ABSTRACT

Today, climate can affect to human activity. Climate and weather are related to each other. Climate is the average weather in an annual order whereas weather is a state of the atmosphere in a daily order or in a short period of time. Weather is only the smallest part of the effects of climate change. The parameters of both are temperature, humidity, wind and others. At this time significant changes in climate parameters will result in global warming caused by the greenhouse effect. The greenhouse effect is the trapping of gases in the atmosphere, including carbon dioxide, carbon monoxide, methane, chlorofluorocarbons, hydrofluorocarbons and others. These gases are produced from human, animal and plant respiration, vehicle exhaust exhaust, fossil fuel, livestock farming, volcanic eruptions, deforestation, and industrial waste. Carbon dioxide gas is the largest in the atmosphere than other gases. The increase in carbon dioxide will increase the air temperature and reduce the humidity if it is significantly.

In this final project, a tool and system will be designed that can monitor weather and climate change caused by the biggest cause of rising temperatures on earth, namely Carbon dioxide (CO_2). By using a sensor module that can detect and measure Carbon dioxide concentration, temperature and humidity. Raspberry Pi as a data processor and data logger that can record data with measurements in real time.

This research succeeded in obtaining accuracy values above 96% from each tool, recording data and displaying data on average temperature, humidity, CO_2, max, min CO_2 as well as color graphs of CO_2.

Keywords : Weather, Climate, Carbon Dioxide, Greenhouse Gas Effects, Raspberry Pi, Data Logger.