*Impact Factor (SJIF): 5.301*

**International Journal of Advance Research in Engineering, Science & Technology**

*e-ISSN: 2393-9877, p-ISSN: 2394-2444*

***Volume 5, Issue 3, March-2018***

# Rural Medical ATM: ESTABLISHMENT OF DYNAMIC MEDICAL MACHINE - ACCESS OF BEST DOCTOR, MEDICATION WITH MEDICAL INVESTIGATIONS & THROUGH VIDEO CONFERENCING FROM REMOTE RURAL

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***Abstract* – This is design and implements an ATM based health-care monitoring system for the better medical diagnosis. This Medical Machine allows an individual to check the medical parameters such as Blood pressure, Heart beat, Body temperature, Height and Weight using appropriate sensors and machines. Then it establishes a tele-medical video conference between the doctor and an individual. The Doctor examines the patient's health condition by the calculated parameters and prescribes the medicines. A Medicine Dispatcher will dispatch the medicines from the AMM (ATM Medical Machine) to the user and it is updated in the cloud server. User can also send request to the server to check the tablets intake timings. This machine is especially deployed in the rural areas for better medical treatment, where people cannot get good / best doctor on track. This method is low-priced and noninvasive.**

***Keywords - Biomedical Monitoring, Health Parameters, Wireless Communication, Biosensors, Temperature Sensor and Heart Beat.***

## I. INTRODUCTION

As the healthcare infrastructure continues to grow new technologies promise to provide readily accessible health information that can help people to address personal and community health concerns. In general wearable and implantable medical sensors and portable computing devices present many opportunities to provide timely health information to physicians, public health professionals as well as consumers.

**Medical Machine** is the implementation on a single board computer with a microphone, camera, speaker, button and network access function belongs to the service category of one-way communication. **Telemedicine** is an important tool in delivering services to emergency departments (EDs) in rural areas. However, we do not yet know what kinds of services can be effectively delivered or the degree to which these services might be useful. In this pilot study, a high-speed, high-quality video, 24-hour ATM network linked a rural to a major medical center[9].

No clinical computing topic is being given more attention than that of electronic medical records. Health care organizations, finding that they do not have systems adequate for answering questions crucial to strategic planning and for remaining competitive with other provider groups, are looking to information technologies to help[10].

At the heart of the evolving clinical workstation lies the medical record in a new incarnation: electronic, accessible, confidential, secure, acceptable to clinicians and patients, and integrated with other, non-patient-specific information[10].
Doctors are asset immensely from the drive toward electronic medical records. They can access the care if patient has ever received and can figure the ailment[11].

Another benefit of this new technology is that it enables statistical documentation of the whole population. It can also help to make the healthcare system more transparent and can be integrated with reimbursement data[11].

## II.LITERATURE SURVEY

This paper presents the design and development of a microcontroller based heartbeat and body temperature monitor using fingertip and temperature sensor and it also allows a network to be formed between the patient and doctor in order to enable remote monitoring of patient by analyzing the data of patient [1].

These system help to monitor patients physiological parameters such as body temperature, body position, saline level indication and gas level measurement. These all parameters measured by ARM Processor[2].

This paper represents the patient monitoring is to continuously monitor number of patients for multi-parameters at a time from a remote place. Patient monitoring not only gives emergency alerts but also provides the necessary input information or data to control directly connected physiological instruments[3].

This paper monitoring of the patient is done by the doctor continuously without actually visiting the patient. Here, we are using various sensors to sense the physiological parameters like temperature, blood pressure [3] ECG and the level of saline. These sensed signals are transmitted to the Raspberry pi[4].

This paper monitories a wearable in-ear measuring system (IN-MONIT) for 24/7 monitoring of vital parameters has been developed. The central component is a microoptic reflective sensor located inside the auditory canal. From the measured photoplethysmographic curves, heart activity and heart rate can be derived[5].

This paper presents a portable health monitoring solution that records and transmits the clinically significant cardiovascular signals (ECG and PPG) to different acquisition platforms. It also supports immediate and automated analysis of the recorded signals on the acquisition device itself, in order to extract the real-time BP and HR[6].

This paper proposes an algorithm to estimate SBP and DBP using PTT and HR, that allows reduce continuous use of TMBP device for calibration[7].

This paper presents a patient-centric rehabilitation practice monitoring sensory system which operates based on monitoring rotational joints' angle[8].

## III.CONCLUSION

The Rural medical ATM can furnish patients with a more quick witted and more customized means through which they can get therapeutic input, spare significant time, fulfill their craving for individual control over their own health, and lower the cost of long haul medicinal care. As the identity of doctor is not revealed, there is uniform distribution of patients towards doctors. This system is low priced and non-invasive.

## REFERENCES

[1].Mohammad Wajih Alam, Tanin Sultana and Mohammad Sami Alam "A Heartbeat and Temperature Measuring System for Remote Health Monitoring using Wireless Body Area Network", International Journal of Bio-Science and Bio-Technology Vol.8, No.1 (2016), pp.171-190.

[2].Neha Pandya, Vitthal Bhosale, Rajesh Autee "Wireless Sensor Based Portable Patients Physiological Parameters Monitoring System" , International Journal of Innovative Research in Science, Engineering and Technology, Vol. 5, Issue 3, March 2016.

[3].Amol Wanjari, Madan Mali . "A Review: Remote Patient Monitoring System" International Journal of Advanced Research in Computer and Communication Engineering Vol. 5, Issue 5, May 2016.

[4].Mendrela Biswas, Rupali S. Landge, Bhagyashree A. Mahajan , Sharada Kore " Raspberry Pi Based Patient Monitoring System using Wireless Sensor Nodes" International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 Volume: 03 Issue: 04 Apr-2016.

[5].Stefan Vogel, Markus Hulsbusch, Thomas Hennig, Vladimir Blazek and Steffen Leonhardt . "In-Ear Vital Signs Monitoring Using a Novel Microoptic Reflective Sensor."

[6].Monika Jain, Niranjan Kumar, Sujay Deb An Affordable Cuff-Less Blood Pressure Estimation Solution."

[7].Ali Jadooei, Zaderykhin, Shulgin . "Adaptive Algorithm for Continuous Monitoring of Blood Pressure Using a Pulse Transit Time."

[8].R. Abbasi-Kesbi, A. Nikfarjam, and H. Memarzadeh-Tehran "A Patient-Centric Sensory System for In-Home Rehabilitation."

[9].P.Stamford,T,Bickford,H.Hsiao" The significance of telemedicine in rural emergency department" IEEE Engineering in Medicine and Biology Magazine ( Volume: 18, Issue: 4).

[10].Edward H. Shortliffe, MD, PhD "The Evolution of Electronic Medical Records" Academic Medicine.

[11].Drew Hendricks"How the technology is changing the medical and health care field".