iNeuron

# Architecture Design
# Flight Ticket Price Prediction

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Document Version control

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| 20/12/2022 | 1.0 | Introduction, What is an Architecture Design Document?,What is Scope? | Varun Salunkhe |
| 3/1/2023 | 1.1 | Technical specifications, About Dataset, Content, About this File | Saurabh Jumnalkar |
| 15/1/2023 | 1.2 | Logging, Technology stack | Saurabh Jumnalkar |
| 28/1/2023 | 1.3 | User I/O workflow | Sourabh Hawale |
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# ABSTRACT

For purchasing an airplane ticket, the traditional purchase approach is to buy a ticket far in advance of the flight's departure date to avoid the risk that the price may increase quickly before the date of departure. However, this is not always the case; if airline corporations wish to increase sales, they can lower prices. Airlines employ a variety of factors to decide flight ticket rates, including whether the trip is around the holidays, the quantity of available seats on the plane, and even the month. Some of the variables can be seen, while others are hidden. In this context, customers are attempting to discover the best day to purchase a ticket, while airline firms, on the other hand, are attempting to maximize overall revenue.


# 1. INTRODUCTION

## 1. What is an Architecture Design Document?

Any software needs an architectural design to represent the design of the software, IEEE defines architectural design as "the process of defining a collection of hardware and software components and their interfaces to establish the framework for the development of a computer system." The software that is built for computer-based systems can exhibit one of these many architectures.

Each style will describe a system category that consists of:

A set of components (ex: a database, computational modules) that will perform a function required by the system.

The set of connectors will help in coordination, communication, and cooperation between the components.

Conditions that how components can be integrated to form the system.

Semantic models help the designer to understand the overall properties of the system.

2. What is Scope?

Architecture Design Document (ADD) is an architectural design process that follows a step-by-step refinement process. The process can be used for designing data structures, required software architecture, source code, and ultimately, performance algorithms. Overall, the design principles may be defined during requirement analysis and then refined during architectural design work.

# 2. TECHNICAL SPECIFICATIONS

## 2.1 About Dataset

Flight ticket prices can be something hard to guess, today we might see a price, check out the price of the same flight tomorrow, it will be a different story. We might have often heard travelers saying that flight ticket prices are so unpredictable. As data scientists, we are gonna prove that given the right data anything can be predicted. Here you will be provided with prices of flight tickets for various airlines between the months of March and June of 2019 and between various cities.

## 2.2About this File

- Size of test set: 2671 records
- FEATURES: Airline: The name of the airline.
- Date_of_Journey: The date of the journey
- Source: The source from which the service begins.
- Destination: The destination where the service ends.
- Route: The route taken by the flight to reach the destination.
- Dep_Time: The time when the journey starts from the source.
- Arrival_Time: Time of arrival at the destination.
- Duration: Total duration of the flight.
- Total_Stops: Total stops between the source and destination.
- Additional_Info: Additional information about the flight
- Price: The price of the ticket

### 2.3 Logging

We should be able to log every activity done by the user.

- The System identifies at what step logging required
- The System should be able to log each and every system flow.
- Developers can choose logging methods. You can choose database logging/File logging as well.
- The system should not be hung even after using so many loggings. Logging is just because we can easily debug issues so logging is mandatory to do.

## 3. TECHNOLOGY STACK

| | |
|---|---|
| Front End | Html, CSS, Javascript |
| Backend | Flask |
| Deployment | Local host |

# 4. USER I/O WORKFLOW