Leveraging Emergency Response System Using the Internet of Things. A Preliminary Approach

Abstract

The Internet of Things (IoT) is a new paradigm that is arising in all areas of technology, finding novel applications every day that can improve many aspects of people's lives. Several applications using IoT have been subject to research and development; one of these applications is traffic monitoring and management. In the case of an accident or a medical emergency, we know that a fast response is essential to people's survival. However, in a city where the population increases, but the road space does not, traffic jams are an everyday thing. Traffic jams affect ambulance arrival to the hospital or a fire truck to the fire site. Thus, it is crucial to develop a system that can reduce the response time in case of an emergency. We propose to build an open IoT system over the current city architecture to communicate emergency vehicles to the surveillance cameras network and the traffic-light system to dynamically change their schedule and provide in this way a green wave reducing the response time. In this paper, we study the theory behind our proposed system as a whole. The results presented demonstrate that the subsystem used to identify and locate the emergency vehicles works properly. Also, we discuss the next steps to follow in order to implement all subsystems that need to be integrated.