CHAPTER 2

LITERATURE REVIEW

2.1 REVIEW OF WIRELESS BODY AREA NETWORK

The term wireless network refers to Sensor Networks, Ad-hoc Networks, WBAN and WHAN. Wireless networks consists of a group of nodes with the wireless communication between the nodes. This network does not have any predefined infrastructure. Its begins from the home appliances to defense field communication applications. In an emergency, communication network for a rescue-team is one of the potential applications of a wireless network (Haas et al., 2002; Hamilton 2002).

Mrinmoy Barua et al. (2011), proposed an secure data transmission design in WBAN for data integrity. This user-centric design shares the data among all the sensors with a secret key to minimize processing requirements and the additional memory requirement. The results obtained based on security analysis proves this scheme provides proper privacy and security .And also it reduces the waiting time of a real time traffic in WBAN.

Xigang Huang et al. (2011) examine the efficiency of energy in cooperative based wireless body area network. Single-relay cooperation, Direct transmission and multi-relay cooperation are three popular
transmission schemes that are discussed in his paper. Optimal power allocation with targeted outage probability is analyzed to show its performance. Highly dynamic Destination-sequenced Distance-vector (DSDV) routing for mobile computers is discussed by Perkins et al. (1998). This method routes the mobile data to the group of mobile hosts without any involvement of any access point. Also this work proposes an innovative operation for ad-hoc networks.

Dynamic source routing protocol for mobile ad hoc networks is proposed by Johnson et al. (1998). This framework is designed particularly for multi-hop wireless ad hoc networks. Two important mechanism used under this framework are route maintenance and route discovery. This two mechanism works together to maintain and to discover the routes to arbitrary destinations in the ad hoc network.

A novel algorithm named Ad hoc on demand distance vector (AODV) routing is proposed by Perkins et al. (1998) for the efficient operation of ad hoc networks. In this each mobile host works as a separate router and several routes are established between them on a requirement basis.

Haas et al. (2006) suggested a new hybrid routing protocol named ZRP - Zone Routing Protocol for mobile ad-hoc networks. This protocol is used to span large network and diverse mobility patterns. The routing zone maintains the route within a local region to improve the efficiency of a reactive routing mechanism.
Again Haas et al. (2002) proposed a routing protocol based on gossiping-based approach where each node forwards a message with some probability. This process is done to lessen the issues of the routing protocols.

Location-Aided Routing (LAR) is implemented by Ko et al. (2012), in which he improved the performance of the routing protocols for ad hoc networks. This protocol limits its searching up to the request zone by using the location information in the mobile ad hoc networks.

Basagni et al. (1998) introduced a ‘DREAM’- Distance Routing Effect Algorithm for Mobility for ad hoc networks with two novel observations. The main one is the distance effect with the fact that ‘if the distance between two nodes are greater then the movement between two nodes are slow with respect to each other.

A contention-based Medium Access Control protocol named T-MAC, an adaptive energy-efficient MAC protocol for wireless sensor networks is proposed by Dam et al. (2003). The ultimate objective of this protocol is to reduce the consumption of energy through the active or sleep duty cycle.

Wang et al. (2007) discussed the ideas for the health care applications, in which the ECG data taken for the analysis of human identification for the biometric recognition. In this analysis of the data an approach based on the auto correlation with Discrete Cosine Transform (DCT) is introduced for effective analysis of the ECG data for the health care analysis.
Agrafioti et al. (2009) also recognized the systematic analysis of the electrocardiogram (ECG) signal for application in human recognition. Here ECG biometric analysis in cardiac irregularity conditions is analyzed.

Biel et al. (2001) introduced a multivariate analysis for the identification task. This new approach performs ECG analysis McDonagh et al. (2007) in human identification. A standard 12-lead electrocardiogram (ECG) is recorded during analysis. A person in the predetermined group is identified by the corresponding features extracted from the ECG data.

An study on verification of humans using the electrocardiogram data is applied by Wubbeler et al. (2007) This study is also based on the biomedical applications[26] based on the realistic scenario for ECG biometrics is analyzed.

Stevan Marinkovic et al. (2011) implemented a nano power wake up radio based on the wireless networks for the low power consuming wireless applications. WSN based frame work for human health monitoring is proposed by Janani et al. (2011) in which a radio is utilized to measure the robustness and power consumptions of the communications.

Srikkanth Govindaraajan et al. (2009) introduced an associate technology named Red tacton, this uses the physique for the transferring of the information. This methodology uses IEEE 802.3 common place to
transmit the digital information. This methodology brings no damage to the physique while sending the signals.

Jae-Hoon Choi et al. (2011) planned a brand new Quadrature Amplitude-Position-Modulation (QAPM) for saving the ability. This methodology shows the real demo of however the WSN is applied for perceptive the patient’s health. The main factors this methodology focuses square measure vary of power consumption and measurability.

Tommi Ttovinen et al. (2012) gift a unique UWB loop antenna with off-body link and on-body link to eliminate the harmful effects of physique tissues. Yao et al. (2005) introduced a wearable purpose of health care system for home use that has plug and-Play and wireless standards. The factors like power consumption, information storage, information transmission, and device synchronization and mobility are addressed by the IEEE 1073 standard.

Chevronlier et al, (2005) uses the wireless network technologies in health environments and conjointly it spotlight on the suitableness of wireless technologies in attention environments. Wireless Personal Area Network technologies like Bluetooth and therefore the low-rate specifications represented within the IEEE 802.15.4 standard is in use here. Brunelli et al. (2006) introduced bio-feedback system. Communication protocols, power management policies and application-level management are tuned to optimize price, battery autonomy and period of time performance needed for this application. The sensor network is intended to be distributed on the user's body for balance observance and correction.
Lamprinos et al. (2005) established energy efficient MAC protocol for patient personal area networks. This includes a wireless infrastructure of medical sensors which is attached to the patient's body for laying a path for continuous and real-time monitoring. This infrastructure develops the context of remote healthcare services by supporting flexible acquisition of crucial vital signs.

2.2 REVIEW OF ROUTING IN MULTI SLOT MAC

Designing MAC Protocol is a complex research domain and widely focused with the area of Wireless Sensor Networks (WSN) Ye et al. (2006) (2004) and Heidemann (2003). In a research article proposed by Lamprinos et al. (2005) introduced a design for Patient Personal Area Networks based on MAC protocol in which master-slave architecture is employed. This scheme brings a limit on the duty cycles of slave node. Always the nodes with low duty cycle are preferred.

As a major project Ye et al. (2006) proposed a application based on the energy wastage in wireless sensor networks due to traffic fluxes and protocol overhead, listening, eavesdropping and are collisions are analyzed.

2.3 REVIEWS ON CLOUD CONCEPTUAL MODEL

Depends on Cloud computing methodology for channel and communication, Wireless Human Network protocol institution effectively uses the model by that it gets together with, on a requirement access of network to a shared setting of computing resources
configuration that may be underneath rising and discharged with normal effort of manage mentor service supplier interaction Haas and Pearlman (1998). The infrastructure of cloud is provided for excessive use by one institution containing many customers is planned by Akyildiz et al. (2002).