

Abstract

One of the problems that always arise in the basement parking system is the lack of information regarding the availability of parking space, therefore a system is needed to obtain information regarding the availability of parking spaces automatically. Because the parking lot is in a large basement, a tool is needed to be able to detect the availability of each parking space. The use of IOT (Internet Of Things) technology is implemented in this study because it can connect the parking area connectivity to the internet and can be accessed remotely. This research uses the WSN (Wireless Sensor Network) method which consists of sensor nodes that can be used to collect data in various situations. Nodes will be randomly assigned to each parking area to detect parking availability. One of the main problems with WSN is creating an efficient network protocol that saves energy. Network protocols have an important role in network durability so that energy savings are needed so that network durability can last longer. To overcome this limitation, power saving is carried out by utilizing the cluster head selection mechanism. The process of selecting the cluster head is carried out periodically based on the LEACH algorithm (Low Energy Adaptive Cluster Hierarchy). LEACH allows nodes to have longer network endurance so that communication between nodes and servers continues so that the information delivery process becomes effective and optimal.

Keywords : Internet Of Things, Wireless Sensor Network, Parking , Leach