ABSTRACT

The management of sports facilities, such as Sports Halls (GOR), plays a crucial role in providing services to the community. However, many of these facilities still rely on manual and conventional management processes. This leads to primary challenges, namely the difficulty for users in obtaining real-time court availability information and an inefficient reservation process.

This research develops an integrated solution to address issues related to field usage, consisting of a monitoring system and a field booking platform. The system is built upon three main components: a website for reservations and an admin dashboard, a mobile application for easy user access, and an Internet of Things (IoT)-based monitoring system. This IoT system utilizes an ESP32 to automatically detect the field's usage status based on lighting conditions.

Testing results indicate a very high level of user acceptance. Quantitatively, the beta test resulted in an average user satisfaction rate of 86.8%. Qualitatively, through User Acceptance Testing (UAT), the system was fully accepted by the GOR management, who deemed the system's interface modern and the booking flow very clear. These findings prove that the developed system successfully provides an effective and efficient solution for modern sports hall management.

Keywords: Booking System, Court Monitoring, Internet of Things (IoT), ESP32, Sports Hall Management