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| High Level Design (HLD) |
| Flight Fare Prediction |
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| **Writing on:** |
| **11/25/2022** |

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**Document Version Control**

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| Date | Version | Description | Author |
| 25/11/2022 | **1.0** | **Initial HLD-V1.0** | **Shripad Garat** |
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# Abstract

Travelling through flights has become an integral part of today’s lifestyle as more and more people are opting for faster travelling options. The flight ticket prices increase or decrease every now and then depends on various factors like timing of the flights, destination, and duration of flights various occasions such as vacations or festive season. Therefore, having some basic idea of the flight fares before planning the trip will surely help many people save money and time.

1. **Introduction** 
   1. Why this High-Level Design Document?

The purpose of this HLD Document is to add the necessary detail to the current project description to representation a suitable model for coding. This document is also intended to help predict the fair of flight for trip prior to coding, and can be used as a refrence manual for how the modules interact at a high level.

The HLD will:

* Present all the design aspects and define them in detail.
* Describe the user interface being implemented
* Describe the performance requirements
* Include design features and the architecture of the project
* List and describe the non-functional attributes like:

Security

Reliability

Maintainability

Portability

Reusability

Application compatibility

Resource utilization

Serviceability

* 1. Scope

The HLD documentation present the structure of the system, such as the database architecture, application architecture(Layers), application flow(Navigation), and technology architecture, application architecture. The HLD uses non-technical to mild-technical terms which should be understandable to the administrators of the system.

* 1. Definitions

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| --- | --- |
| Term | Description |
| IDE | Integrated Development Environment |
| AWS | Amazon Web Services |

1. **General Description** 
   1. Product Perspective

The Faire Prediction Application solution system is a Regression-base faire prediction model which help user to predict the fair of flights tickets.

* 1. Problem Statement

To create an ML-based solution for Faire Prediction for flight ticket.

* 1. Proposed Solution

The proposed solution here is regression based application can be implement to perform above use cases. In the application, the user will able to predict the faire of the flight ticket with respect to different scenario. With respect to this scenario the application will able to predict the fair of the Flight Ticket.

* 1. Data Requirement

Data requirement to build the system should have

* Basic details about airlines, journey date, path, price, ect.
* With minimum instances of 10000
* Good to have balance and clean data.
  1. Constraints

The ticket price predictor application system must be user friendly and user should not need to know about anything from working.

* 1. Assumptions

The main objective of project is to build a system solution that is capable of predicting the data price of the flight wit respective different scenario. And we are using regression ML based model for the same. And based on the input given by the user should able to predict the price of ticket.

1. **Design Details**
   1. Process Flow

For predicting the fair price of the airlines ticket, we will use a Regression based model.

Below is process flow diagram.

Tuning and validation

Testing

Data Extraction

Data Validation

Data Transformation

Model Selection

Deployment

* 1. Event Log

System should log every event so that the when something went wrong we can check it using log documentation.

Initial Step-By-Step Description:

* The system should have logging where it is required.
* The System should be able to logging each and every system flow.
* System should not hang even after using so many logging.
  1. Error Handling

System should be able to handle the exception and error and should not get crash due to them. And system should be able to print or pop the alert message regarding the error.

1. **Conclusion**

The Flight ticket price prediction system will predict the price of the flight on the bases of given scenario and data. And will log all the events and flow of the system. And the system will capable of handling the errors. This system will help user to plan there trip and predict the fair of flight ticket for their journey.