1. Introduction

In current living environment, the disasters, such as fire accident, earthquake, air pollution and so on, often occur and lead to huge life being and cost loss. How to prevent and reduce the occurrence of such disasters is very important issue. In this project, we develop an intelligent disaster preventive and detective system by integrating various technologies, such as cloudy computing, wireless Sensor Networks and Googles Map.

2. System Description

2.1 The Architecture

Our system consists of following modules:

- **Wireless Sensor Networks,**
- **Googles map.**
- **Mobile Cell and**
- **Speech synthesis.**

As shown in Figure 1, all the above modules are integrated in Internet. At first, the wireless sensors will detect and collect the data in environment and pass into the gateway (front-end server) through the ZigBee protocol. Secondly, all the data in gateway will be transmitted to back-end server in remote site.
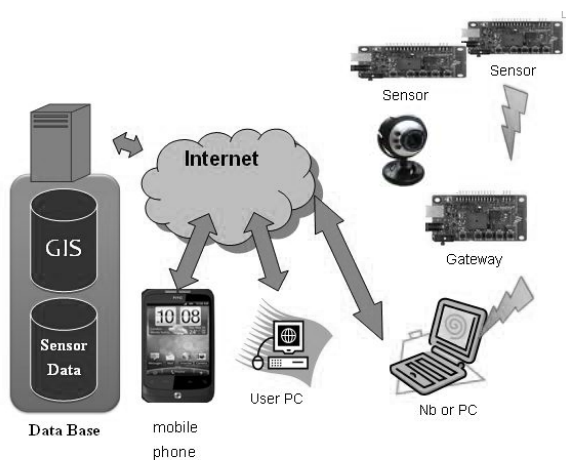

Image1.System Structure

Figure 1: System **Architecture**

In the back-end, there are two databases for environment and Google Map information. All the clients (users) can monitors the environment by Web Cam and browsers.

2.2 Module Functions

1)Wireless Sensor Networks : the ZigBee based sensors collect all the data and pass into front-end server.

2)Googles Map : provide the GIS information related with the detecting site and display it on the map.

3)Mobile Cell: users can control adjust the view of web cam in remote site and monitor real time the environment synchronously.

4)Speech synthesis: while an extraordinary situation is detected, the module will generate the synthesized speeches related the detecting data and notify the disaster center and some relative users. It is a cloudy computing technology.

2.3 Intelligent disaster preventive and detective system

We have developed an intelligent disaster system to prevent and detect living or foctory environment. The goal is reduce the occurrence of some disasters. In our system, ZigBee based sensors can detect kinds of environmental features, such as the earthquake, fire accident, changes in air, temperature, Geographic site, and location moving. Upon the change are detected automatically, we will notify related authorized unit or people by many manners , such speech, e-mail and web can picture, to adopt in time necessary procedures to reduce the loss.

2.4 Conclusion

In our detective system, we have developed an intelligent disaster preventive and detective system integrating various technologies. The sysetem provide visual user interface and Web Cam to enhance flexibility and prerformance. We hope the system can recude huge loss in real world.