



IOT BASED VIRTUAL DOCTOR ROBOT

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ABSTRACT:

We know that in covid-19 situation individual to individual contact how much risky for the specialist, medical staff and patient. Specialists are normally expected to work at each medical clinic and crisis focus every so often. Be that as it may, it isn't attainable for each specialist to be accessible at each spot at wanted time. To assist with settling this issue we here foster a Virtual Doctor Robot that permits a specialist to essentially move around any clinic room and converse with patient. This paper depicts the advancing job of mechanical technology in medical care and control of the spread of the Covid illness 2019 (COVID-19). The heavenly utilization of such robots is to restrict individual to individual contact and to ensure support in clinical facilities. This will achieve restricting the presence risk to clinical staff and experts playing a working position in the organization of the COVID-19 pandemic. This robot gives on of benefits for specialists some like as: Doctors can move around in activity theatres. Specialists can see clinical reports remotely through video calls

KEYWORDS:

INTERNET OF THINGS (IOT), ULTRASONIC SENSOR, LCD, L293D DRIVER, DC MOTOR, CLASSIFICATION, FEATURE EXTRACTION, SEGMENTATION, MAMMOGRAM.

INTRODUCTION

The internet of things (IoT) offers the quantifiability needed for continuous and accurate global health observation for this purpose. As time goes on, this paradigm will become an important technology in tending additionally the way of observing and identifying health issues has been completely transformed by recent advancements in low power consumption, miniaturization, and biosensors. Virtual specialized mechanical framework enters it via this development for clinical care and individual therapy. It goes without saying that specialists sometimes appear in medical clinics and crisis centers. However, it is not feasible for every professional to be present at every location at the desired. The challenge with video calling is that it must be done from a laptop or laptop stationed elsewhere. This limits the specialist's capacity to assess patients, walk between emergency clinic rooms, or even waver on items when surrounding an activity theatre. To aid in resolving this problem, we prefer to cultivate a virtual expert golem that enables a specialist to walk about in a remote location freely and even conduct conversations with individuals there if they so want. Though this progression, virtual specialist mechanical framework happens into it for individual medical care and clinical

mindfulness. Specialist are normally expected to work at each medical clinic and crisis focus once in a while. However, it isn't attainable for each specialist to be accessible at each spot at wanted time. The issue with video calling is that video calls ought to be done from a PC or PC on a workspace. This restricts the specialist's ability to see patient or around activity theatre voluntarily or even travel through emergency clinic rooms depending on the situation. To assist with settling this issue we here foster a virtual specialist robot that permits a specialist to essentially move around at a far-off area voluntarily and even converse with individuals at distant area as wanted. These devices can communicate and interact over the internet, and they can be remotely monitored and controlled. It goes without saying that specialists sometimes appear in medical clinics and crisis centers. However, it is not feasible for every professional to be present at every location at the desired. The challenge with video calling is that it must be done from a laptop or laptop stationed elsewhere. This limits the specialist's capacity to assess patients, walk between emergency clinic rooms, or even waver on items when surrounding an activity theatre. To aid in resolving this problem, we prefer to cultivate a

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MATERIALS AND METHODS:

The idea might provide older citizens living independently with the robot-assisted intelligent emergency system. Through a robot- sensing element system, it acts as an innovative senior freelancing living emergency assistance platform. The robot-assisted emergency system in brief wearable sensors emergency aid capabilities required. Motion sensors are often used to keep an eye on all of the senior citizens activities. Emergency situation, such as falling to the ground, will be seen in advance. In the event that a response is not obtained from the mechanisms, the family members to physicians may also conveyed by wearable gadgets.

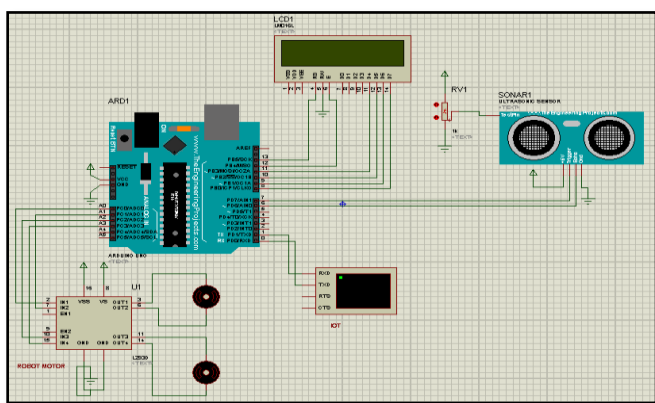


FIG 1: CIRCUIT DIAGRAM

Every person will be provided with a "Smart health card", which enable to place the record of patient's personal detail health conditions, prescriptions and amount of tablets consumed. The AHM will be provided all the necessary information, keep a record of different medical problems in the kind of regions and different kind of necessities required to be adopted.

