

ABSTRACT

Visible Light Communication (VLC) is a communication system for the sender and receiver of information signals using electromagnetics in the visible light spectrum as an information carrier. The use of visible light communication has many advantages, including in terms of speed and security to be implemented, so that it can transmit various types of information such as sending voice, digital data, images and videos.

This final project uses an ultrasonic sensor component and a turbidity sensor as an indicator to determine the level of water level and water turbidity in the reservoir. LED as a sender of information that functions to convert electricity to light and a photodetector as a receiver of information that functions to convert light to electricity. The LED sends an information signal in the form of a digital signal to the transmitter and will be received by the photodetector at the receiver. The information signal received by the photodiode will be transmitted to the Arduino Atmega328P, then the information signal will be inputted through the android application to determine the water level in the reservoir.

In the implementation of the Final Project, it can produce accuracy in measuring water levels and produce a maximum water level limit of 120cm and turbidity of 3000 NTU and a VLC height of 100cm.

Keywords: *Visible Light Communication, Tandon, Android*