Team Veda

DS 302

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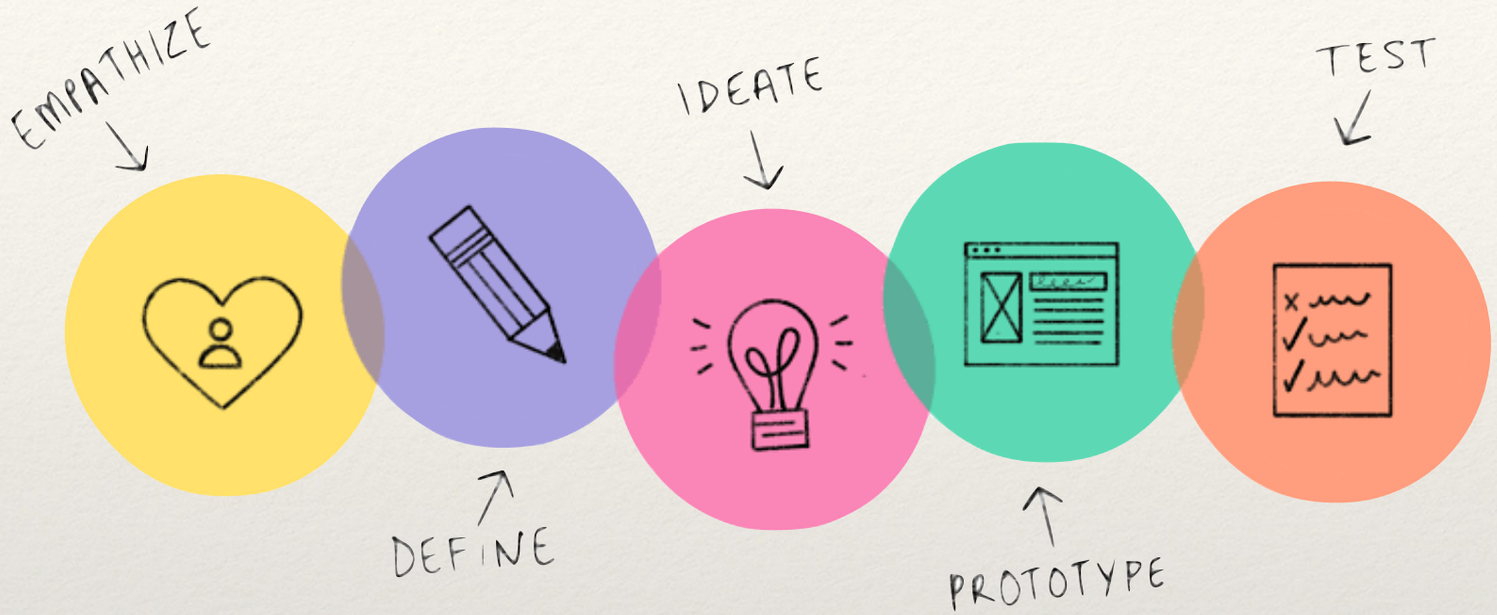
Introduction

We were given the following brief - **Design a smart health monitoring system**.

Health of an individual is one of the most important factor which determines how the individual leads his or her life. The various aspects and factors which contribute to health and wellbeing and how current medical systems are helping us take care of our health is the primary focus of this project.

Methodology



- Before starting with the development of the solution, we started looking into how health is defined. We found out various aspects and factors which contribute to health and wellbeing of an individual.
- We employed various research methodologies to collect information. We conducted interviews, collected data from existing studies and had brainstorming sessions. We synthesised all the information and data collected to come to a problem statement.
- We then started exploring various ways through which we could solve the problem

Cardio Vascular Diseases (CVDs)

Based of our research, we decided to focus on cardio vascular diseases and how they affect our day to day lives. We see various scenarios of people suffering from CVDs

Some Important Numbers

261,694

Deaths in 2013 due to **hypertension** alone

50%

People do not take regular medication, checkups

2.5

million

Cases of CVDs every year

Problem Statement

How might we help people monitor their cardiac activity to help them lead a healthier life

Target users -

- People age groups 20+
- People living in urban areas

Concept

Veda will create a system where the diagnosis, monitoring and checkups can easily be done at home and integrate medical systems with the patient and provide the patient with understandable and relevant information which can be acted upon on a personal level.