The robots with wheels cannot work properly on the rocky surface or uneven surface. They consume a lot of power and struggle when they go on rocky surface. To tackle the

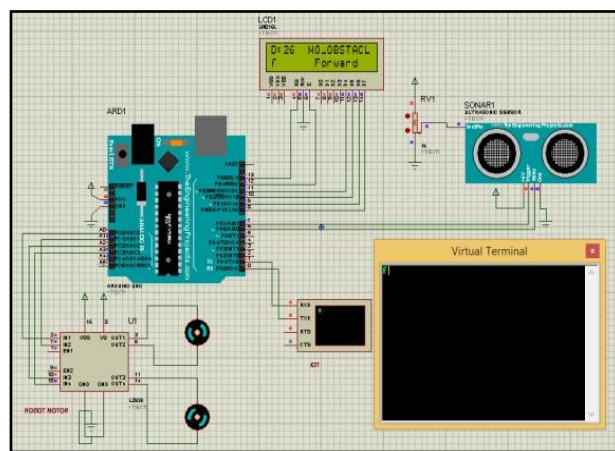
disadvantage of the wheeled robot we replaced the legs are shaped like wheels with the spider legs or spider arms. Quadruped robot has complicated moving patterns and it can also move on surfaces where wheeled shaped robots would fail. They can easily walk on rocky or uneven surface. The most important purpose of the paper is to develop a consistent platform that enables the implementation of steady and fast static/dynamic walking on ground /platform to deliver medicine to covid-19 patients. The spider robot's main advantage also called as quadruped robot, which is Bluetooth controlled robot, through the android application, we can control robot from anywhere. It avoids the obstacles using ultrasonic sensor. There will be some situations that wheeled robots cannot move, so there is a requirement of mobile platform that can move in areas with difficult terrain surrounding where wheeled robots find it difficult for movements. Examples of such retrieve jobs, and in counting transferring packages. The fundamental aim of the proposed paper is to explain and innovative, flexibility and realistic model of a robot shaped like spider for delivering medicines to covid patients. Android based and Bluetooth controlled Quadruped is a robot which can manure on 4 legs.

system, driver safety can be implemented in normal cars also.

MATERIALS:

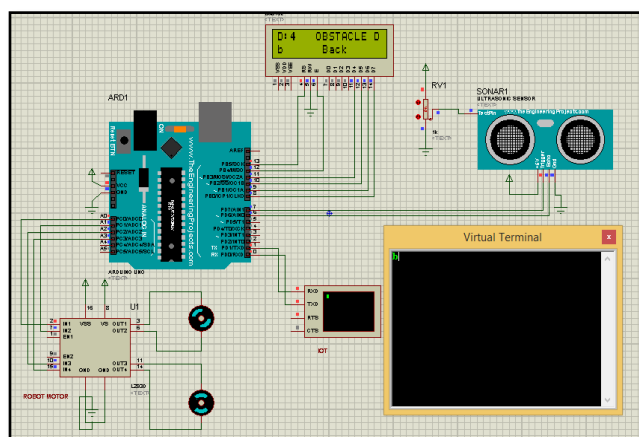
HARDWARE:

- Power Supply
- Memory
- Processor
- Timers
- Output/Outputcircuits
- Serial communication port
- SASC (Systemapplication specificcircuits)



SOFTWARE:

- Small scale embedded systems
- Medium scale embedded systems
- Sophisticated embedded system



DISCUSSION:

1. DIVYA GANESH ET AL., "AUTO IMPILO: SMART AUTOMATED HEALTH MACHINE USING IOT TO IMPROVE TELEMEDICINE AND TELE HEALTH [2021]

This project deals with the modalities of the Smart Automated Health Machine (AHM) using Internet of Things (IoT), a user-friendly health machine with an interactive graphical user interface for medical necessities. It is a virtual health check-up/self-screening/test system, aimed at being the first point of contact for the patient screening, to monitor heart rate, blood pressure, ECG, oxygen saturation, and visual acuity of patients. In case of emergency, a doctor will be available online through a video call, it will be based on the serious of patient's health conditions, a normal call can be placed by specialist to book an ambulance van. This project deals with the modalities of the Smart Automated Health Machine (AHM) using Internet of Things (IoT), a user-friendly Every person will be provided with a "Smart health card", which enable to place the record of patient's personal detail health conditions, prescriptions and amount of tablets consumed. The AHM will be provided all the necessary information, keep a record of different medical problems in the kind of regions and different kind of necessities required to be adopted.

