

Development of Internet of Thing (IoT) technology for flood prediction and Early Warning System (EWS)

ABSTRACT

Flood is the most significant disaster happened in almost every part of the world. When the event occurred, it causes great losses in economic and human life. Implementation of the advancement of ICT brings significant contribution to reduce the impact of flood toward the people and properties. This paper attempts to investigate the capability of internet of things (IoT) technology in reducing the impact of natural disaster specifically in flood disaster scenario. First, the concept of Internet of Things (IoT), key technologies and its architecture are discussed. Second, related research work on IoT in disaster context will be discussed. Third, further discussion on the propose Internet of Things (IoT) architecture and key components in the development of flood prediction and early warning system. The smart sensors will be placed at river basin for real-time data collection on flood related parameter such as rainfall, river flow, water level, temperature, wind direction and so on. The data will be transmitted to data centre via wireless communication technology which will be processed and measured on the cloud service, then the alert information will be sent users via smart phone. Thus, early warning message is received by the people in terms of location, time and other parameters relate to flood.

Keyword: Flood prediction; Flood disaster; Early warning system; Internet of Things (IoT); Wireless sensor network