ABSTRACT

Electricity can facilitate people's activities, but if it is not used carefully, it can cause losses. People should pay more attention to electricity supply and electricity needs by saving electricity use. In the community, electricity is one of the biggest consumers and the biggest problem, the use of electricity describes the activities of the people in their homes.

This final project discusses the electrical device scheduling system. Scheduling of electrical devices is done by optimizing electrical devices in one room. With optimization, the use of electrical devices is reduced. The scheduling can limit the time the use of electrical devices.

In the electrical device scheduling system, the efficiency level of an internal optimization algorithm is determined using the Particle Swarm Optimization Algorithm method and a database is used as a place to store user data. The best fitness value is found in the 2nd iteration with a value of 88,545.663 where this value has converged, the way to obtain this value is by testing the best fitness value obtained from the previous fitness value. When testing web functionality (alpha testing) a value of 100% is obtained, which indicates this system is running according to well-designed rules.

Keywords: *Particle Swarm Optimization algorithm, power tools, scheduling, website.*