

ABSTRACT

The rapid development of the Internet of Things (IoT) has led to the proliferation of IoT devices in various fields such as smart homes, smart cities, industries, and healthcare. However, security challenges have become more complex with the advent of connected IoT devices. Authentication of IoT devices has become a crucial security aspect to ensure that only authorized devices can connect and communicate with networks. In this abstract, we propose the use of MQTT-based identification with QR codes as an efficient and functional solution. This method combines the usability of QR codes with the strong security of the MQTT protocol, creating an efficient and functional authentication method for IoT devices.

The MQTT-based QR code authentication approach offers several advantages, including enhanced data security through strong authentication, reduced complexity in the authentication process, and ease of use with QR codes. The lightweight and energy-efficient MQTT protocol also ensures minimal resource usage of IoT devices, enabling optimal performance. This authentication solution provides a reliable and efficient method of identification for IoT devices.

By incorporating quantitative and qualitative data from the research findings, we conclude that MQTT-based QR code authentication is an innovative and effective solution in enhancing the security of IoT devices. This research is expected to contribute to the development of better security solutions to support the ever-growing IoT ecosystem.

Keywords: Internet of Things (IoT), authentication, MQTT, QR code, security.