ABSTRACT

The retina is a thin membrane of cells located at the back of the eyeball that converts light into nerve signals and has photoreceptor cells (rods and cones). Diabetic Retinopathy is one of the diseases caused by diabetes mellitus which attacks the retina of the eye which causes visual disturbances to blindness. From these problems, there is a solution that utilizes MATLAB applications and images or images of retinas that have been digitized so that it can facilitate the process of introducing diabetic retinopathy. This application focuses on diabetic type 2 retinopathy sufferers. It is hoped that this system can help diabetics to prevent this disease from getting worse so that patients do not lose their eyesight. The results of the MATLAB application that has been built are, it has succeeded in recognizing retinal images of type NPDR type 2 with an accuracy of training data reaching 90 % and test data reaching 80 % by displaying the output on the LED.

Keywords*: MATLAB, Non-Proliferative Diabetic Rethynopaty (NPDR), Retina.*