ABSTRACT

The increasing population makes the need for food, especially protein, also increases. Shrimp is a source of animal protein that comes from water. In the shrimp farming process, the water used has a certain level of acidity so that the shrimp can grow well. The acidity of water is influenced by several factors, especially the content of bio-organisms in it. Some bio-organisms have characteristics in the form of a distinctive color that causes the color of the water to change if there are bio-organisms in it. In this final project, a tool will be made to record the characteristic parameters of water. The water used is water mixed with food coloring because of the nature of food coloring which is easily decomposed like biological elements and some dyes made from algae. Recording of water characteristics will record data in the form of color data on the RGB channel of each water sample. Data recording uses an RGB sensor and sample images are processed using image processing to obtain characteristic values from the sample. Then the characteristic data will be used to create a prediction algorithm regarding sample classification based on the dataset. The results of the prediction system made are the median vector microscope, mean vector microscope, median vector spectrum, mean vector spectrum and RGB sensor with respective accuracies of 34%, 67%, 100%, 100% and 100%.

Keywords— ***Algae, RGB, Prediction Image Processing***