

Project Proposal
Project Title: **FlightShield**

Summary:

[CNBC](#) estimates that more than 50% of Americans do not buy flight insurance for their non-refundable flights while traveling anywhere around the world. Furthermore, passengers who do not rely on booking agents are less likely to opt in for insurance. In the US, there are 330 million people, which means that 165 million of them are in a situation where they might benefit from having flight insurance. Missed flights, canceled trips, and sudden medical issues are a few examples of these situations. In some circumstances, people were also required to pay extra for alternative transportation or lodging in case of missed or delayed flights. Some of the common reasons why people avoid purchasing flight insurance are because they either consider it to be overly pricey, or they assume they won't require it, or they are unaware of what the insurance plan covers.

Now, here in our project we have chosen to target and solve the “they assume they won’t require it” problem statement. We will be tackling this problem statement by utilizing the flight delays data set to predict which flights would be delayed in the future and potentially also suggest to the user whether or not they should be purchasing the insurance based on the predicted probability of their flight being delayed or canceled due to the various unprecedented reasons. We also partially target and suggest other possibilities to the “they either consider it to be overly pricey” problem statement. If the user does not wish to pay for insurance, we also provide them with a personalized list of recommendations of the airlines they should choose to minimize their risk of facing circumstances due to the delays and cancellations.

Description:

Our web application is called FlightShield. It provides users with information regarding their flight, specifically the risk of whether or not their flight might be canceled or delayed, and whether they will require insurance coverage. It also shares some insight into which alternative flights might minimize risk.

Realness:

Our dataset, detailing domestic flight specifics from 2015, originates from Kaggle and is sourced from the U.S. Department of Transportation's Bureau of Transportation Statistics. [The](#) collection, which was handpicked by the teaching staff, includes information on departure and destination points, delay durations in minutes, the airline's name, flight dates, and other relevant flight data from that year.

Usefulness:

Based on our background research, there are no current alternative websites that provide a personalized risk assessment of flights and help customers decide whether to opt in for travel insurance or not.

With our application, travelers will be able to make more informed decisions when it comes to picking travel insurance. This application is primarily aimed at passengers looking to travel on a budget who generally either pick the cheapest possible travel insurance, which may not have sufficient coverage, or forgo it altogether. With the help of our application, travelers will be able to decide the importance of trip protection on their journey. The application will also empower customers to make their own decision based on research instead of relying on middlemen like flight booking agents.


In summary, we hope to provide a convenient and data-driven risk analysis platform without bias for travelers to have more transparency in their potential travel plans. If this application is successful, it could also be potentially upscaled and applied to other forms of insurance, such as property protection.

Creative component :

"Flightshield" is a web tool designed to assess the risk of flight delays or cancellations, empowering users to make informed decisions before booking. Users input their travel details, The application then provides a ranked list of flights, each with a percentage indicator highlighting its historical punctuality. The rankings are derived from a comprehensive dataset tailored to the user's specified travel details. We do this by querying the dataset for the flight details, filtering based on the user's travel information on our backend. A notable feature is the "Risk Meter," a visual gauge of delay likelihood, activated only when significant historical delays are associated with the chosen route. Also, we would add a static pie chart which offers users a glimpse into the on-time performance distribution among airlines, enhancing their understanding of the flight landscape.

Functionality:

We have designed some lo-fi mockups of how we want our website to look once we implement it.

FLIGHTSHIELD

HOMEABOUTINSIGHTCONTACT US

CHECK IF YOU NEED COVERAGE FOR YOUR FLIGHT TODAY!

☒ SINGLE TRIP ☐ ROUND TRIP

ORIGIN
ORIGIN AIRPORT

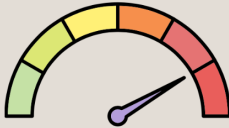
DESTINATION
DESTINATION AIRPORT

DEPART
DEPARTURE DATE

RETURN
RETURN DATE

PREDICT

FLIGHT SCHEDULE RISK METER




82%

YOUR RISK LEVEL: HIGH

GET INSURED NOW!

DON'T WANT TO PURCHASE INSURANCE? CHECKOUT OUR INSIGHTS SECTION!

