ABSTRACT

Indonesia is a developing country where most of the population work as farmers. One of the most widely cultivated plants is cayenne pepper. every year, the production of cayenne pepper is always increasing. However, farmers have not been able to meet the very high market demand because harvest failures are often caused by cayenne pepper plants damaged by pests and diseases. The problems faced were the situation constrained to monitor plants remotely and the lack of knowledge about growth parameters in chili plants.

Based on these problems, website creation and growth classification will be the solution to produce chili plants with ideal growth. The data displayed on the website is data taken by IoT devices in greenbox conditions and chili growth stored in the firebase database. Also prepare hosting for admin convenience in uniting plants remotely. Furthermore, the prediction model aims to determine the most influential parameters in chili plant growth. The data stored in the database is then processed into a dataset in the form of an excel file. Meanwhile, the algorithm used for classifying plant growth is Decision Tree.

Based on the results of functionality testing on the website, all features can run well and optimally. The website can display information on greenbox and chili plants according to the data stored in the database and is able to update the data displayed every time the database updates its data. In QoS testing, the average delay generated is 48.11 ms and is categorized as very good, the average throughput is 701.78 Kbps and is categorized as sufficient, while the average packet loss is 1.26% and is categorized as very good. Meanwhile, for plant classification using Yahoo Decision Tree, an accuracy of 99.93% was obtained, and was able to categorize chili plant growth, namely less than optimal and optimal by defining the attribute values used.

Keywords : Chili Rawit, Dataset, Decision Tree, Greenbox, Python, Website.