

ABSTRACT

Hotel room management is an important aspect in the hospitality industry. The manual way of recording hotel room occupancy is often inaccurate and time-consuming. This study aims to develop a prototype of an IoT-based hotel room occupancy detection device with the concept of measuring electricity usage. Sensors are installed in every hotel room to detect the use of electrical energy and are connected to systems that process data. IoT-based algorithms are used to analyze data and detect the presence of guests in hotel rooms. The results of measurement and testing show that the hotel room occupancy detection device has an accuracy level of 99.88% for voltage measurement, 84.93% for current, and 97.53% for power. This device is also equipped with a monitoring website that allows users to easily monitor the status of room usage. On website monitoring, if the power read from the sensor in a room exceeds 1.2 W, it will be noted that the room is in use. Conversely, if the reading power is below 1.2W, it will be noted that the room is not used. This research succeeded in developing an IoT-based hotel room occupancy detection device prototype that is accurate, effective, and equipped with a monitoring system through the website.

Keywords: IoT, Occupancy, hotel room management, real-time.