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Automated Paralysis Patients Healthcare System

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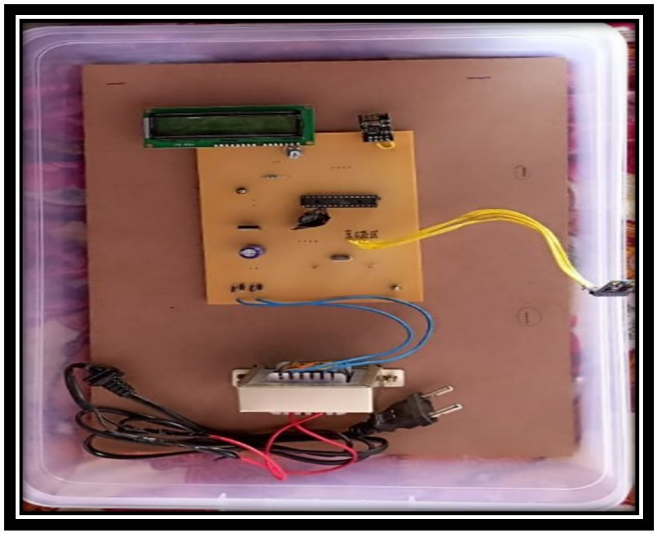
I. INTRODUCTION

According to a recent World Health Organization survey, over 5.6 million people are paralyzed, Paraplegic health surveillance in hospitals indicates that a variety of exercises, stimulation, and medications are available to safeguard the paralyzed[4]. However, there is no specialized monitoring system in place to follow the health of paralyzed persons. To deal with these problems, a monitoring system is put in place, which is used to keep track on the patient's health. Patient who had paralytic attack have their whole or partial bodies disabled. This paralytic patient can neither speak nor express their demands or wishes. These patients cannot have quick reflex system, hence there is no or less coordination between vocal systems, limbs and brain. In such situation, this proposed project can come to the rescue. our proposed system helps the disabled person in displaying a message over the LCD by simple motion of their hand. The proposed system works by reading the various tilt directions of the hand. User just needs to tilt the device in different directions to convey different messages. An accelerometer is used to measure the statistics of motion. It then passes on this data to the microcontroller which processes the data and displays the particular message as per the input obtained. It sounds a buzzer along with the message as soon as it receives motion signal from the accelerometer. The patient can communicate by displaying the message on the LCD screen by simple motion of their functioning body parts. The particular aspect of this device is that if no one is near by the patient, he can send the message in the form of a SMS to the family members or their caretaker through the developed mechanism[11]. Though, there are innovative approaches for curing or treating paralysis patients, but the aim of treatment is to help a person adapt to life with paralysis by making them as independent as possible[7]. Where we see a problem with these types of devices that are being developed is that they are very large and expensive machines. They seem to be only available in hospitals and not able to be used at the patient's home or at their convenience. Our goal is to make a device that will be able to retrain a patient's motion but have them be able to use the device themselves and have it be cheap enough for them to afford without much debt.

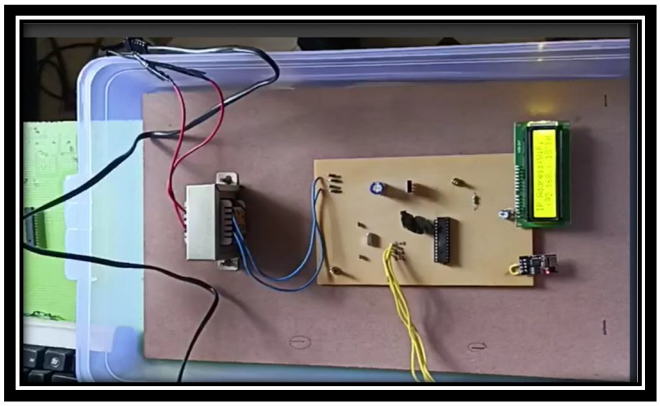
II. OBJECTIVES

To design a remote Healthcare System. To provide a cost-effective and fast responding alert mechanism. To help the patient convey various messages to doctors, nurse, or his/her loved ones sitting at home or office over the internet. To develop new innovation for the use of basic nursing care. To keep motivated to the paralysis patients.

III. HARDWARE

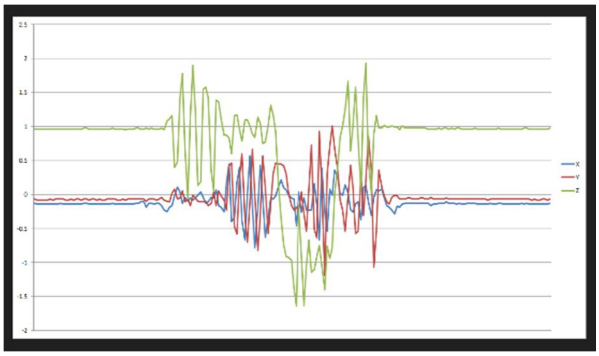


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1. Working condition

IV. GRAPH



2. Accelerometer Graph

V. FUTURE SCOPE

1) The future scope of the project: In future, the system can be made smart and efficient by making the goggle wireless for eyeblink detection.

