



## Telemedicine: A Revolutionary Paradigm in Health Care Services

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**Abstract**— Home care services are growing rapidly in the last few years. Contemplating the patient/family pair, it represents an answer to the medical problems of the urban life. With the social trends, the senior population has been increasing in the past years. However, as living is more stressful than ever, there are more cases of chronic diseases. The troubles of transport in the big cities and the scarcity of hospital streambeds turn the home care an appealing solution. However, its routine can be switched by telemedicine. With the rapid development of computer science and communication technologies, doctors will utilize electronic communication to facilitate patient care more. We have developed a movable telemedicine system which is more flexible, robust and easier to use. It helps to eliminate distance roadblock and can improve access to medical services that would often not be consistently available in distant rural communities and It is also used to save lives in critical care and emergency situations. There are many healthcare technologies which have been implemented around the world. Among these technologies, very few are used for an emergency case. This project describes the implementation of a telemedicine system for patient monitoring using mobile telephony. The great aspect about this application is its generality. The system proved to be quick and reliable. Therefore, it represents an applicable solution to telehomecare.

**Keywords**— Telemedicine, Telehomecare, Mobile telephony.

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### I. INTRODUCTION

Recent developments in telecommunications and IT enhanced availability of telemedicine system in the health care fields. Telemedicine is easy to use tool with user friendly. Telemedicine is known as the delivery and sharing of medical information of patient over a long distance using telecommunication. It is successful in reaching masses and is set to revolutionize the health care services because it is the innovative methods of connecting two distant entities through communication link. Existing telemedicine and systems only exchange the information in a limited location. Using the portable device, the telemedicine service is feasible. Telemedicine provides the facility for patients to receive medical treatment from their own place. It allows to save the time and money for such people who cannot afford the travel with the factor of cost. Telemedicine allow to provide significant services to those areas where medical facilities are not available commonly. Presently telemedicine systems regards an integration of networking technologies with healthcare processes. The working problem in telemedicine is clear in patient monitoring, diagnostic and decision support and also communication systems needed at the point of care.

### II. OBJECTIVE AND SCOPE

This project describes the implementation of a telemedicine system for patient monitoring using mobile telephony. The major aspect about this application is its generality. The system proved to be quick and reliable. Therefore, it represents an applicable solution to telehomecare. The aim is to improve access to health care, continuing education for health professionals ,health education, for the community, and to increase organizational efficiencies through telehealth technologies. It is fully incorporate telehealth technologies into the routine business and practices for the provision of the health care in the different regions.

### III. LIETRATURE SURVEY

- Teleneuropsychology: it is the applicaytion of telehealth-based communications (i.e video teleconferencing) to neuropsychological services.
- Telenursing: it refers to the use of telecommunications and information technology in order to provide nursing services in health care.
- Remote surgery: it is performance of surgical procedures where the surgeon is not physically present in the same location as the patient.

### IV. METHODOLOGY

Telehomecare services are based on client-server architecture. There is a server application (normally, sited in a hospital) which storage and makes available the incoming vital signals came from the clients. The client, in its turn, is creditworthy for acquiring data from patient monitors and transmitting them through Internet. At his home, the patient is connected to the mobile application. So, the application produce the usual critical signals, such as ECG, heart rate, blood

pressure etc via Bluetooth. The ECG data can be transmitted from the ECG sensor to the hardware via internet. Next, the mobile phone is connected to the hospital server so it receives the information through the Internet. The signals are exchanged in packets and transmitted to the server using TCP/IP protocols. The data can be handled in two ways:

1. With a web browser for analysing purposes or
2. With a real time monitoring view on computer.

. From the web based browser a specialist can investigate and analyse thoroughly stored ECG data. The analysis report is sent immediately to the patient's Email id. The server which are settled in hospital saves data in a relational database. Then, health care providers (HCPs) monitor their patients using the server application

## V. ARCHITECTURE AND MASS IMPLEMENTATION

The architecture includes the following:

- Server Side:
  1. Admin page
  2. Welcome page
  3. Record Patient details page
  4. Search Patient Details page
  5. Search Doctor Detail's page
- Client Side(costumer):
  1. Mobile Device
  2. Mobile Application

The following diagram (fig.1) shows client-server based architecture of proposed system.

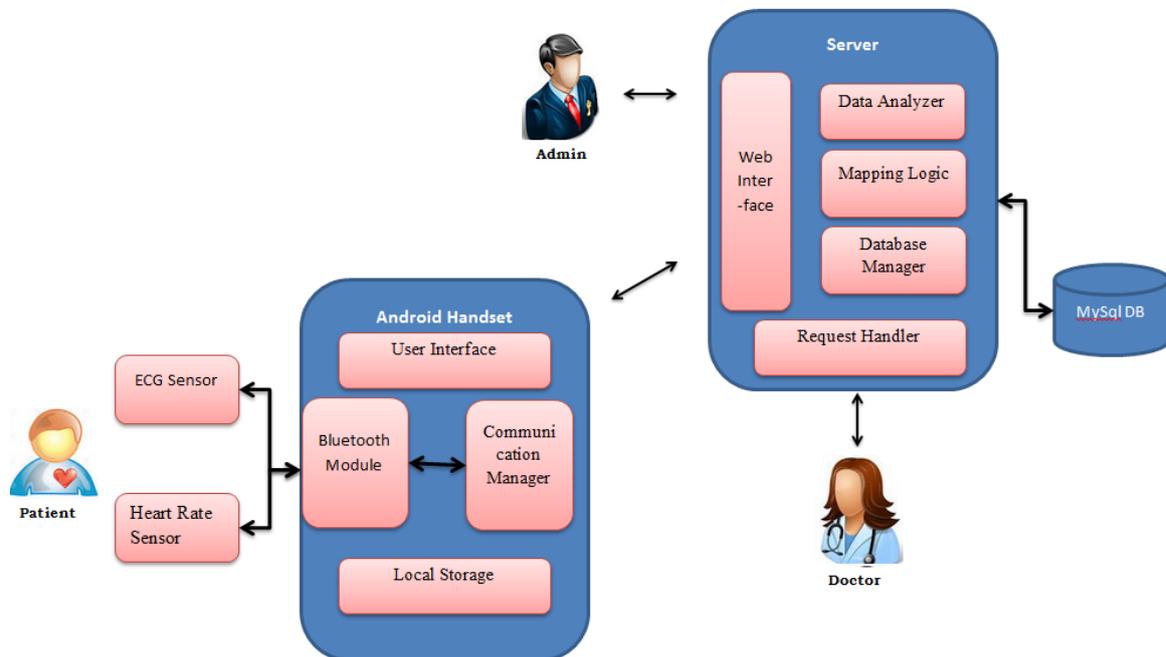


Fig.1: Basic block diagram of telemedicine system.

## VI. ADVANTAGE OF PROPOSED SYSTEM

- Real time ECG monitoring platform
- Alarming system for reporting problems with patients or device
- Browser based analysis platform
- Direct feedback over wireless connection
- Easy-to-understand reports
- Pre/post heart surgery patients
- Used for Cardiac patients
- People expecting heart problems.

## VII. CONCLUSIONS

The telemedicine is web-based application for tracking the service-oriented activities for a medical department or foundation which provide for medical department or foundation which provide customized solutions to meet enormous needs. It facilitates optimum utilization of resources, efficient management of records along with faster associability and with reasonable cost benefit. Thus it might bring about paradigm shift in medical services online. We believe that the implemented scheme can bring a revolution in our Telemedicine System mainly for Indian environment.

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