OPTIMIZING FLIGHT BOOKING DECISIONS THROUGH MACHINE LEARNING PRICE PREDICTIONS

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# 1. Introduction

## 1.1 Overview

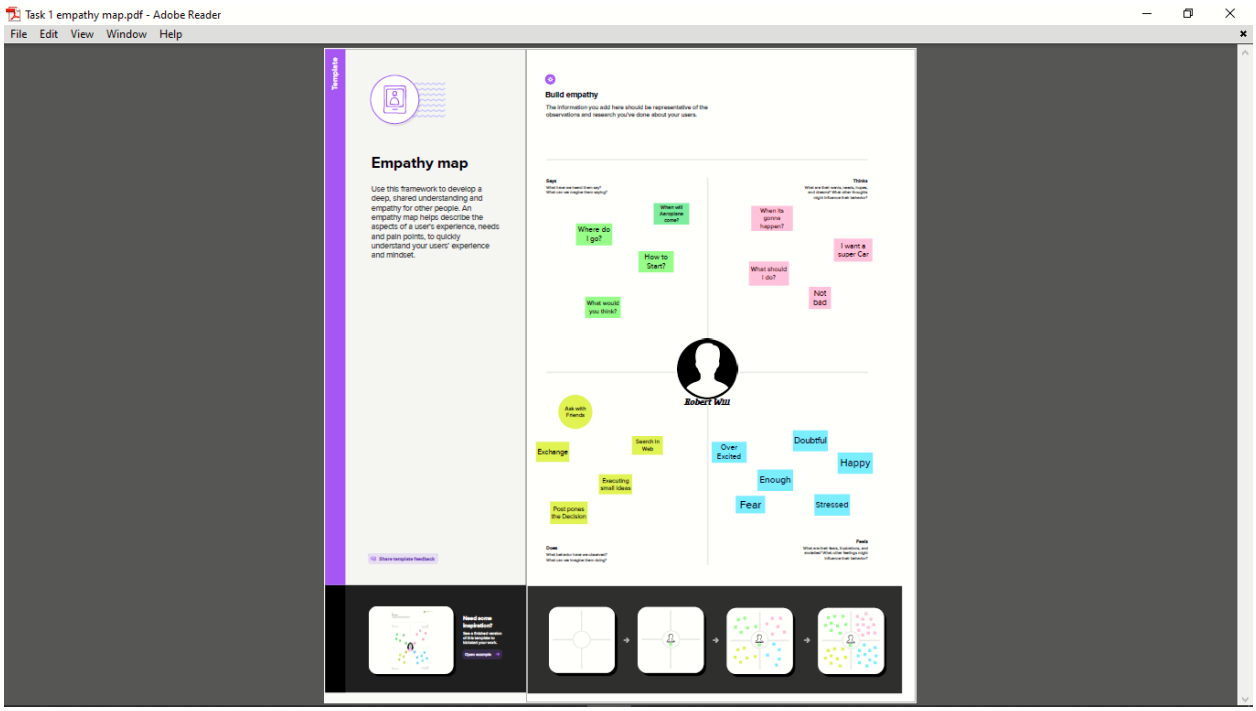
In this article, we will be **analyzing the flight fare prediction using Machine Learning dataset** using essential exploratory data analysis techniques then will **draw some predictions about the price of the flight based on some features** such as what type of airline it is, what is the arrival time, what is the departure time, what is the duration of the flight, source, destination and more

## 1.2 Purpose

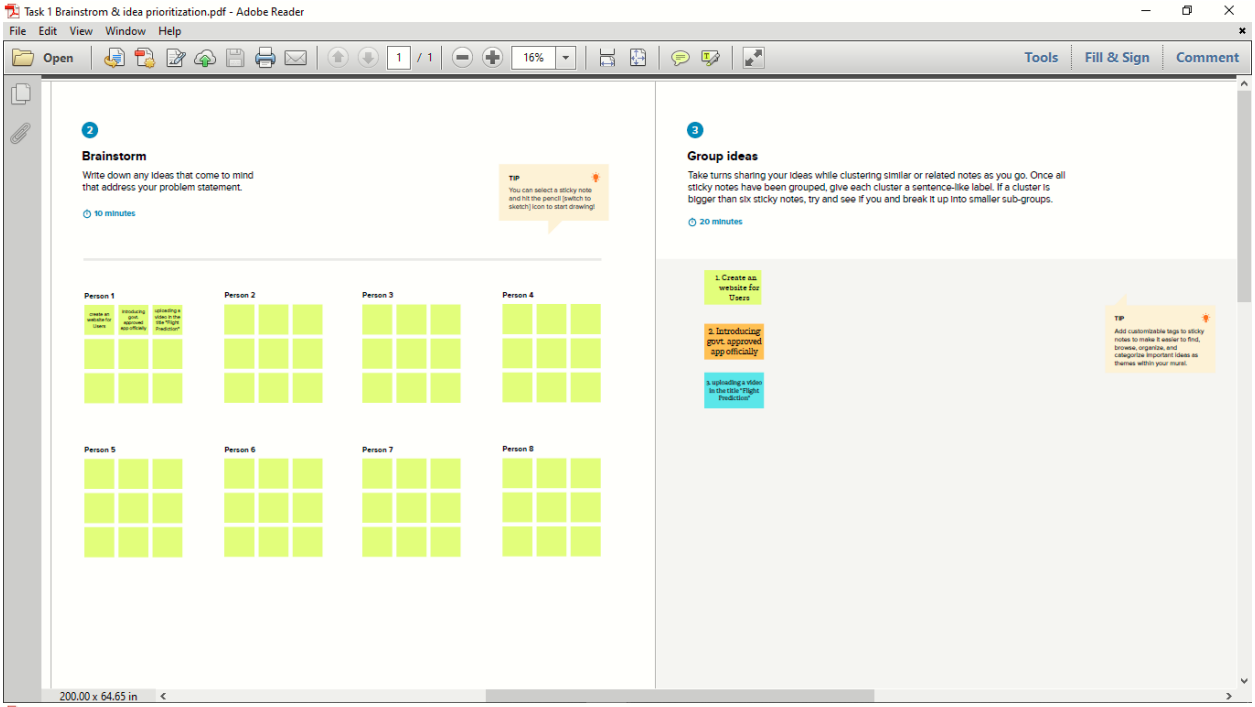
The main purpose of our System is to predict the flight prices with comparison of today to another any day because of this customer can be book their tickets of Flight according to their comfortably, according to their affordability, Means whichever cheaper cost they want they can be easily choose .

