

# **Computing for Human Services**

**Chief Editor**

**Shihab Ahmed Hameed**

*Electrical and Computer Engineering-IIUM University*

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## Chapter 27

### Wireless Technology to Secure Emergency and Guidance

Shihab A. Hameed, B. A. Aliyu  
Faculty of Engineering, International Islamic University Malaysia IIUM,  
E-mail: [shihab@iium.edu.my](mailto:shihab@iium.edu.my)

#### 27.1. Introduction

Different aspects of modern life require an effective emergency and guidance systems. Right from ages, the different nations developed their own emergency or guidance system based on their needs as well as cultural, educational, and technological level/height. Although emergency and guidance systems were developed and used for a long time, they suffer from inadequacies in terms of their functionalities and the technology used, especially in communication. To have an effective emergency and guidance systems, we have to overcome the existing shortcomings. This chapter introduces the current situation of emergency systems, guidance system, communication technologies, and summarizing weaknesses in the current systems. To solve such inadequacies we propose an integrated (unified) model to emergency and guidance using the latest broadband wireless technology (WiMAX). This unified emergency and guidance model can offer: Live video and audio coverage of emergency situations, Auto pre-recorded Short Message Services (SMS) and Multimedia Message Services (MMS) to all relevant emergency services, site-location (positioning) and route-guidance to destinations, auto-access to all information related to emergency victims, easy adaptability and portability for use in a number of different occasions at different locations, covering a wide area, providing security and flexibility.

#### 27.2. Fundamental of Emergency and Guidance

This section gives an introduction about emergency and guidance facilities, and the need for improving. People have many social and religious activities and gathering in their life where a large number of people are gather with in specific time and place. Such activities require offering a suitable emergency or guidance systems to avoid any inconvenient cases.

An Emergency can be defined as “any event that arises in an environment having the potential to adversely affect the health or safety of persons and valuables in the area and requires immediate response by them” [1]. The main target of any emergency system is