

## **ABSTRACT**

*GOR (Sports centre) is a place or means to accommodate a wide range of sports activities. GOR provides complete facilities according to the needs of the athletes. But very unfortunate development and the GOR facilities are very expensive. Coupled with the limited means of GOR, where the average GOR in Indonesia only provides one field of sport in a GOR, so there appear some public complaints in accessing GOR, among others from the system of schedule settings that are still manual, payments, the distance travelled to the GOR, and others. This research was conducted to offer several solutions and considerations in Indonesia in the field of sports. Like the improvement of technology, ease in accessing facilities and megoptiizes existing infrastructure. The research offers a design and IoT design in the form of an automation lamp packaged with a smart floor system using a load cell sensor. Where will be designed into a field that presents 3 sports areas, as well as development of Android-based applications to facilitate the arrangement of such field schedules and access.*

*This research utilizes Raspberry Pi, a hardware that can follow the development of IoT Technology (Internet of Things). The prototype on this study was innovated from a field of less than 0.2 mm in dimension with its ability to follow footsteps, body movements and AI. It is known as Smart Floor. Some additional hardware components in designing field prototypes used in this research are LED Neon Flexible, Module Relay, Module Amplifier HX711, and Load Cell sensors as load detectors above the surface of the field. In the software, using Android Studio as an Android-based application development, and a MySQL database server that is packaged in the form of a sports field reservation application. This concept will be applied to a sports court. Lamps and load cell sensors are designed using the automation lamp method, thus becoming an efficient and energy-saving technology.*

*Testing is done on the functional and validity of the tool to ensure that all tools are functioning properly, then perform the sensor performance test results in the light of the lamp. By using the lowest stopwatch value lag time the sensor turns on the lamp is 0.55 s with an average of about 0.99 s, on the mobile application has a QoS value with the category "good" ie in the results of the result of the resulting 593.46 bit/s, transmission delay 0.198 ms, and packet loss 0% of the range of 99.7% in the system.*

**Keywords:** *Internet of Things, Automation Lamp, Raspberry Pi, Load Cell, LED, QoS, prototype, Smart Floor, concept, reservation.*