ABSTRACT

Household electronic equipment that continues to increase makes the need for electrical energy in the home sector in Indonesia to be the most dominant compared to other sectors. If electronic equipment is used excessively, such as leaving the lights on when the room is not in use, turning on the air conditioner when no one is in the room, or turning on the television when it is not being viewed, it can result in a waste of electrical energy. Thus we need a system to prevent this, smart home is presented as a solution.

In this final project, a smart home application for Android smartphones is made where homeowners can control AC, TV and lights and also monitor conditions such as temperature and humidity, light intensity, and movement in their homes. In this smart home application, users can control electronic equipment manually or activate automatic mode, which then electronic equipment will be controlled automatically based on room conditions, such as turning off or turning on the lights when it is bright or dark, and turning on the air conditioner when the room temperature exceeds the specified limit.

Based on the results of functionality testing, the features of this smart home application can run well. For testing the delay in sending data packets between the application and firebase when carrying out activities on the application, get a good index with an average total delay value of 0.233 seconds.

Keywords: Electronic equipment, Waste of electrical energy, Smart Home, Android.