

# Designing an IoT platform using Wireless Sensor Network

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**Abstract:** *The Internet of Things (IoT) is not only a well-researched topic but also a growing industry. Although the main idea is to connect devices to the internet, there are many ways to do this since IoT systems are application-oriented. This paper presents a wireless sensor network (WSN) based IoT platform designed for wide area applications. The platform consists of one or more wireless sensor networks, gateways, web servers, and databases that provide a reliable connection between field sensors and Internet databases. WSN is based on the IEEE 802.15.4e Time Slot Channel Hopping (TSCH) protocol because it has the high performance. Subsequent to the system designed for many subscribers, new synchronization plans and effective transmission functions are also planned to increase network capacity and reduce energy consumption. Therefore, the platform concept can meet the needs of high-end applications and the battery life of low-end applications.*

**Keywords:** IoT Platform, Wireless Sensor Networks, Application development, Time slotted channel hopping protocol