LITERATURE SURVEY

Date	19 September 2022
Team ID	PNT2022TMID50017
Project Name	VISUALIZING AND PREDICATING HEART DISEASE WITH AN INTERACTIVE DASHBOARD
Maximum Marks	2 Marks

Introduction:

 Heart is one of your body's most important organs. Essentially a pump, the heart is a muscle made up of four chambers separated by valves and divided into two halves. Each half contains one chamber called an atrium and one called a ventricle. The atria (plural for atrium) collect blood, and the ventricles contract to push blood out of the heart. The right half of the heart pumps oxygen-poor blood (blood that has a low amount of oxygen) to the lungs where blood cells can obtain more oxygen. Then, the newly oxygenated blood travels from the lungs into the left atrium and the left ventricle. The left ventricle pumps the newly oxygen-rich blood to the organs and tissues of the body. This oxygen provides your body with energy and is essential to keep your body healthy .The general term used to cover malfunctions of the heart is Heart Disease, or sometimes Cardiac Disease ("Cardiac" is a Latin term for the heart). Though there are multiple forms of heart disease, our discussion focuses on the two most common: Heart Attack and Heart Failure. This document is designed to teach you about heart attacks and heart failure: what causes these diseases, what forms these diseases take, and what can be done to treat these diseases when they occur. As both of these diseases are to some extent avoidable, we have also provided a discussion of preventative steps you can take to decrease your chances of having to deal with heart disease, or to minimize the negative effects of existing heart disease.

Literature Review:

A lot of research has been carried out in the field of visualizing and predicting Heart disease. A large variety of Heart visualizing systems already exists that try provide one or other aspect of information by applying different methods. The key problem is the diagnosis of Heart disease is a complicated task that should be performed accurately and efficiently to cure them. The diagnosis of Heart disease based on taking number test to locate the disease causing factor the test such as electrocardiogram , echocardiogram , stress test , Heart MRI etc. Such noninvasive test taken to detect the disease cause factor. This may cause time increase factor and also delay the early stage diagnosis of disease is difficult

Existing Solution:

The Heart Disease Visualizing Dashboard which already exist is to provide better visualization of heart disease to analyze the risk factor of heart. The Analyzing of Heart Disease is based on taking test for diagnosis processes of heart disease. The Existing Solution for visualizing Heart disease is based on using Health monitoring bands, smart watches apps such as QLAY etc. These are recording the heart beat rate by Photoplethysmography measurement method. After that it analyze the data and interpret measurement of heart beat rate data through the algorithms such as kB (kordia Band) KB Algorithm and Atrial Fibrillation algorithm and finally delivered the Visualizing dashboard of Heart disease through digital screen

The Approach to the Project:

The project is based on Updating the existing solution of Heart Disease visualizing dashboard which already present by making some modification and adding certain risk factor of the heart disease. The approach is based on gathering the heart rate measurement by smart watch app such as QLAY etc. Then interpreting the ECG data to identify the major risk factor of heart disease such as myocardial infraction , coronary artery disease etc. The project carries through gathering the heart measurement from smart watches the data form that to analyze and classify the Heart rate measurement related to disease. The data form the smart watches are collected in the type of csv files then it can make interpreted by digital data visualizing tool such as table au , Power BI, IBM cognos etc. Then the analyzed and classified heart disease data are transmitted to patient's physician. The data transmitted to physician in the form of digital tool only so as to easily analyze report. The report is more feasible to the physician for diagnosis of heart disease more accurately and also helps to specify the easy diagnosis of stage of heart disease. This approach of project is consolidation of all the heart related risk factor on one Visualizing and predicting interactive dashboard.

Conclusion:

In this paper, we Heart disease visualizing interactive dashboard. The aim of this dashboard to do diagnosis of heart disease in early stage for patient and also diagnosis more accurately . The Heart disease is consist of major risk factor and also life causing concern for the patient so that this visualizing tool helps to predict the disease causing factor such as Arrhythmia , coronary artery disease and myocardial infraction based on digital visualizing ECG monitor data. The output of measurement of heart rate is get more accurately in this tool so that the wave of ECG is more accurate. So this Visualizing and predicting heart disease on interactive dashboard is more efficient.

References:

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