div>
      <div class="col-lg-3 col-md-6 footer-links">
        <h4></h4>
        <ul>
        </ul>
      </div>
      <div class="col-lg-3 col-md-6 footer-links">
        <h4></h4>
        <ul>
        </ul>
      </div>
      <div class="col-lg-3 col-md-6 footer-links">
        <h4>Our Social Networks</h4>
      </div>
    </div>
  </div>
</div>
```



