**Minor Project- Report**

Ocyober 2022-Jan 2023

**Course Faculty:**Prof. Vinodhini **Course & code:**

**Semester:**VII **Date:**22/11/2022

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| TITLE OF THE PROJECT | Predictive analysis of Diabetes | | | |
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| INDIVIDUAL  CONTRIBUTION |  |  |  |  |
| GUIDE | Prof. Vinodhini | | | |
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| PROJECT ABSTRACT : | India is a fast-growing economy with a considerable number of diabetes patients. Age, obesity, lack of exercise, high blood pressure, bad diet, hereditary diabetes, etc  can cause Diabetes Mellitus. This can lead to high risk of heart diseases, eye problem, nerve damage, kidney diseases, etc.  The practice which is followed currently in hospitals include collecting required information through various tests and providing appropriate treatment based on diagnosis.  **Healthcare deals with a lot of data and big data analytics helps in finding the insights and hidden patterns in the data to make meaningful predictions of the outcomes.**  A few external factors responsible for diabetes along with the regular factors include: Glucose, BMI, Age, Insulin, etc. The dataset we will be using for the project is “**Pima-Indians-diabetes**” .  A **decision tree model** is used to train the dataset and make predictions. The diabetes prediction model for better classification of diabetes which includes few external factors responsible for diabetes along with regular factors like Glucose, BMI, Age, Insulin, etc.  A full stack platform is to be developed to collect, edit and visualize the patient’s data and provide awareness to them using facts and articles. The Machine Learning model is being integrated with the full stack model using Django framework to predict diabetes.  A mobile application is developed using Flutter and Dart which globalizes the impact of Diabetes. The ML model is integrated with the app using flask and pythonanywhere. | | | |
| PLATFORM USED  (H/W & S/w tools to be used | VS Code,Emulator,Django,Flask,Heroku | | | |
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| Introduction | Healthcare deals with a lot of data and big data analytics helps in finding the insights and hidden patterns in the data to make meaningful predictions of the outcomes. Diabetes is a lifelong condition wherein a person's glucose (sugar) levels in blood becomes very high. A technique called, Predictive Analysis, incorporates a variety of machine learning algorithms, data mining techniques and statistical methods that uses current and past data to find knowledge and predict future events. Various traditional methods, based on physical and chemical tests, are available for  diagnosing diabetes. However, early prediction of diabetes is quite challenging task for medical practitioners due to complex interdependence on various factors as diabetes affects human organs such as kidney, eye, heart, nerves, foot etc. The main types of diabetes include:  **Type 1 Diabetes:** This condition occurs when the body doesn’t produce enough insulin. It is commonly seen in people at young age due to malfunctioning immune system.  **Type 2 Diabetes:** This condition occurs when the body is unable to use the insulin produced. It can occur at any age, even children yet commonly seen in middle-aged and older people due to obesity and sedentary lifestyle.  **Gestational Diabetes**: It is a temporary condition seen in pregnant women. | | | |
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| Design | Screenshot 2022-11-20 231342 | | | |
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| Project Source Code Link (Github/ Google DRive) |  | | | |
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| Conclusion /FUTURE ENHANCEMENT |  | | | |
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| Ui sCreenshots |  | | | |