**Wireless Sensor Network and Web based Information System for Asthma Trigger Factors Monitoring**

**ABSTRACT**

This project presents a web information system and a wireless sensor network for indoor or outdoor air quality monitoring with application in asthma trigger factors assessment. As the main target is mentioned the development of a flexible system characterized by a low-cost sensing nodes that assures robust and continuous monitoring of air conditions in order to prevent the asthma attacks. At the same time it permits to establish correlations between the air quality parameters and the appearance of respiratory diseases such as asthma as part of environment medicine approach. The wireless network includes a set of sensing nodes with ability to measure environment parameters like temperature, relative humidity, carbon monoxide among others and to send processed information to a smart coordinator. The primary processing is done by the smart coordinator that transmits the processed values of air quality parameters and heartbeat rate including alarms to a web based information system. Referring the web based information system it assures the human machine interface, the users being capable to receive alerts, and to visualize the data associated.

**Existing System:**

In the existing system, they have implemented using a short distance protocol of Zigbee, where has it is very limited range communication and not suitable for such applications where the person can move out the WSN network range.

**Proposed System:**

The proposed system will developed around GSM technology, which is very long distance communication. The Monitoring system connected to human will continuously acquire the data from the sensor and transmits it over to the central server through GSM network which will analyze the values and if any factor are found that can trigger asthma then will alert the user using an SMS and the data will be posted to web for remote location view.

**BLOCK DIAGRAM**

**Software: L**inux OS, web server.

**Hardware:** ARM11 (Raspberry Pi), Ethernet router, GSM, ARM7/PIC, GPS, Heartbeat sensor Gas sensor, Temp sensor.

**Applications:**

Web based results, Remote location monitoring.

**Advantages:** EasilyInstallable to human body, shock proof