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Wireless Parking-lot Access System (WPAS)

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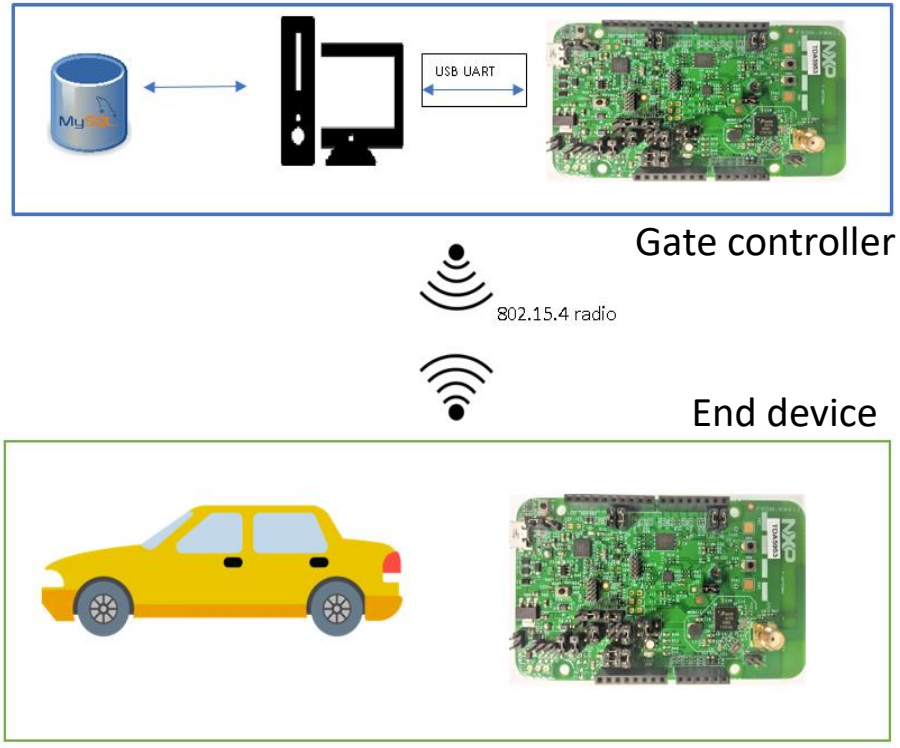
Introduction

Without dependable gateways, effectively managing access control is not possible. Many systems have come into existence to solve the problem of unmanned gates. These systems, though solve the problem by creating automated parking-lot access, come with their own downsides as they demand users to open their windows, require time-consuming processing and have large queues during rush hours.

Wireless Parking-lot Access System (WPAS) is designed to efficiently control access and exit gates of parking facilities. One of the notable benefits of wireless parking management solutions is that vehicles can be permitted to enter or exit the parking facility without human intervention on the gate control. Instead of swiping magnetic stripe cards, WPAS enables users to simply approach the gate and just press the push button installed in the vehicle. The gate controller will authenticate the user's vehicle and allow it to pass through.

Proposed System



Features

- User friendly system
- Easily integrated into current gate controllers.
- User identification using IPv6 address leading to enhanced security.
- Improves efficiency of existing system by reducing delay between users
- Cost of integration with gate controllers is minimal

Conclusions

The project Wireless Parking Access System (WPAS) suggests a prototype that can replace existing systems for parking-lot access to be more user-friendly. The system is working on wireless protocols that establish a thread network through IEEE 802.15.4 radio communication. Constraint application (CoAP) is utilised transfer messages as these messages will be small, thus applicable in low power boards like FRDM KW41Z. WPAS transacts with the end device using a unique IPv6 address leading to enhanced security and user identification.