This is the site landing page, which prompts the user for their flight details. Based on this data and the result from the backend query, we display the risk meter associated with the flight, and a percentage value depicting the likelihood of flight delay, cancellation or other risks. The "Get Insured Now" button advises the user to purchase insurance.

FLIGHTSHIELD




HOMEABOUTINSIGHTCONTACT US

SHIELD YOUR FLIGHT TRIP

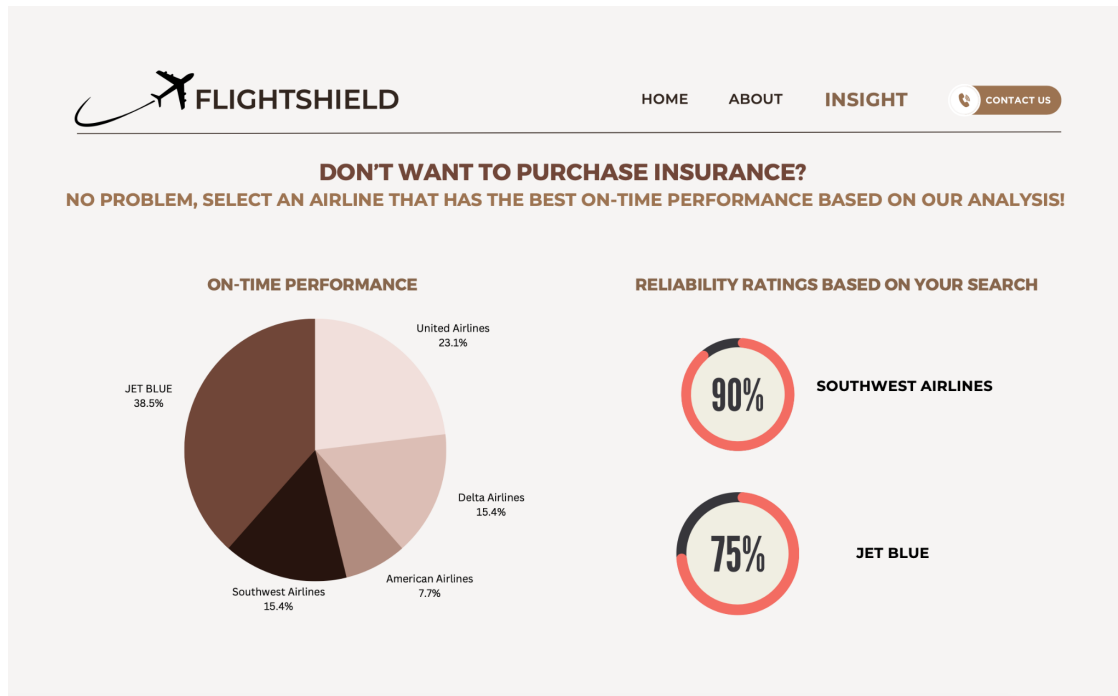
BY USING OUR FLIGHT DELAY ANALYSIS AND PREDICTOR

Travel insurance provides peace of mind, protecting you against unexpected events like trip cancellations, medical emergencies, and lost luggage. Many people skip it, assuming they won't need it or that it's too expensive. But the truth is, the unexpected can happen to anyone. Having travel insurance ensures you're prepared for the unexpected, allowing you to enjoy your trip worry-free.

We get it, premiums are high. But don't skip it and don't leave it to chance – find out just how much coverage you need today, with the help of our wonderful insights.



This is the 'About' page which explains to the users what our application is all about, what is the problem we are trying to solve, and how we are going about it. It mainly helps the user get a better sense of understanding into the "why" of the application.



Finally, we have the 'Insight' page that includes our creative components. We have a pie chart depicting the airlines with the best on-time performance, and we have a reliability rating system that shows users alternatives to their current chosen airlines and trip. We plan on conveying all of this information visually through the use of elements like charts and percentages.

Work Distribution: (Subject to change)

Our team plans to split the work evenly between members. We foresee the majority chunk of work falling into the following categories:

- | | |
|---|---------------------|
| - Building Database: | Mukta and Dhritiman |
| - Backend (querying database, calculating results): | Mukta and Dhritiman |
| - Creating visualizations: | Aruna, Sumeet |
| - Frontend (designing website interface): | Aruna, Sumeet |