

ABSTRACT

The development of information systems and technology is growing rapidly. These rapid developments have an impact in various fields, including in the field of parking services. The need for a car has become primary in the current era, many places need a safe and easy parking space, one of which is a hospital. The hospital is one of the places where the use of a dense car park, especially with the current situation, namely Covid-19, the hospital will be full of patients who want to get a vaccine from Covid-19.

The development of information systems and technology on the Smart Parking System (SPS), using automatic parking bars and use the internet as an intermediary media as a media communication system, can be used as a solution to this problem. Through this plan, an automatic parking barrier system and an IoT (Internet of Things) based parking slot detection system were designed. This method uses ultrasonic sensors, Microcontroller and servo motor circuits as an automatic parking gate design, then ultrasonic sensors, nodemcu V3, and a web server as an IoT-based communication design. This system can inform through a web device to make it easier for hospital visitors to park their cars easily in conditions that are generally very crowded.

The author analyzes and designs the SPS structure which will later be built using a programming language and simple components. Microcontroller processes data on a miniature parking area. Ultrasonic sensors are placed in each parking slot. The data on the Microcontroller is sent and stored on the IoT platform, namely the Ubidots. Nodemcu acts as a gateway, because if using Arduino Uno does not have a wireless component, also uses wifi and will be displayed by the client on the web. This technology can accelerate the performance of existing parking systems in the future.

Keyword: Automated Parking Barrier, Smart Parking, Internet of Things, WebServer