Concept

1. We will be making a device which will monitor cardiac activity using ECG and optical sensors.

2. The user will be able to use the device at home.

3. The device will record and transmit all the data collected to a processor which will use artificial intelligence and machine

learning methods to analyse the data

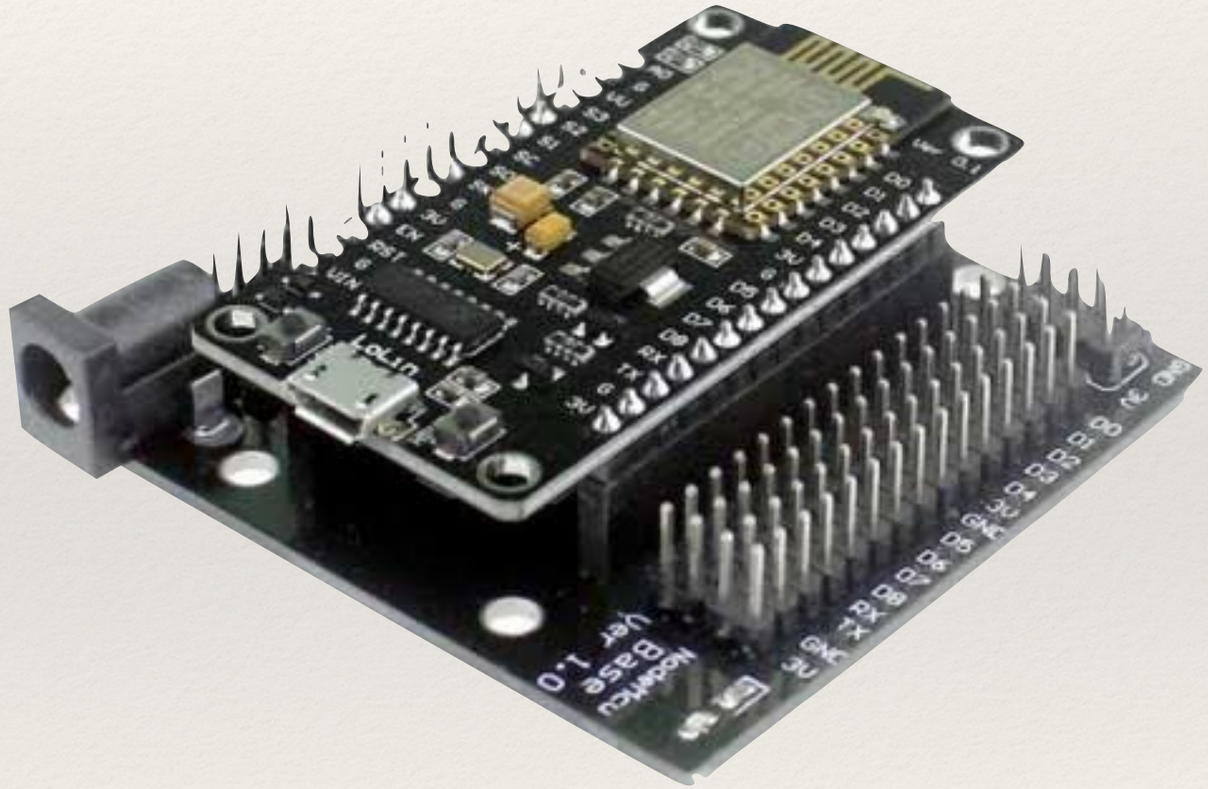
4. The analysed data will be sent to the user in a more understandable way through a phone application

5. The data will also be shared with the doctor of the user

6. Any abnormalities detected will be immediately flagged based on our learning models and the user and the doctors will be notified

Technical Components

- ECG
- AI
- Micro Controlling Units
- Optical sensors
- Wireless Modules



Design Aspects

- Usability
- Manufacturability
- Information Architecture
- UX
- UI
- Interaction
- Human Factors
- Aesthetics

Roles

Bhusan- Research, survey, basic Electronics

Dhairya- Basic research, Circuit design, components selection, Technological research, Coding

Hitendra- Research, survey, Coding

Kanishk-research, selection of problem statement, survey, product designing, fabrication

Nikhil- Basic research, selection of material, product designing, survey, fabrication

Ambuj- Basic research, Circuit design, components selection, Technological research, selection of problem statement, Coding

Manav- Basic research, Circuit design, components selection, Technological research, selection of problem statement, Coding

Narendra- Basic research, selection of material, product designing, survey, fabrication, CAD

Yallaling- Research, conceptualisation, UI and UX, product design

Questions?