2) The System can be made for fully paralyzed persons. If their nervous system is not in working condition still they will get as they wanted.

3) Instead of these four messages if patients want any another thing then also that message has to display such a new system have to come into existence.

VI. RESULT AND CONCLUSION

By taking a overall survey, it can be found that there are many problems existing for the paralyzed people such as paralysis in their leg, hand, vocal tract and also in other body parts. There are systems existing for their comforts individually. But, this system will help to monitor the needs of paralytic patients when needed. This system helps patient overcome barriers to convey their needs without putting efforts. Moreover this can be modified to be used for several purposes where persons mobility is affected. it is simple, cost effective and easy to use and can be used by patients with all kinds of paralysis cases. Having said that this system has a vast future scope with the ability to monitor various other vitals and parameters of the human body, this serves to be a great device in assisting the paralyzed patients with easy and effective communication process with very less efforts from the patient's end.

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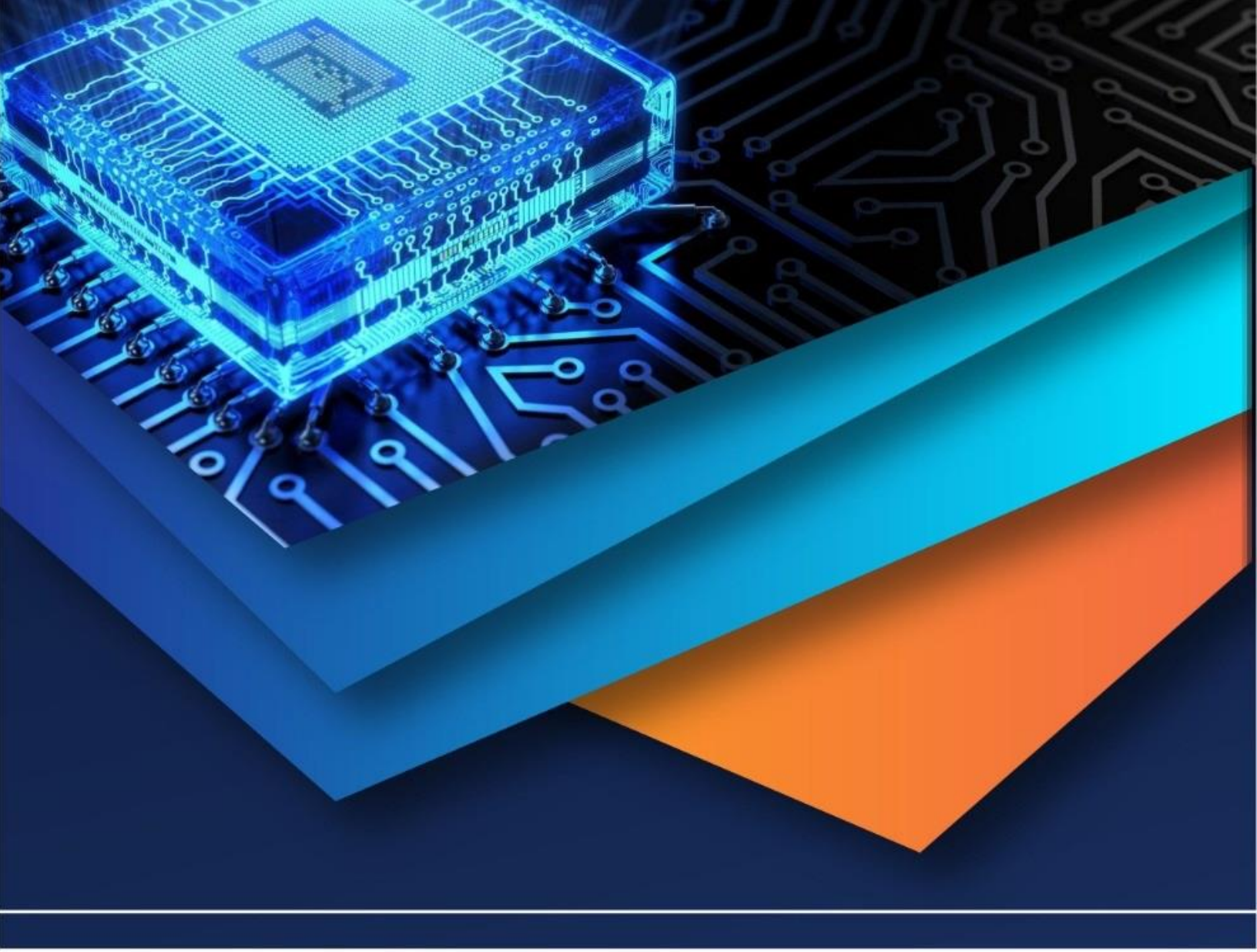
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