ABSTRACT

Population growth in Indonesia increases every year and affects the demand for total consumption of fish and vegetables. Fish and vegetables are staple foods used by people in Indonesia because they are affordable and also the nutritional content of these two staple foods has good nutrition for health. The problem that occurs is that it takes two different lands to cultivate fish and vegetable crops, so the aquaponics system can solve this problem. Aquaponics is a special form of the aquaculture recirculation system, namely the maintenance of plants with water media (hydroponics), which are arranged in the same water circulation as the fish culture media. It's just that the aquaponics system is still widely used manually, and the maintenance system requires more attention, not a few fail in using the aquaponics system.

From the problems that arise, the authors make a final project that can monitor and store data based on a web server connected to the internet and access it through a website which can be accessed anywhere and anytime. The sensor data contained in the aquaponics system will be sent using the connectivity contained in the ESP8266 module and parsed to the API (Application programming interface), the parsed data will be retrieved to the web server database, the database used is the Mysql database. Furthermore, the data contained in the database is displayed on the website using HTTP and HTTPS protocols. So that the designed website can be accessed, the author rents a domain and prepares hosting.

In testing the functionality, we get the results that all the features can run well. QoS testing on delay from client to server and server to client is in the very good category against the standardization of the ITU-T version. QoS testing on throughput from client to server and server to client falls into the very good category of standardization of the TIPHON version.

Keywords : *Database, Web server, Website.*