

Pick the best times to fly using our application!

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Introduction

Objective

Users have the ability to search the five worst days to fly each month. After entering the desired month, the system retrieves and displays the top five days with the highest total count of departure delays and cancellations.

Result

Users can make informed decisions, helping them avoid potential disruptions on the specific days of the month.



Database Keyword Search

- User enters a month (1-12)
- Database presents the top five days within the specified month
- Results are presented with the month and day, total number of flights, and the combined count of departure delays and cancellations
- Organized in descending order from combined count, allowing users to quickly find days with the highest potential for travel disruptions



CRUD Operations



Create

Users can create a new rating for an airline by providing their userID, the airline's IATA code, and their userRating



Read

Users can view the IATA code and name of each airline along with the corresponding user ratings



Update

Users can update their rating for a specific airline and the system will adjust the userRating value



Delete

Users can delete their rating for a specific airline and the system will remove the proper record

The slide features a blue background with white, fluffy clouds at the top and dark blue bird silhouettes in flight. The main title is centered at the top in a large, bold, orange font.

Advanced Database Program

Trigger

Ensures that no duplicate usernames are inserted into the Users table. If a new record is inserted with a username that already exists, the trigger will prevent the insertion and return an error message indicating that the username already exists.

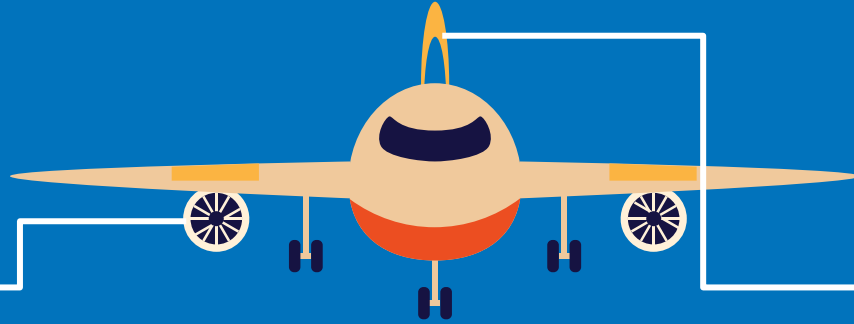
Stored Procedure

Analyzes the flight delay data to rate airports based on their reliability (delay times) and identifies the most reliable destination airport from various origins. This information can be crucial for airlines, airport authorities, and travelers to understand delay patterns and make informed decisions.

Creative Component

Query

Retrieve data related to flight delays and cancellations for a specific user-inputted month



Bar Chart

Bar chart visualizing the results of the query with month on the x-axis and the counts of departure delays and cancellations on the y-axis

The background is a solid blue sky. In the top-left corner, there is a large, stylized yellow cloud with a wavy orange border. In the top-right corner, there is a large yellow sun partially obscured by a smaller yellow cloud. In the bottom-left and bottom-right corners, there are more stylized yellow clouds. Three dark blue birds are flying in the sky: one in the upper-middle, one on the left, and one on the right. The word "DEMO" is centered in the middle of the image in a bold, yellow, sans-serif font.

DEMO

Database Design & Application Optimization



Data Types

Using DATE or DATETIME types (instead of VARCHAR) ensures that the data is consistently formatted and interpreted



Security

Encrypting passwords during transmission is important and using strong hashing algorithms to store passwords in the database



Error Handling

Including user input validation when handling invalid or unexpected user inputs

Challenges



GCP Failure

**Learning
Workbench**

**Uploading
Data**

**Connecting
Flask**

**Database
Server
Connection**

Deadlines



The background is a vibrant blue sky. In the top left, there are white, stylized clouds. In the top center, there are more white clouds. In the top right, a large, orange palm tree with green fronds is partially visible. In the bottom left, there are white clouds with a small orange bird flying above them. In the bottom right, there are more white clouds. Two small, dark blue birds are flying in the sky, one near the top left and one near the bottom right.

NoSQL Option

- MongoDB
- User Activity Logs: stores user interactions with the system, such as search queries, viewed flights, and other user actions
- User Preferences: records individual user settings and preferences, like preferred seating, meal choices, notification settings, etc



Project Links:

1. Github:

<https://github.com/cs411-alawini/fa23-cs411-team103-pinkpurple/tree/main>

2. Presentation:

<https://docs.google.com/presentation/d/18dPib7GbwGctzVXWLJ1yR84f1Q-75pSlZvynzL5cYHs/edit?usp=sharing>



THANK YOU!