

ABSTRACT

As we know, technology is now part of human life. Various innovations were created with the aim of facilitating human life and providing other positive benefits, including for people with visual impairments. Blind people have limitations in vision so they have to use a tool in the form of a stick to facilitate travel to their destination.

In this final project, a tool for combining technology and human needs, especially those with visual impairment, will be designed. That is a guide stick for blind people based on Hybrid Visible Light Communication. Visible Light Communication (VLC) is a communication technology that utilizes visible light from LED lights on communication systems. Data received on the VLC receiver (Rx VLC) is stored on the stick, then sent back using the HC-05 bluetooth module on a bluetooth headphone so that it can emit sound.

Overall this tool is tested by pairing the lamp as Tx VLC forms a plan according to the desired. The lamp used is a 3 watt LED power lamp and a light sensor that is on the stick as a Rx VLC using tsl521r. From the results of the tests that have been carried out show that this guide stick for blind people can function. The stick can choose the destination you want to go to, and the data sent by the lamp as Tx VLC can be received until it emits a sound on the bluetooth headphone. In addition, the distance of each sending lamp to each other is 50cm, the distance between the lights as Tx VLC on the stick as Rx VLC minimum distance is 10cm and the maximum distance is 180cm.

Keywords: Blind Guide Sticks, Visible Light Communication (VLC), Bluetooth headphones, Hybrid Visible Light Communication