MEDISAFE

Stay away and defeat diseases

(1) Introduction

Currently in our country all the people re in busy schedule herefore they don't have enough time to think about their health situation (Non – communicable diseases). From this research we are hoping to introduce a better solution for those matters and reduce the possibility that the diseases being affect and help them to prevent from diseases.

(2) Background and Literature Reviews

Non-communicable diseases (NCD- Heart Attack, Pneumonia, Wheezing, Lung cancer, kidney diseases) are a major factor in the number of reported premature deaths each year. Tobacco, inactivity, alcohol use, and following an unhealthy diet all raise the risk of dying from an NCD.

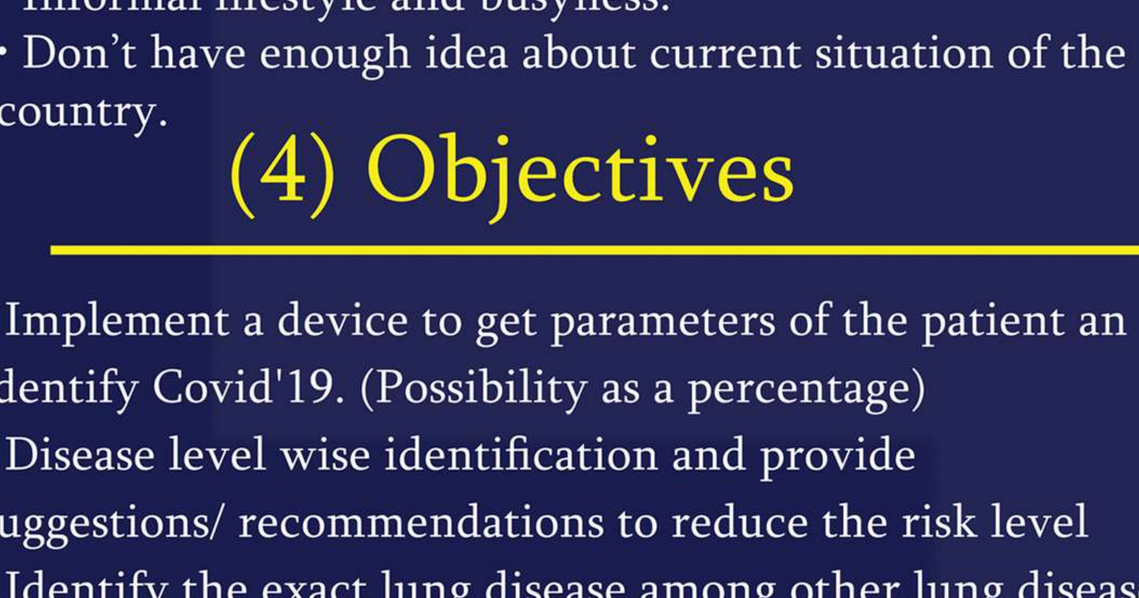
(3) Research Problem

- There are some diseases that have arisen at present. (Heart attack, Pneumonia, Wheezing, Dengue, Covid'19)
- High cost for diagnosis.
- Informal lifestyle and busyness.
- Don't have enough idea about current situation of the country.

(4) Objectives

- Implement a device to get parameters of the patient an identify Covid'19. (Possibility as a percentage)
- Disease level wise identification and provide suggestions/ recommendations to reduce the risk level
- Identify the exact lung disease among other lung diseases.
- Identify the three major diseases spread rate in Sri Lanka.

(5) System Diagram



(6) Provided Solution

- Developed an Arduino-based device that detects certain types of symptoms to diagnose certain heart and lung related diseases.
- Use some machine learning based techniques to identify diseases and clarify it.
- Show diseases spread rate to the user.
- Developing a web application to facilitate patient# usage.

(7) Results and Discussion

- Implement a device that device identifies diseases parameters to analysis.
- Image processing-based lung diseases identification.
- Spread rate analysis using machine learning based algorithms.
- Risk level wise identification using machine learning based algorithms.

(8) Necessary References

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· D. Ashourloo, A. A. Matkan, A. Huete, H. Aghighi and M. R. Mobasheri, "Developing an Index for Detection and Identification of Disease Stages," in IEEE Geoscience and Remote Sensing Letters, vol. 13, no. 6, pp. 851-855, June 2016, doi: 10.1109/LGRS.2016.2550529.

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