Chapter 13

Wireless Heartrate Monitoring Along Prioritized Alert Notification Using Mobile Techniques

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ABSTRACT

The increasing number of problems that need to be addressed in the hospital sector calls for innovation in this field. It brings us the need to find cost-effective and memory-efficient solutions to handle the vast data and sector it into essential information to operate on the patient. There used to be many systems to manage clinical records which are fixed at a place. It is quite complicated to get the information and make this data available at a patient’s bedside. This leads to a considerable amount of wasted time in moving to those storage PCs and also the cost afforded is comparatively high. A computer system that controls and accomplishes all the data in the hospital database to provide effective healthcare is called hospital information system (HIS). The introduction of HIS made billing and inventor easier for the staff. This paper discusses diverse methods that improve the cost, demands of HIS, and provide techniques to function efficiently using wireless networks. Also, the paper gives a comparative study on different aspects such as cost, quality of service, transportation, and security. A new system is proposed by combining the wireless healthcare system along prioritized alert notification.

INTRODUCTION

A Computer system that controls and accomplishes all the data in the hospital database to provide effective healthcare is called hospital information system (HIS). These health care systems have been existing since 1960s and have developed over time with better facilities. When they were in early stages, those systems didn’t provide solution faster when applied in real time, but now system provide solution faster and reliable. The introduction of HIS made billing and inventor easier for the staff. But, now all the
hospitals want to integrate the clinical, financial and other reports together to make the entire process a closed loop. This not only benefits the staff and patients to track the details but also make the discharge process also easier and faster.

Modern healthcare system requires integration of various departments which can be categorized as Core modules, supporting modules and Enterprise modules. Code Module includes Patient Accounts, Diagnostic Imaging, Radiology, Oncology, Ophthalmology, Orthopedics, Otolaryngology, etc. Supporting Modules includes Blood Bank, Elderly services, General Services, Patient Services, Purchasing & Supply, Therapy, Pharmacy and Health & Safety. Enterprise management include Finance and Human Resources. These department needs to integrated to retrieve patient details easily during emergencies and discharge.

Earlier there used to be many systems which provide the facility for managing the clinical records which are fixed at a place. It is quite complicated to get the information and make this data available at patient’s bed side. The attendants for the patient have to physically go to the location and manually enter that data into those PC’s which can lead to redundancy, data misplacement and errors in recording the data. This leads to considerable amount of wastage of time in moving to those storage PCs and also the cost afforded is comparatively high. Now-a-days, almost all the European countries are already having local area network (LAN) and wide area network (WAN). This eliminates the conventional process of treatment for the patient.

When maintaining the clinical record, many other details should be continuously monitored like whether the hospital bills are clear as per the due date which is to be collected from the administration department and also the availability of all the essential drugs to be supplied for the patient should be checked in advance from the logistics department. All this patient data must be exchanged between doctor and nurse and always they should be synchronized accordingly.