PULSE – IoT Heart Pulse Detector

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Abstract- *Disease Prediction using Machine Learning is a system which predicts the disease based on the information or the symptoms, he/she enter the system and provides the accurate results based on that information. If the patient is not much serious and the user just wants to know the type of disease, he/she has been through. It is a system which provides the user the tips and tricks to maintain the health system of the user and it provides a way to find out the disease using this prediction. Now a day's health industry plays major role in curing the diseases of the patients, so this is also some kind of help for the health industry to tell the user and it is useful for the user in case he/she doesn't want to go to the hospital or any other clinics, so just by entering the symptoms and all other useful information the user can get to know the disease he/she is suffering from and the health industry can also get benefit from this system by just asking the symptoms from the user and entering in the system and in just few seconds they can tell the exact and up to some extent the accurate diseases. This project presents a prototype for the monitoring of Heartbeat rate.*

Keywords- IoT, body health monitoring, heart-rate

I. INTRODUCTION

Heart rate is a critical parameter in the functioning of the heart. Therefore, heart rate monitoring is crucial in the study of heart performance and thereby maintaining heart health. This paper proposes a heartrate monitoring detection system using IoT. Nowadays treatment of most of the heart-related diseases requires continuous as well as long term monitoring. IoT is very useful in this aspect as it replaces the conventional monitoring systems with a more efficient scheme, by providing critical information regarding the condition of the patient accessible by the doctor.In addition, the nurses of the duty doctor available at the hospital can monitor the heart rate of the patient in the serial monitor through the real-time monitoring system.

II. LITERATURE SURVEY

Sr No	Paper Name	Year of Publication	Author	Publication Name	Proposed Work	Research Gap
1.	AACE Clinical Care Reports	2015	Magaly Marcula and Vera Demarchi Aiello	ABC Cardiol	A very recent study by Taniwaki et al.19 has shown that in-stent neoatherosclerosis was more frequently found in patients with clinical and angiographic evidence of atherosclerosis progression in non treated native coronary segments. Cardiovascular amyloidosis was an occasional finding, and, although not extensive, it might have contributed to the final myocardial dysfunction.	This is the research we are going to take in reference for the disease records and for the betterenhancement.
2.	Case18-2018: 45-Year-old Woman with hypertension, fatigue and altered mental stress.	2018	J Carl Pallais, Andrew Z.Fenves, Michael T.Lu, and Krzysztof Gho mski	The New England Journal of Medicine	Glucocorticoid replacement therapy was initiated, and the patient had no adverse events during the surgical procedure. After surgery, the 24-hour urinary free cortisol level was 18 µg. During the postoperative period, the patient had excellent blood pressure control, improvement in mental status, and resolution of hyperglycemia, hypokalemia, and metabolic alkalosis. After discharge from the hospital, she participated in a cardiac rehabilitation program to improve her exercise tolerance, after which she returned to work. She has not received ongoing glucocorticoid replacement therapy.	The project is still in progress and has been presented at the Medical Case Conference. The anatomical diagnosis stated that the crushing syndrome due to a well differentiated, low grade thymic neuroendocrine tumor with cortictropin secretion

III. PROPOSED SYSTEM

Disease Prediction using Machine Learning is a system which predicts the disease based on the information provided by the user. It also predicts the disease of the patient or the user based on the information or the symptoms he/she enter into the system and provides the accurate results based on that information. If the patient is not much serious and the user just wants to know the type of disease, he/she has been through. It is a system which provides the user the tips and tricks to maintain the health system of the user and it provides a way to find out the disease using this prediction. Now a day's health industry plays major role in curing the diseases of the patients so this is also some kind of help for the health industry to tell the user and also it is useful for the user in case he/she doesn't want to go to the hospital or any other clinics, so just by entering the symptoms and all other useful information the user can get to know the disease he/she is suffering from and the health industry can also get benefit from this system by just asking the symptoms from the user and entering in the system and in just few seconds they can tell the exact and up to some extent the accurate diseases. This DPUML is previously done by many other organizations but our intention is to make it different and beneficial for the users who are using this system.

IV. CONCLUSION

An IoT-based human heartbeat rate monitoring and control system is developed. This system uses the capability of a heart pulse sensor for data acquisition. A human's heartbeat is captured as data signals and processed by the microcontroller. The processed data are transmitted to the IoT platform for further analytics and visualization. Experimental results obtained were found to be accurate as the system was able to sense and read the heartbeat rate of its users. The implemented device can be deployed to the medical field to assist the medical practitioners to do their work efficiently and reliably without difficulties. In near future, we plan to integrate the Data Stream Management System (DSMS) technologies into the system to enrich its functions, such as continuous query, windowing, aggregation and so on. Afterwards, data stream mining and context awareness technologies are also considered to provide more powerful pervasive healthcare services like early warning and real-time knowledge support to patients. In this paper, we proposed an IoT-based heart disease monitoring system for pervasive healthcare service. This system monitors the patients' physical signs such as blood pressure, ECG, SpO2, as well as relevant environmental indicators continuously, and provides four different data transmission modes that balance the healthcare need and demand for communication and computing resources. We also implemented a prototype to present an overview of the system.

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