ABSTRACT

The constant development of internet of things has made the application of smart city concept attainable. The field of IoT is receiving constant endeavor in order to achieve peak efficiency of urban infrastructure. Issues such as, lack of system to make a reservation on parking spots in a parking facility, rapid urbanization, and climate change are being addressed by IoT.

The previous research conducted by Ridho Khathir Faza has successfully implemented a prototype Reservation Based Smart Parking System (RBSP) that enable driver to effectively find and reserve an empty parking spot. Although, the weakness of this research is that the system was unable to record operational data for more than a day and it can only monitor a single story parking area.

In this thesis, according to the problems above, we present an IoT based web integrated smart parking system. Said system consists of an on-site development of ultrasonic sensors to monitor and signal the availability of each single parking space. A web app is provided to allow an end user to reserve a space in the parking lot, while the system able to record operational data for more than a day and monitor a multi-storied parking site.

Keywords: Internet of Things, Web App, Ultrasonic Sensor, Smart Parking, Reservation.