Republic of the Philippines
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

IoT based Cardiovascular Status Monitoring System

A RESEARCH STUDY
SUBMITTED BY:

CASTILLO, ALEXANDRE JOSHUA R.
MANUZON, MARK GLEN T.
PATANGAN, JAN MARVIN A.
TUBIANOSA, URIEL G.
BSCpE 3-6

SUBMITTED TO:

Prof. Rolito Mahaguay

CHAPTER 1

Introduction

A heart attack occurs when the flow of blood to the heart is severely reduced or blocked. The blockage is usually due to a buildup of fat, cholesterol and other substances in the heart (coronary) arteries. Symptoms of a heart attack vary. Some people have mild symptoms. Others have severe symptoms. Some people have no symptoms. Common heart attack symptoms include: Chest pain, Cold Sweat, Fatigue, Heartburn/Indigestion, Sudden dizziness, Nausea, and shortness of breath. According to Philippines and Philippine-American Health Statistics (1994-2018), Cardiovascular disease (CVD) and cancer are the leading causes of death among Filipinos and Filipino-Americans. In the Philippines, CVD accounts for approximately 20% of total deaths and 35% of premature deaths, affecting 1 in 6 Filipinos. Filipinos are at 70% increased risk of diabetes and more than half of Filipino aged 50 and over will develop hypertension — increasing their risk of CVD.

This aims to detect heart attack that will help your life and will help people to immediately inform that you are having a heart attack. In this way, people around you will take action immediately and bring you to a nearest hospital. This device will also monitor your heart rate, allowing you to be cautious and take care of your heart and your health in every possible way you want.

Background of the Study

Statement of the Problem

This study aims to create a device that monitors the heart rate of a person and able to detect if an individual is having a heart attack with the help of an application.

Furthermore, it seeks to answer the following questions:

1. Is there a significant difference between this device and the heart monitoring machine in terms of:
    1.1 Accuracy
    1.2 Reliability
    1.3 Functionality
2. How can this system be an actual viable option to users in terms of:
    2.1 Cost
    2.2 Handy
    2.3 Size
3. What are the identifiable problems with the current system being sold in the market (Heart Monitoring Machine) in terms of:
    3.1 Price
    3.2 Availability
    3.3 Size/Weight
    3.4 Convenience

Scope and Delimitations

This research focuses on helping an individual to detect immediately if he/she is having a heart attack and monitoring ones' heart rate. The Family/Nurse/Doctor or the individual can also monitor its heart rate using an application or device in its own PC/Mobile Phone. The device will not cure an individual heart disease and will not control the heart rate of the person. The readings of the device will not make sure a 100% accuracy.

RECOMMENDATION SHEET

#	Committee	Approved/ Declined/ Pending	Remarks (comments, suggestions, and recommendations)	Signature (Put e-signature)
1.	Dr. Remedios Ado			
2.	Engr. Julius Cansino			
3.	Dr. Arvin Dela Cruz			
4.	Engr. John Dela Cruz			
5.	Engr. Ronald Fernando			
6.	Engr. Julian Lorico			
7.	Engr. Rolito Mahaguay			
8.	Engr. Ferdinand Natividad			
9.	Engr. Florinda Oquindo			
10.	Engr. Orlando Pajabera			
11.	Dr. Lutzer Reyes			
12.	Engr. Pedrito Tenerife Jr.			
13.	Dr. Antonio Velasco			

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