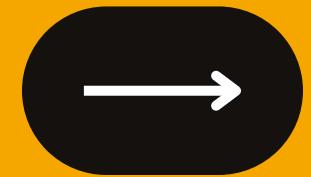


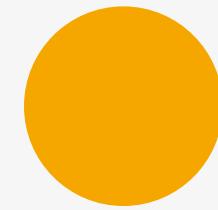
TEAM NAME: BLUES

MEGHA ARORA
SHREYA GUPTA

SKYHACK

2.0





INTRODUCTION

United Airlines is committed to delivering world-class customer service. Call centers are a key touchpoint, handling everything from inquiries to service requests. However, we face challenges in optimizing our operations, specifically in improving key performance metrics such as Average Handle Time (AHT) and Average Speed to Answer (AST).

Our Goals at a Glance

United Airlines' call center faces challenges with long Average Handle Time (AHT) and Average Speed to Answer (AST), impacting both efficiency and customer satisfaction.

1

Analyze factors contributing to extended AHT and AST.
Identify the key differences between the most and least frequent call reasons in terms of AHT.

2

Analyze call transcripts and reasons to pinpoint self-solvable issues that escalate unnecessarily to agents, and propose improvements to IVR options.

3

Categorize primary call reasons to streamline processes and ensure efficient resource allocation.

Methodology

1

Performed data cleaning and preprocessing in Python to ensure consistency and accuracy in data.

2

Datasets were merged using joins and group by functions to consolidate information from different sources.

3

Used mathematical calculations to find the Average Handle Time (AHT) and Average Speed Time (AST) for deeper insights.

4

Analyzed various call reasons for the delay in AHT and AST

Methodology

5

Analyzed transcripts and call reasons to identify granular reasons associated to recurring problems via NLP preprocessing techniques.

6

Analyzed the dataset to uncover patterns that can assist in understanding and identifying primary call reasons

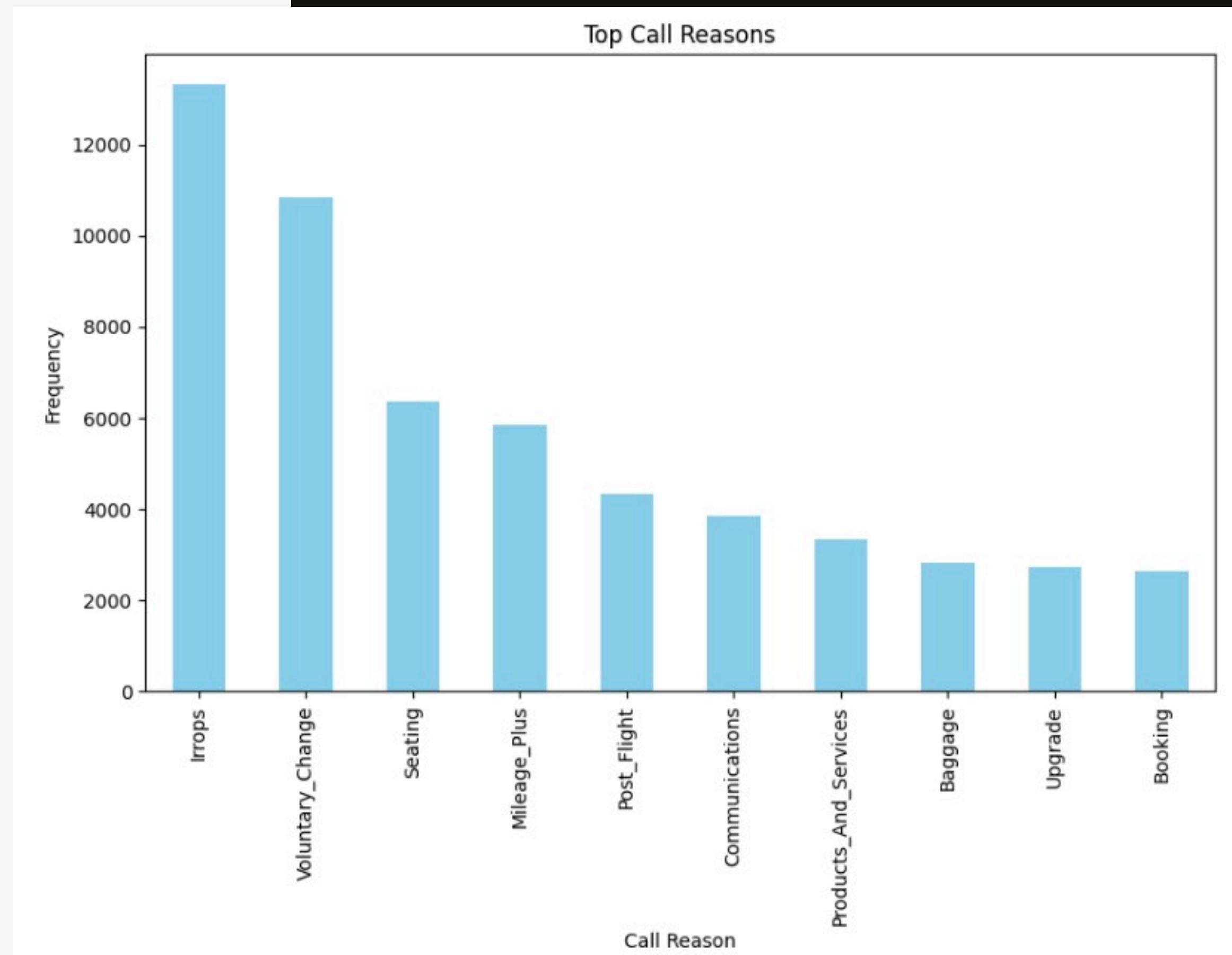
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To accurately categorize the call reasons, we utilized Doc-2-Vec for vectorizations and Random Forest model for prediction.

