ABSTRACT

Anemia is a condition in which the hemoglobin concentration or erythrocyte levels lower than normal. This decrease can be attributed to various factors, such as deficiency of iron (Fe), vitamin B12 and folic acid. All three of these substances is very important because if the three substances are not met then automatically will be interference with the production of blood. If anemia is left is protracted it will interfere with the function of organs such as the heart, lungs, lungs, kidneys, and other organs. But most people do not worry and do not realize they experienced anemia. Handling is too late and let it will give a more serious impact. To prevent more serious disease of anemia, the need for early detection. An easy way to detect anemia can be done with a non-invasive manner, that is by looking at the conjunctiva. But in reality the ratings by looking like it would be subjective because the ability of vision and judgment of each person is different.

Based on these problems, so in this thesis the author will make the design of the system to detect anemia with digital image processing conjunctiva. In testing this system in the use of color component values R, R and G, R and B, R, G and B.

After testing the system, it can be concluded that the system works optimally with good light intensity in the color components of R and B with an average accuracy of the system amounted to 88.5%.

Keywords: hemoglobin, conjunctiva, anemia, image processing