**Project Document**

TEAM – Team Coderz

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TOPIC – Health Care

COURSE – AI/ML

1. App Name – Heart Disease Prediction
2. Language Used – Python
3. Tools used – Jupyter notebook, Visual Studio Code, Excell
4. Synopsis of app – This app predicts if a person is suffering from a heart disease based on 13 parameters. The app also has a GUI made using python module named tkinter to provide users with a easy and comprehensible interface to check whether they are suffering from a heart disease.
5. Working Procedure –

. There are in total 303 rows and 14 columns in the dataset.

. the parameters are as follows -

1.Age

2.sex – 1 for male, 0 for female

3.cp – Constrictive Pericarditis.

4.trestbps – resting blood pressure

5.chol – cholesterol

6.fbs – fasting blood pressure

7.restecg – resting electrocardiography

8.thalach - maximum heart rate achieved

9.exang – exercise induced angina

10.oldpeak – exercise related to rest

11.slope – slope of the peak exercise ST segment

12.ca – number of major vessels

13.thal - Thalassemia

14. target – Heart Disease(1 = no, 0 = yes)

. As the model is used to predict whether the person is suffering from a heart disease, therefore, we used Supervised Learning Algorithm. Further, the model will classify the discrete values as 1 or 0. Thus, classification algorithm is used.

. Highest accuracy obtained is 0.86885 by KNeighbors classification algorithm.

. Also, a Graphical User Interface is also made for the users to check whether they are suffering from a heart disease. The interface is made using tkinter(python module).

. There are 13 entries in the GUI each corresponding the above stated parameters.

. The entered data is also validated to make sure that the data is valid.

. After validation, this data is provided to the model in a 2D numpy array. The model runs on this data and the output is reflected on the screen.

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