ABSTRACT

DESIGN OF CHILD MONITORING IN THE USE OF *IOT*-BASED COMPUTER USING NODEMCU ESP8266
Oleh

Siska Endah Wahyuni

During the Virus Corona Disease (Covid-19) pandemic, humans were required to do work or tasks online and stare at computer screens for quite a long time. This can lead to the possibility of Asthenopia. Asthenopia is a complaint of eye fatigue due to less or more lighting in the place of study/work. About 80% of information obtained by humans is received through the eyes by seeing. The ideal safe distance for staring at the computer is 50-80 cm for 1 hour for children aged 2-8 years and for children and adults is 2 hours per day. As for environmental lighting min 100 lux and max 300 lux. Based on the possibility of Asthenopia, it is necessary to have the technology to monitor computer use for active computer users. This research uses the NodeMCU microcontroller which can be monitored via a mobile app, namely the Blynk App. In this application, there is information about the distance from using a computer device, the intensity of light in the user's environment, and setting the time limit for using the device. Then for monitoring user activities, there is a camera sensor that functions to monitor user activities. Based on the results of the research, namely the creation of a prototype monitoring system for computer use in children, it is known that the success rate is 99.55% with an accuracy of the HC-SR04 sensor of 99.67% and the BH1750 sensor of 99.22%. The ESP32 Cam sensor takes about 5.1s to load the image.

Keyword: Sistem monitoring, NodeMCU, Sensor Ultrasonic, Lux Meter, ESP32 CAM, IoT, Blynk App