

ABSTRACT

Nowadays, electrical energy is one of the primary needs in everyday life. Every device that is used almost entirely requires electrical energy to be used. However, the lack of awareness in using electronic devices can cause monthly electrical bills uncontrolled, especially in office areas. To increase the electrical energy efficiencies on the offices, a web-based management system and control of daily electronic expenses is created that can determine the monthly electricity bill target. In this system, the priority of electronic devices can also be determined and forwarded into an optimization algorithm using the Genetetic Algorithm method for system efficiency and keep user data in the database. The optimal fitness value is on 60th generation, based on optimal fitness value. Based on the results of execution time testing that indicates the average time for execution is 0,18 seconds, and from rules validation testing, the application get a 100% accuracy rate, this indicates that the application is running properly.

Keywords: *Web, Database, Power Management, Genetetic Algorithm.*