

DYNAMIC MEDICAL MACHINE

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Abstract – In the Today's World people are commonly affected by fever, cold, head ache, stomach pain and other simple diseases and so the patient has to go to hospital, take all the necessary tests, consult a doctor, and then buy their prescribed medicine. This takes more time in both the hospital and in medical shop. In this system, In health care environments microorganisms are primarily transmitted in two ways: I) Contact transmission II) Droplet transmission. The modified part is our implementation. we deploy Anytime Medical Counter in all the rural areas where people cannot get good / best doctor on track. We install Heart Beat, Temperature sensor, Ultrasonic sensor, load cell, Camera and Head phone are connected to the Medical machine. Medical counter user and monitor from the remote area. Application is installed in both the ends for voice communication & chatting with doctor. Doctor examines the Patient and prescribes the medicines and the Medical Dispenser will Dispatch the Medicines from the AMM machine to the user. Medicines are updated in the Database. Patient and Doctor's details are updated in cloud server. User can send the request to the server to get the tablets intake timings. If people are affected by fever, cold, head ache, stomach pain and other simple disease machine will automatically dispatch a medicine, depending upon the disease of the patient. Three types of dispensers are fixed with the machine to dispatch the appropriate medicines. Our goal is to cutting down the millions of dollars spent on simple diseases (fever, cold, head pain, stomach pain) intelligent dispenser promises to dispatch the necessary medicines and is time reducing.

Key Words: RealTime Transport Protocol, ATM Medical Machine, Temperature sensor, Heart Beat sensor, Ultrasonic sensor, Load cell

1. INTRODUCTION

Our goal is to cutting down the millions of dollars spent on simple diseases (fever, cold, head pain, stomach pain) intelligent dispenser promises to dispatch the necessary medicines and is time reducing. The purpose of this SRS document is to provide a detailed overview of the project, its parameters and goals. This document describes about Wireless Sensor Networks (WSN) and the techniques adopted to prevent them from being attacked by simple diseases. Social Media Mediation System which can be used for the interactive communication between elderly people and younger generation via existed social media. This proposed system has been implemented on a single board computer which equips a microphone, camera, speaker, button, and network access function.

1.1 Protocol Used

RTP

The Real-Time Transport Protocol (RTP) is an Internet protocol standard that specifies a way for programs to manage the real-time transmission of multimedia data over either unicast or multicast network services. In our project we are using this protocol transferring video and audio call between patient and doctor.

1.2 Methodology

- We deploy the Anytime Medical Counter in all the areas where people cannot get good / best doctor on track.
- We install Heart Beat, Temperature sensor, Ultrasonic sensor, load cell, Camera and Head phone are also connected to the Medical machine.
- Medical counter user will monitor from the remote area.
- Application is installed in both the ends for voice communication & chatting with doctor
- Doctor examines the Patient and prescribes the medicines and the Medicine Dispenser will Dispatch the Medicines from the AMM machine to the user.
- Medicines are updated in the cloud server. User can send the request to the server to get the tablets intake timings. Android based remainder system is implemented.

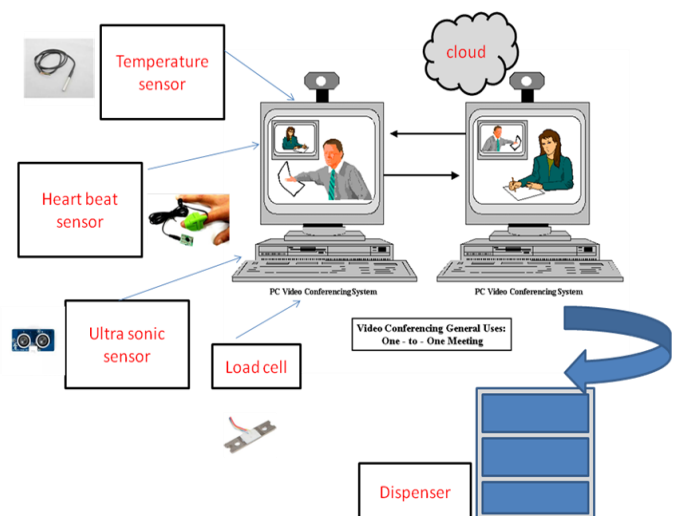


Fig -1 Architecture Diagram

2. ABBREVIATIONS AND ACRONYMS

- RTP-RealTime Transport Protocol
- Temperature sensor-for checking the temperature
- Heart Beat sensor-for checking the heart beat
- Load Cell-used for checking weight

3. MODULES

A modular design reduces complexity, facilitates change (a critical aspect of software maintainability), and results in easier implementation by encouraging parallel development of different part of system. Software with effective modularity is easier to develop because function may be compartmentalized and interfaces are simplified. Software architecture embodies modularity that is software is divided into separately named and addressable components called modules that are integrated to satisfy problem requirements.

- Modularity is the single attribute of software that allows a program to be intellectually manageable. The five important criteria that enable us to evaluate a design method with respect to its ability to define an effective modular design are: Modular decomposability, Modular Comps ability, Modular Understandability, Modular continuity, Modular Protection.
- The following are the modules of the project, which is planned in aid to complete the project with respect to the proposed system, while overcoming existing system and also providing the support for the future enhancement.

4. DIFFERENT MODULES

1. User/Doctor Registration
2. Server
3. Embedded Hardware Construction
4. Biomedical Analysis
5. Medicine Dispatch

5. MODULES DESCRIPTION

• User/Doctor Registration

In this module User must be register to access the application. The registration details are includes the design fields like Username, Password, Phone and other information with User's medical reports and also register to the doctor name , phone number and which specialist in medical field. Once the created the user is allowed to enter the data.

• Server

The Server will monitor the entire User's information and doctor information in their data base and verify them if

required. Also the Server will store the entire User's information in their database. Also the Server has to establish the connection to communicate with the Users. The Server will update the each User's activities in its database.

• Embedded Bluetooth Construction

- a. Heart beat sensor: Heart Beat can be measured based on optical power variation as light is scattered or absorbed during its path through the blood as the heart beat changes.
- b. Temperature sensor: The LM35 series are precision integrated-circuit temperature devices with an output voltage linearly-proportional to the Centigrade temperature. The LM35 device has an advantage over linear temperature sensors calibrated in Kelvin, as the user is not required to subtract a large constant voltage from the output to obtain convenient Centigrade scaling.
- c. Ultrasonic Sensor: checks whether the person is present or not

• Biomedical analysis

In this module, we can design and implementation of bio medical analysis. Application is installed in both ends for voice communication and chatting with doctor about health. In this module we implement disease analysis system in which the data will be analysis so that we can predictive the disease based on the given symptoms. This module interact with server to analysis, the analysis is done by the researchers. So they get the data from the server to make analysis

• Medicine dispatch

In this module, we will create dispatch the medicines from the AMM machine to the user. All medicines details are updated in the cloud server. User can send the request to the server for medicine, afterwards only to get the tablets to find the disease based on the symptoms.

6. ADVANTAGES

- Remainder notification
- Reliable
- Security
- Voice communication to patient and doctor

7. CONCLUSION

The sensor values are updated in the local server and the values are sending to doctor. Doctor can prescribe medicines and the medicine details are sending to patient mobile phone. With the help of this monitoring system we can provide efficient and regular monitoring.

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