
Abstract

On development of current technologies, the use of electricity became the primary needs, mainly on household lighting. However, the population of Indonesia is still using the excess lighting, such as the use of lights while sleeping. This has resulted in excess electricity and dairy is not effesien. With this problem, this thesis proposes smart light recommending system based on sleep monitoring data with ANN algorithm. This system is designed to provide recommendations in controlling the lights, so that the user can control the lamp properly. This sleep monitoring data is taken from Fitbit Alta HR 2. The data is taken from the Fitbit Alta this 2 HR will be do preprocessing. In order to easy to implement on algorithm of ANN. After succeeding at preprocessing, the system will perform a Prediction algorithm with ANN. The outputs or results of the algorithm ANN will be used as lamp control recommendations to users. In testing on this thesis, predictions using the Backpropagation Neural Network algorithm, get the best accuracy results were 82.27% for prediction of sleep and 98.28% for the end of sleep.

Keywords: sleep monitoring, smart light, smart lighting, artificial neural network, fitbit, sleep log, ANN, forecasting