**Chapter 2**

**System Requirement**

**2.1 Previous Work**

Min Chen et. al [08539015-2018] proposed an urban healthcare big data system named UH-BigDataSys introducing a method of integrating multi-source air quality data for the data preparation of artificial-intelligence-based smart urban services. The goal of UH-BigDataSys is to provide a healthier lives for urban residents.

Min Chen et. al [07912315-2017] proposed a new convolutional neural network (CNN)-based multimodal disease risk prediction algorithm using structured and unstructured data from hospital to overcome the difficulty of incomplete data using a model to reconstruct the missing data.

Alaa Awad Abdellatif et al [08674240] presented Multi-access Edge Computing(MEC) for smart health applications envisioning a MEC-based architecture to provide efficient data delivery, multimodal data compression and edge-based feature extraction for event detection and the benefits can bring to realize in-network and context-aware processing.

Pramanik[2017] propose a big data enabled smart healthcare system framework (BSHSF) that offers theoretical representations of an intra and inter organizational business mode in the healthcare context making five recommendations for effectively applying BSHSF to the healthcare industry.

HealthGear [8] is a real-time wearable system for monitoring, visualizing and analysing physiological signals. HealthGear consists of a set of non-invasive physiological sensors wirelessly connected via Bluetooth to a cell phone which stores, transmits and analyses the physiological data, and presents it to the user in an intelligible way. In this paper, they focus on an implementation of HealthGear using a blood oximeter to monitor the user’s blood oxygen level and pulse while sleeping.

CodeBlue [9] is a wireless infrastructure intended for deployment in emergency medical care, integrating low-power, wireless vital sign sensors, PDAs, and PC-class systems. CodeBlue will enhance first responders’ ability to assess patients on scene, ensure seamless transfer of data among caregivers, and facilitate efficient allocation of hospital resources

MobiHealth [10] project has developed and trailed a highly customisable vital signals' monitoring system based on a Body Area Network (BAN) and an m-health service platform utilizing next generation public wireless networks. The developed system allows the incorporation of diverse medical sensors via wireless connections, and the live transmission of the measured vital signals over public wireless networks to healthcare providers.

Chen [11] developed a friendly web-based interface that is convenient to the observation of immediate human physiological signals. Moreover, this study also proposes an intelligent data analysis scheme based on the modified cosine similarity measure to diagnose abnormal human pulses for exploring potential chronic diseases. Therefore, the proposed system provides benefits in terms of aiding long-distance medical treatment, exploring trends of potential chronic diseases, and urgent situation informing for sudden diseases.

In recent years, there has been a proliferation of consumer health monitoring devices. A good portion of these devices have been developed for the sports conditioning and weight management areas. There are sophisticated watches available today that provide real-time heart rate information and let users store and analyse their data on their home PCs.

**2.2 Requirement of the proposed System**

All the previous work done based on the health monitoring systems mainly focus on the data collection, while processing and analysing of the data is performed offline. This is the major problems of the existence systems. In some cases, the portability of monitoring device is also a problem.

In HealthGear project, cell phone is used for storing and processing of the physiological data which provides lack of storage capacity and data processing. The Codeblue project comes with the solution of real time response. In Chen’s system data was processed in the server which solves the problem of HealthGear project.

In the recent years, almost every person has an Android Smart Phone. Android is the most widely used smartphone operating system. We have designed a system for the health monitoring system using Android Smart Phone. Using this phone can easily upload the patient current health status to the server and can communicate with doctors.

A number of research works try to develop a system which is basically focus on the collection of data and processing those data using the usual analysis tools. With using Big Data analytical tools they proposed a system to analyse the data. But No one shows how to analyse, Which Big data tool is best for which condition. They didn’t use the mapreduce, pig, hive, spark analytical tools with Hadoop framework. What are commands to apply the health data to extract useful information from unstructured health big data. In my research try to find the answer of the above question.