2. ANITA CHAUDHARI, JEET THAKUR AND PRATIKSHA MHATRE ET AL., "PROTOTYPE FOR QUADRUPED ROBOT USING IOT TO DELIVER MEDICINES AND ESSENTIALS TO COVID-19 PATIENT " [2021]

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3. DIVYA GANESH; GAYATHRI SESHADRI; SUMATHI SOKKANARAYANAN; PANJAVARNAM BOSE ET AL., "AUTOMATIC HEALTH MACHINE FOR COVID-19" [2021]

The novel virus (COVID-19) that spread over the world is a pandemic of unimaginable proportion and magnitude that is posing a best challenge to the medical industry is in the 21st century. It has completely changed the texture of life to a great extent. The increasing number of victims was the

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Succumbing of the disease has started an indelible . Succumbing of the disease has started an indelible fear in the mind of the people who are afraid to access even the basic healthcare facilities. This paper deals with the Automatic Health Machine (AHM) which uses IoT and Artificial Intelligence technologies to help users access medical facilities during a pandemic and medical emergency mostly in rural and urban areas. The AHM provides complete virtual health checkup, connects with the doctor or specialist online and books appointment for the swap test or ambulance in case of emergency based on the patient's conditions, dispenses the swap test or

emergency medicines and electronic prescription to patients for later reference. The services of the AHM are accessible to all individuals using "Smart Health Card".

Thus, our work has led to a patent being published in the India and USA of the robotic technologies during the covid-19 pandemic

4. Vincent Wang, Lihui Wang .., "A Literature Survey" 2021

In the year 2019, the COVID-19 pandemic situation has been spread all around the world. The pandemic is one of the crystal challenging a time to the people's health and safety of the them, the medical staff and the systems worldwide. It has been globally proposed to make use of robots during the pandemic situation, to improving the treatment of patients and leverage the load of the medical system. However, there is a still a lack of systematic and brief review of the robotic search for the pandemic, from the technologies' perspective.

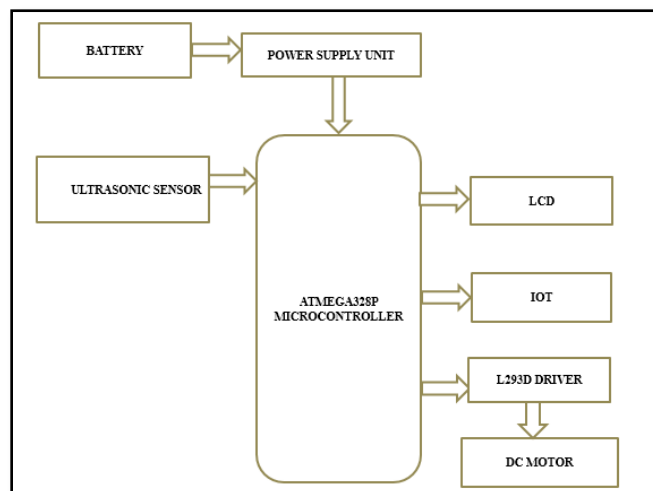
4. SUPREET THALE, BHUSHAN N CHOPDA, SHREYAS DEO, VIRAJ NYAYADHISH .., "DESIGN OF SMART MEDICAL ASSISTANT ROBOT FOR CONTACTLESS PRELIMINARY HEALTH CHECK-UP OF PATIENTS" 2020

The introductory health tests of patients in the hospital are carried out by doctors. This requires the doctors to be directly contact with the patient which may unknowingly exposes the doctors to contagious diseases and it wastes their time for tests which are primitive in nature. The delay of time also increases the time of waiting other patients in the hospital and this leads times to be delay urgent medical treatment of the patients with severe illness.

5. EXPECTATIONS AND PERCEPTIONS OF HEALTHCARE PROFESSIONALS FOR ROBOT DEPLOYMENT IN HOSPITAL ENVIRONMENT DURING THE COVID- 19 PANDEMIC., "SERGIO D.SIERRA MARIN, DANIEL GOMEZ-VARGAS" 2020

Several challenges to guarantee medical care have been exposed during the current COVID-19 pandemic. Although the literature has shown some of the robotics applications to solve the potential hazards and problems in clinical rooms, the implementation of those developments is limited, and few studies measure the perception and the acceptance of clinicians. This work presents the design and implementation of several perception questionnaires to assess healthcare provider's level of acceptance and education toward robotics for COVID-19 cont

HARDWARE BLOCK DIAGRAM:



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