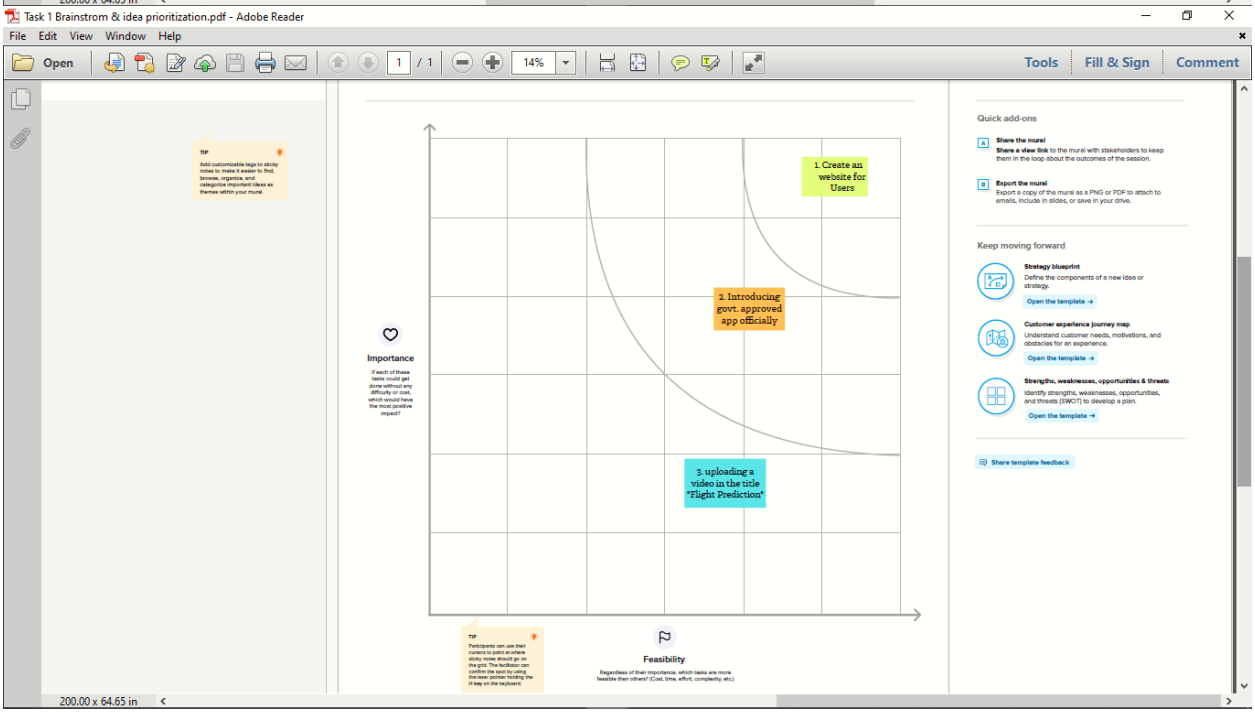
# 2. Problem Definition & Design Thinking

## 2.1 Empathy Map




# 2.2 Ideation &Brainstorming Map




# 3. RESULT

## Final Findings

# 4. ADVANTAGES & DISADVANTAGES

### Advantages

- Travelers  get the fare prediction handy using which it's easy to decide the airlines.
- Saves time in searching / deciding for airlines.

### Disadvantages

- Improper data will result in incorrect fare predictions.

# 5. APPLICATIONS

# 6. CONCLUSION

Three machine learning models were examined in this case study to forecast the average flight price at the business segment level. We used training data to train the training data and test data to test it. These records were used to extract a number of characteristics. Our suggested model can estimate the quarterly average flight price using attribute selection strategies.To the highest possible standard, much prior studies into flight price prediction using the large dataset depended on standard statistical approaches, which have their own limitations in terms of underlying issue estimates and hypotheses. To our knowledge, no other research have included statistics from holidays, celebrations, stock market price fluctuations, depression, fuel price, and socioeconomic information to estimate the air transport market sector; nonetheless, there are numerous restrictions.As example, neither of the databases provide precise information about ticket revenue, including such departing and arrival times and days of the week. This framework may be expanded

# 7. FUTURE SCOPE

In the future to also include airline tickets payment details, that can offer more detail about each area, such as timestamp of entry and exit, seat placement, covered auxiliary items, and so on. By merging such data, it is feasible to create a more robust and complete daily and even daily flight price forecast model. Furthermore, a huge surge of big commuters triggered by some unique events might alter flight costs in a market sector. Thus, incident data will be gathered from a variety of sources, including social media sites and media organizations, to supplement our forecasting models. We will also examine specific technological Models, such as Deeper Learning methods, meanwhile striving to enhance existing models by modifying their hyper-parameters to get the optimum design for airline price prediction.

# 8. APPENDIX