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IOT Based Paralysis Patient Health Care

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Abstract: Paralysis is the loss of muscle function in body components. It can affect any region of the body at any moment, and may not cause discomfort in the affected location. Technological and therapeutic breakthroughs aim to enhance quality of life. Our goal is to create a user-friendly and cost-effective technology that combines basic health monitoring with nursing care. Paralysis patients are unable to communicate their message and requirements. The IoT-based Paralyzed patient health care system facilitates communication between patients, doctors, nurses, and loved ones. One sitting at home or in the office on the internet. The system uses microcontroller circuitry to achieve its functionality. The system utilizes a finger bending recognition system. The circuit detects the bending of fingers using a flex sensor and the microcontroller communicates the corresponding output or need of a patient to the caretaker of the patient using a GSM module.

Keywords: Paralysis Patients, Nursing, Internet of things (IOT), SMS Notification.

I. INTRODUCTION

Patients suffering from paralysis are unable to move their muscles in order to function. This disorder can have a wide range of symptoms and causes, particularly in case of spinal cord injury that impacts the neurological system. Certain systems are currently in place for personal comfort. Nonetheless, this technology will support tracking the patient's overall needs. Based on the input from the sensors, their messages will be shown. The goal is to create an innovative tool that aids those disabilities. The lives of those who are paralyzed might be improved by this gadget in the future. While there are many cutting-edge methods for treating paralysis, this technique will assist patients adapt by maximizing their level of independence. Thankfully, technological advancements over the past ten years show promise in addressing needs.

The system includes a hand motion recognition circuit and receiver/transmitter circuit. The hand motion circuit uses a flex sensor to detect hand movements and wirelessly transmits the data to the receiver system. The receiver system receives and processes commands, transmits data to a mobile application. The WHO reports that the doctor-to-patient ratio in India is approximately 1:854. The ratio suggests that one doctor must visit almost 98% more than the average. The suggested study provides clinicians with an efficient and economical way to monitor the health condition of several individuals. Tracking a patient's vital signs on a regular basis is called patient monitoring. Sensor connections are usually required for patient monitoring. Wireless connectivity and sensors are among the components. Generally, communication devices have a shorter range. Typically, microcontroller units are used as auxiliary parts in monitoring systems.

II. LITERATURE SURVEY

Smart Healthcare is important for patients who need continuous monitoring that is not available outside of a hospital. Additionally, it's critical in townlets or rural areas with nearby connections to inform megacity hospitals about the health state of their patients. This study presents a smart health monitoring system that uses biological detectors to check a patient's condition and sends an online notification to the patient. An Arduino Uno regulator then reads the data from biological detectors and connects it to an LED display so that the occurrence may be seen.

While gathering vital signs from a bigger population of patients on a tight routine can be exciting and tiresome, the risk of false positives grows with delicacy, time pauses, and instrumentation estimation. In order to solve this issue, we offer a real-time, digitally calibrated vital dimension equipment that can function in real time, capture data, and send it for expert consultation. In addition to increasing the effectiveness of health records, measurement-generated data can also be used statistically. This gadget is aimed to raise the standard and effectiveness of medical care.

In order to visualize the data on a smartphone, it is uploaded to a webpage for storage and observing. To enable their caregivers and family members to view the case's details with ease, an Android application has been created.

To help the paralyzed patients, the proposed project is introduced, it consists of sensors that monitor different vital information and also help the patient to convey their messages to the bystanders.

III. METHODOLOGY

The sensor will be used to measure the patient's pressure and temperature. The physician is qualified to provide adequate medical advice. IoT devices that are regularly utilized by patients with disabilities require closer supervision. Monitoring strategies have been gathered with the aid of the sensors to make sure that patients who are recommended to the physicians are consistently moving items. As a result, the quality of care I raised. In the end, this leads to medical costs. Four flex sensors have been incorporated into the system and distinct messages have been planted into each one, the system is turned on, the patient can bend the finger in the direction of their want. These sensors are linked to an Arduino board, which enables it to read input leverages the internet of things. In thus case, a GSM module is used to send a message to the designated number. Other sensors include body fall detection, temperature and pulse, all of which aid in patient care. With this system, the requirements can be easily communicated, continuous monitoring can be accomplished, and the output of the sensors is shown on a webpage. Because of this, caregiver needs to be aware of the patient's needs and adjust their assistance accordingly. This system includes different sensors. The sensors are designed to be used gloves or by individual special needs. If the person is fallen on the floor the system will send a message to caregiver or family members of patient, alerting the caregiver to the patient's severe condition. This inexpensive, easy-to-use device can help treat individuals who are paralyzed.

IV. CONCLUSION

This system is very beneficial for disabled people. They can use movement detection to exist in this world just like everyone else, and they can make prearranged moves to seek for help. Due to its lightweight, dependability, and affordability, users can get this equipment for a low cost. This equipment will allow paralyzed patients to move around on their own. It doesn't make this duty any less important just because each person has a different kind and type of obligation. Therefore, a variety of strategies are required to support these people, and it is our duty as future engineers to develop cutting-edge technology to help paralyzed patients.

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