ABSTRACT

At this time the number of machine users in factories and motor vehicles is growing. Air pollution problems overcome carbon monoxide (CO) in urban areas of an alarming category. There have been literature studies that have carried out tests on plants in carbon monoxide (CO) absorption devoted to greenery. There are factors to be considered in the selection of the plant, between absorption factor and price factor. At each factor everyone can also have differences of opinion in the division of categories.

The purpose of this study is the application can provide plant advice that will be used for reforestation in the process of one month of research. By utilizing the Internet concept of Things in the delivery of data carbon monoxide (CO) levels are stored and processed on the server Raspberry Pi 2 and carbon dioxide data.

The fuzzy algorithm is one of the algorithms in artificial intelligence, this algorithm can be used in absorption factor and price factor by mentolerasni each categorical part difference so as to produce value which become the assessment between plants. By using fuzzy algorithm the output of the feasibility system will be used by the system for crop selection.

Once the plant is selected, the system will make comparisons with heavy carbon monoxide levels. Prior to comparisons, the system previously looked for the existing pollution category index in accordance with the Air Pollution Standard Index (ISPU) set by the Environmental Impact Management Agency (BAPEDAL). After comparing, the system to select the plants with the method to be used, then the system to calculate the number of plants in accordance with the area of land to plant crops. After all the process is complete, the system displays suggestions of crops that can be planted.

There are several tests performed on the system, among others are blackbox testing, fuzzy testing with manual calculations, ISPU testing, recommended plant suggestion test system. All of the results of blackbox testing have the results of the system running perfectly, the results of fuzzy testing have no differences with manual calculations, ISPU testing is in accordance with the regulations are mapped, and testing the application plant advice can distinguish the types of plants and provide plant advice in accordance with budget, land area, and Method of planting.

Keywords : Raspberry Pi, Internet of Things, air pollution, fuzzy algorithm, Fuzzy algorithm, ISPU, Air Pollution Standard Index.