

# **Proposing a New Quality Model for the Applications of the Internet of Things: Smart Cities as a Case Study**

By

Hala Omar Al-Awawdah

Supervisor  
Dr. MohammadMuhairat

Co. Supervisor  
Dr. Mohammad Abdallah

Al-Zaytoonah University of Jordan,2021

## **Abstract**

The Internet of Things (IOT) is the new Internet revolution, where applications enable smart city initiatives around the world. The tremendous growth of smart cities and IoT applications has created many scientific and engineering challenges that require ingenious research efforts from academia and industry, particularly for the development of an efficient, scalable and reliable smart city based on the Internet of Things. There is an urgent need for new protocols, structures and quality model to respond to these challenges. The purpose of this study was to propose a new quality model for IoT applications: smart cities. Moreover, to validate the proposed model, formulas were used to collect data. The design of this thesis is a case study that includes scenarios. These scenarios were requirements, navigation, patient monitoring, home and parking. The results show the most important functions identified in IoT applications and derive practical quality models for quality management and IoT applications. IoT applications are a complex group of different technologies such as wireless communications, embedded networks, sensors, and connectivity. Quality features and indicators in ISO 25010 are largely insufficient to measure the quality of IoT applications..

**Keyword**, IoT (Internet of Things), IoT applications, ISO/IEC 25010, characteristics, quality attribute