# ABSTRACT

Excessive use of electricity is still happend occasionally. This commonly caused by user who forget or too lazy to turn off their appliance. Therefore, an optimal electronic device scheduling solution is needed to overcome these problems.

Optimal scheduling is being done by genetic algorithm model will process input data from website and generate duration recommended for each device according to the optimal criteria. The optimal criteria are the scheduling duration result according to the device priority level and all device total electricity does not exceed the limit. The duration value is used to check whether the duration used by user is equal to the scheduling result. Based on these checks, the program will give command to the device via the Antares platform. The use of the device by the user will be controlled by the single load ammeter (SLA) module as an automatic switch according to the command given via Antares.

From the experiments that have been carried out, the parameter values obtained from the model produce schedule according to the optimal criteria. The parameter values are the optimal number of generations of 484 generations, the probability values of crossing and mutation of 0.9 and 0.7, and the reduction in the total energy used is 0.09. The electricity usage produced by the model result with these parameters for 10 and 20 device data in order is as follows. The maximum are 41.53 kWh, the minimum are 41.14 kWh and 41.08 kWh, and the average are 41.18 kWh and 41.46 kWh.



**Keywords**: Scheduling for Electrical Device, Genetic Algorithm, Optimization