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Diabetes Health Monitor

Capstone Proposal

Group Data Analyst Health 6 (DA_HE6)

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Problem Statement

Diabetes is commonly considered the third deadliest disease in Indonesia. Based on data, there are 19.47 million diabetics in Indonesia in 2021. Even the International Diabetes Federation (IDF) has roughly estimated that there will be 28.57 million diabetics in Indonesia in 2045. The emergence of diabetes is characterized by the failure of the pancreas organ to produce insulin hormone in the body, which actually has the function of absorbing sugar from food. As a result, sugar levels in the blood then awfully accumulated beyond normal conditions. If left unchecked, diabetes can trigger other degenerative diseases such as stroke and coronary heart disease. In principle, diabetes arises because in the human body there is a cardio metabolic syndrome where it is caused by an unhealthy lifestyle that has been applied so far. With so many people who think that a person's lifestyle is correlated with the potential for diabetes to appear in the future, this paper then wants to ask a question related to:

- *How far is a healthy lifestyle correlated with a lower risk of developing diabetes in a person?*

In order to provide a solution for the high number of diabetics that can be minimized, the variables from the data that have been obtained will be compared. The data that has been obtained displays indicators of the cause of diabetes and a comparison of diabetics and non-diabetics. The aim is to test the validity of the opinion that states that lifestyle influences the emergence of diabetes.

Project Goals & Success Metrics

Project Goals

The goal of this project is to provide the general public with information about diabetes indicators. This data analysis is expected to explain the correlation between a person's lifestyle and their risk of developing diabetes. The result of this research is a public-health solution for the general public to prevent diabetes by improving their lifestyle.

Success Metrics

The metrics used to measure the success of this analysis are

1. produce an attractive dashboard
2. information conveyed clearly and does not raise questions
3. quite a large number of visitors

Product Description

Monitor Diabetes is a data dashboard for people to measure their unhealthy lifestyle is there potential for having Diabetes, we provide a data based on The Behavioral Risk Factor Surveillance System (BRFSS) 2015 to analyze the riskiest factors which causes diabetes and people can live longer in a healthy way.

Features

Monitor Diabetes will have a feature to display a list of indicators that cause diabetes and complications also this dashboard will show a global map of diabetics.
Ex. List of Indicators : Body Mass Index, Blood Pressure, Physical Activity, Consume Fruits, Consume Veggies, etc.

Tech Stack

The solution dashboard will be created using the following:

- Google Data Studio for Visualization
- Python for Cleaning Data
- Kaggle Dataset from US CDC - BRFSS - 2015

Target User & User Journey

Target User

- General. Providing information to the general public about the factors that cause diabetes, it is necessary to get used to healthy living and reduce the risk of developing diabetes because of lifestyle mistakes.

User Journey

Users will get information about diabetes on lifestyle causes when opening the dashboard that we have provided, which are as follows:

- Users will get experience in the form of education about the understanding, introduction, causes, and symptoms of diabetes that can be done which is contained on the website in a clear and easy to understand manner.
- Users will get information on the average person suffering from diabetes and if when the user finds in the dashboard one of the same symptom characters is experienced, it is likely that the user is indicated or not, if the user has the same lifestyle from one of the characters in the dashboard that has been explained.
- Users will get information that on average, people with diabetes consume less fruit, because person with diabetes are accustomed to consuming artificial sweeteners, which can increase their risk.

Potential Difficulties

Technical Difficulties

- Finding data that can be used to develop diabetes prevention solutions is difficult, so data must be explored on various data provider sites.
- Because data cleaning is required, the python programming language will be used.It is important to learn more about this because not every member is proficient in programming with Python.
- On the available datasets, there are only a few variables that can be analyzed. As a result, the scope must be determined. A family history of diabetes, for example, cannot be considered in this analysis.

Non Technical Difficulties

Because none of our members has a medical background, we must first gain knowledge about health, particularly diabetes.

Detailed Work Plan

Work Division

Muhamad Bestagi Romadhon - KM_G2DA9009 - Cleaning Data

Luh Kade Devi Dwiyani - KM_G2DA3399 - Cleaning Data

Meirza Luthfi Pradana - KM_G2DA1172 - Analysis Data

Rabitha Nurul Huda - KM_G2DA8332 - Visualization Data

Timeline

- Define the problem : 23 - 29 May 2022
- Collecting Data : 6 - 10 June 2022
- Cleaning Data : 13 - 17 June 2022
- Analysis Data : 20 - 24 June 2022
- Visualization : 27 June - 1 July 2022