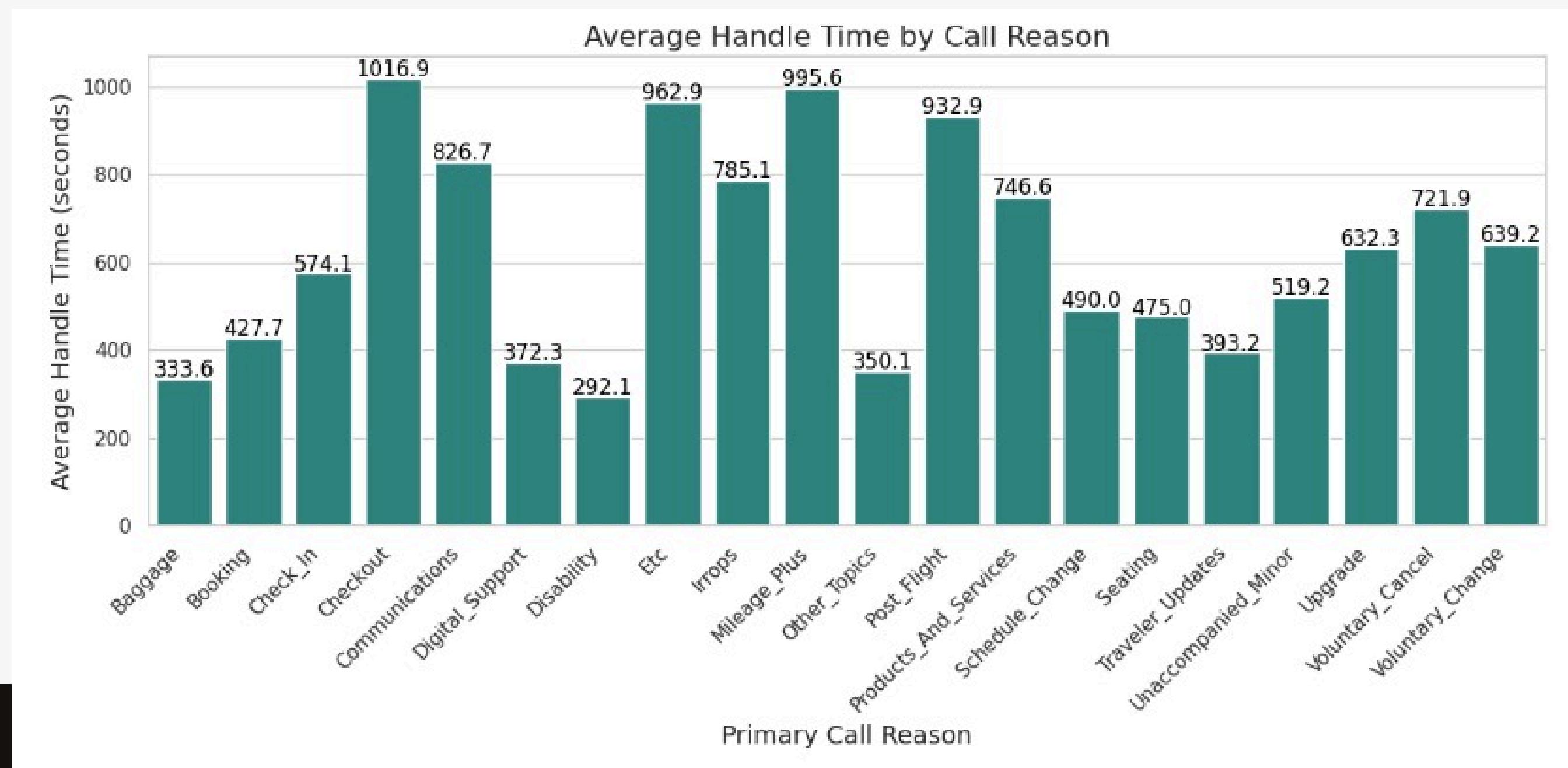
8

Finally, the model performance was evaluated using test data.

The following bar chart shows the top call reasons along with their frequencies



The following bar plot shows the average handle time by call reason. The percentage difference in Handle Time for the most frequent and least frequent call reason is 51.21%.



Proposed Improvement to the IVR System

1 Enhanced Self-Service Option

2 Dynamic FAQs

3 Personalized Call Paths

4 Intelligent Call Routing

5 Integration with Chatbots

Primary Reasons that can be Automated

Booking

Automating flight bookings allows customers to make reservations quickly and efficiently without agent assistance.

Baggage

Self-service options for baggage inquiries enable customers to track their luggage status and report issues.

Check-In

An automated check-in process empowers customers to complete their check-in, reducing call volume for agents.



Thank you!