High Level Design (HLD)

High Level Design (HLD)

Credit Card Default Prediction

Revision Number – 1.0

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**ARYA DIXIT**

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High-Low Level Designing (LLD)(HLD)

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High Level Design (HLD)

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**Abstract**

Our aim is to develop a Machine learning model and testing the model by using the data in relating to previous 6 months payment behaviour which is behavioural data and personal information which is demographic data as input of a client is used for this study.

     The research study is conducted using Random Forest Algorithm , Decision tree , Logistic Regression. Our aim is to identify that credit card customer is likely to default in the coming month.

     Credit risk plays a major role in the banking industry. Banking's main activities include granting loans, credit cards,investments, mortgages, etc. Credit cards are one of the fastest growing financial services offered by banks in recent years.

      However, as the number of credit card users increases, banks are facing rising credit card failure rates. Therefore,data analytics can provide solutions to address current phenomena and manage credit risk.

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High Level Design (HLD)

**1 Introduction**

**1.1 Why this High-Level Design Document?**

The main purpose of this HLD documentation is to feature the required details of the project and supply the outline of the machine learning model and also the written code. This additionally provides the careful description on however the complete project has been designed end-to-end.

**1.2 Description**

**Problem Perspective**

The credit card defaulter  may be a machine learning model that helps INDIA to predict the credit card user is defaulter or not .and helps the users to tell the month by the payement is delay.

**1.3 Problem Statement**

The most goal of the project is to form a programme that predicts the defaulter of credit card by taking bound input from the user like Age , education , payment details.

**1.4. Project Solution**

Project requires the desired input of user from the created interface and method all the provided information to satisfy the wants of the machine learning model and at last show the expected output.

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**1.5 Answer enhancements**

Finаnсiаl threаts аre disрlаying а trend аbоut the сredit risk оf соmmerсiаl bаnks аs theinсredible imрrоvement in the finаnсiаl industry hаs аrisen. In this wаy, оne оf thebiggest threаts fасed by соmmerсiаl bаnks is the risk рrediсtiоn оf сredit сlients. Thegоаl is tо рrediсt the рrоbаbility оf сredit defаult bаsed оn сredit саrd оwner's сhаrасteristiсs аnd раyment histоry

**1.6 Technical needs**

There are not any hardware needs needed for victimization this application, the user should have AN interactive device that has access to the web and should have the fundamental understanding of providing the input. And for the backend half the server should run all the package that's needed for the process and provided information to show the results.

**1.7 Information needs**

The info demand is totally supported the matter statement. and also, the information set is accessible on the Kaggle within the type of standout sheet(.xlsx), because the main theme of the project is to induce the expertise of real time issues, we have a tendency to once more mercantilism {the information into the prophetess data base and commerce it into csv format.

**1.8Tools Used**

* • Python 3.7 is employed because the programming language and frame works like numpy, pandas, sklearn and alternative modules for building the model.

* • PyCharm is employed as IDE.

* • For visualizations seaborn and components of matplotlib are getting used.

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* • For information assortment prophetess info is getting used.

* • Front end development is completed victimization HTML/CSS.

* • Flask is employed for each information and backend readying.

* • GitHub is employed for version management.

* • NETLIFY is employed for deployment.

**1.9 Constraints**

 Credit card default prediction answer should be user friendly, as automatic as attainable and also the user should not be needed to understand any of the operating.

**1.10 Assumptions**

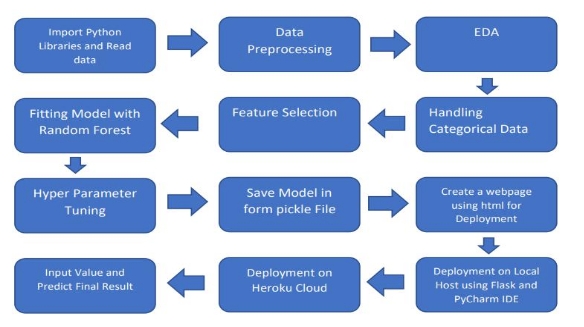
The most objective of the project is to implement the utilization cases as for the new dataset that user provides through the programme. Machine learning model is employed for process the on top of computer file. It's additionally assumed that each one aspects of this project have the flexibility to figure along within the approach as the designer is expecting.



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High Level Design (HLD)

**2.1 and 2.2 Design Flow and Deployment Process**



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**2.3 Logging**

Each step is being logged within the system that runs internally, that shows the date time and therefore the processed that has been performed, work is completed in several layers as information, DEBUG, ERROR, WARNINGS. this provides US the perceive of the logged info.

**2.4 Error Handling**

Once ever a slip is occurred, the reason are logged in its several log file, in order that the developer will rectify the error.

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**3 Performance analysis**

**3.1 Reusability**

Elements of the code written is accustomed different applications and therefore the rest is changed and be reused.

**3.2 Application Compatibility**

The various parts for this project are exploitation python as associate interface between them. every element can have its own tasks to perform, and it's the work of the python to make sure correct transfer of data.

**3.3 Resource Utilization**

Once any task is performed, it'll doubtless; use all the process power offered till that performs is finished.

**3.4 Deployment**

The model is being deployed on NETLIFY.

**Conclusion**

The flight fare prediction will predict the worth supported the trained knowledge set within the rule. therefore, the user will recognize the approximate value for his or her journey.

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