High Level Design(HLD)

Mushroom Classification

Revision number:1.0

Last date of Revision:

Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Date issued** | **Version** | **Description** | **Author** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Contents**

Document Version Control

Abstract

1. Introduction 6
   1. why this high level document?6
   2. Scope 7
2. General description 7
   1. Product Perspective 7
   2. Problem Statement 8
   3. Proposed Solution 8
   4. Tools used 8
   5. Constraints 10
   6. Assumptions 10
3. Design Details
   1. Process Flow 11
      1. Model Training and Evaluation
      2. Deployment Process

* 1. Event log 15
  2. Error logging 15
  3. Performance 15
  4. Reusability 16
  5. Application Compatibility 16
  6. Resource Utilization 17
  7. Deployment 17

4.Conclusion 18

**Abstract**

This project focus on use of classification techniques for analyzing mushroom dataset. Mushroom dataset composed of records different types of mushrooms, which are edible or non-edible.Different classification techniques like naïve bayes ,logistic regression, random forest classifier is evaluated

**1.Introduction**

**1.1 why this High-level design document?**

The purpose of High Level Design (HLD)document is to add the necessary detail to 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 reference manual for how the modules interact at high level

**1.2 Scope**

The HLD documentation presents the structure of system such as database architecture , application architecture ,application flow ,technology architecture.

**2.General description**

**2.1 Product Perspective**

The mushroom classification system is based on machine learning model which used to detect the the mushrooms are eatable or not

**2.2 Problem Statement**

To implement the machine learning model as solution to identify the mushroom is eatable or not

**2.3 Proposed Solution**

The solution proposed here is an machine learning model that can classify the mushrooms

**2.4 Tool Used**

Python programming language and framework sklearn , pandas , numpy , matplotlib

 

Pycharm is used as IDE

For visualization matplotlib,seaborn

Deployed using streamlit

Github is used as version control system

**2.5 Constraints**

The data should entered manually by users

**2.6 Assumptions**

The main objective of project to implement classification model for new dataset given by user.it also assumed that all aspect of this project have ability to work together in the way the designer expect

**3.Design Details**

For identify the mushroom is eatable or not. we will use machine learning model

**Proposed methodology**

MACHINE LEARNING MODEL

TRAIN AND VALIDATION ON DATASET

GET DATA

PREDICTION

**MODEL TRAINING AND EVALUATION**

NEW DATA

EVALUATION

PREDICTION

MODEL

TEST DATA

DATASET

TRAIN DATA

**DEPLOYMENT PROCESS**

LOAD MODEL

MAKE PREDICTION

Predicted Result

**3.2 EVENT LOG**

The system should log every event so that the user will know what process is running internally

**3.3 ERROR HANDLING**

Should errors be encountered, an explanation will be displayed as to what went wrong? An error will be defined as anything that falls outside the normal and intended usage

**3.4.PERFORMANCE**

The mushroom classification is used for differentiate from eatable and not eatable

**3.5Reusability**

The code written and components used should have the ability to be reused with no problem

**3.6 Application Compatability**

The different components for this project will be using Python as an interference between them, Each component will have its own task to perform and it is job of python to ensure proper transfer of information

**3.7 Resource Utilization**

When any task is performed,it will likely use all processing power available until that function is finished

**3.8 DEPLOYMENT**



**4.CONCLUSION**

The machine learning model used to separate the mushrooms based user driven data.so we can eat eatable mushroom