

PENGEMBANGAN ALAT PENGUJIAN KETAHANAN OTOT TUNGKAI (WALL SIT TEST) DENGAN PENDEKATAN ARTIFICIAL INTELLIGENCE & INTERNET OF THINGS (AIOT)

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ABSTRACT

Indonesia's enthusiasm for the world of sports has grown exponentially in recent years. Structured, goal-oriented and consistent athlete development is the most important key to this success. In the training mechanism, athletes must go through several stages of training to achieve maximum performance on the field. One aspect that determines performance is physical fitness. When an athlete with good physical fitness is able to carry out his duties without excessive fatigue and recovers optimally from injuries caused by fatigue he suffers. The physical training model in competitive sports has its own focus. Such as football, futsal, takraw, marathon, cycling, long jump, and others that depend on skill, dexterity and endurance of the legs, of course require special training for leg muscle movements. One exercise technique to increase the physical strength of the legs is the wall sit test.

The test results can be a reference for coaches to monitor the physical development of their athletes. However, until now trainers measure physical endurance, especially leg muscles, which is still done traditionally. This results in data collection not being optimal for determining physical development in real world conditions. Therefore, this research focuses on developing a system to measure and record leg muscle strength in athletes who use their legs as their main weapon. System development is carried out digitally. The system can record automatically and can be analyzed flexibly anywhere and at any time using Internet of Things technology. Apart from that, the system can also correct whether athletes are right or wrong during the test. This system is also supported by an artificial intelligence process which is expected to be able to produce data with high precision and accuracy. The system is targeted to be built at TKT level 6.

Kata Kunci: *Wall Sit Test, Physical Muscle Endurance, IoT, Artificial Intelligence*