ABSTRACT

One of the disease or disorder that occurs because the body lack of water and the quality of the water that consumed by humans is low could be causing dehydration. Basically, there are still a lot of people who do not realize that their bodies have been dehydrated. Therefore, a system that can automatically detect dehydration is needed and prevent dehydration earlier.

In the preparation of this final task a program or a system that can detect dehydration automatically has been designed. Dehydration in the human body can be detect using urine images that are processed in several stages begin from image acquisition up to classification. Urine image processing used the Content Based Image Retrieval (CBIR) method to find the similarities in color, shape, and texture of several types of urine with the same characteristics. While using CBIR method the annotation process to describe the images to the words is not necessary anymore and it is not affected by the size of the image and the orientation during the search processing. To classify the results of system processing and analyze decisions, the classification of Decision Tree is used where the samples are tested only according to certain criteria or classes, because the calculations that unnecessary will be eliminated.

In this research the number of the tested data was taken from 45 urine sample. From the total number of data 30 sample has used as training data and 15 sample has used as testing data. The system that has been design is able to detect dehydration on human body based on urine image with the highest accuration result as big as 86,6% and computation time for 1,1610 second. The result showing that Content Based Image Retrieval (CBIR) method with decision tree classification has worked very well.

Key Word*: Dehydration, Urine Image, Content Based Image Retrieval, Decision Tree.*