High Level Design (HLD)

Predicting Credit Card Approval

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**Abstract**

Nowadays, Data is in hype, So many of concepts are running around in our virtual environment on the basis of real world aspects. Humans are working on large amount of data, generating it in a huge scale also working on it and predicting for future possibilities. In account to share this data big data, data is passed to several users maybe confidential in order to protect this data files, messages, docs, numbers, etc. We are using Encryption and Decryption data algorithm techniques to protect data from attackers. This lead to protect of data sent and receive in a convenient way successfully.

**Introduction**

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

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding and can be used as a reference 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 hardware and software interfaces
* Describe the performance requirements
* Include design features and the architecture of the project

**2. Scope**

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

**3. Definition**

The terms used in the projects are:

Python libraries :- sklearn --Scikit learn module python

* + - * Seaborn
      * Matplotlib
      * Pandas -- Are the module which will provide functionalities.

**General Description**

**1. Product Perspective**

The Predicting Credit Card Approval techniques are used to use the data of the use and then perform some logical and algorithm is used.

**2. Problem Statement**

Human world with a large amount credit card for use the manage the appropriate person which can do the payment on time. To predict those people to use the various model. Then use to test and train the model.

**3. Problem Solution**

Using linear Regression to predict the output of the model.

**4. Further Improvement**

To builds the model to predict the 100% accuracy.

**5. Data Required**

For training the model we need the data of attacks done and most common generated techniques commonly used the data, the way they thinks which things they target first.

**6. Tools Used**

* Python programming language and frameworks such as NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn are used to build the whole model.
* For visualization of the plots, Matplotlib and Seaborn are used.
* GitHub is used as version control system.

**7. Constraints**

The model should predict the use which is capable to use the credit card.

**8. Assumptions**

We are assuming that the project should use to check the data loss.

**Design Details**

1. **Process Workflow**

LinnearRegression Algorithm

Remove Null entry

Test and train the model

Data

**2. Error Handling**

Initially we got error in the read the data from the file.

**Performance**

**1. Reusability**

The techniques follows the aspects of reusability as it python if I have modify or reuse it for any other processes then it will be useful for my work.

**2. Application compatibility**

I’m using python to code this process and python is a compatible language then sent to python code page direct access.

**3. Resource utilization**

Python provides a lot of functionalities also code is small so if a user is using it. It will not going to python provides a lot of database related module so it is easy to operate with less power consumption as well.

**Conclusion**

The Model is predict the appropriate user of the credit card.

**References**

1. https://scikit-learn.org
2. https://numpy.org
3. https://seaborn.pydata.org/examples/regression
4. https://seaborn.pydata.org
5. https://matplotlib.org/
6. https://pandas.pydata.org/docs