

ABSTRACT

Strawberry plants need soil moisture to thrive. In the process of watering strawberry plants, farmers have to go to the garden every day to do watering and monitor the condition of the garden manually, the process of watering manually is like using a bucket and a pitcher, this process is a waste of energy and time.

This research implements an IoT-based system of controlling and monitoring soil quality and temperature with the mit app inventor where the mit app inventor can be accessed using a network making it easier for controlling and monitoring related to soil pH values, soil moisture and air temperature.

From the results of implementation and testing, the tool can work well to monitor the temperature, soil moisture and soil pH values obtained. The tool can also work to control automatically according to the temperature and soil moisture values obtained. Controlling fans, mini dc pumps and led growlights can also be done manually by controlling manually using the mit app inventor. Based on the tests that have been carried out for 7 days, the lowest temperature is on the 5th day at 24.00 with a temperature of 21.1 and the highest temperature is on the 2nd day at 12.00 with a temperature of 30.2. the highest temperature change occurred at 12.00-12.10 and at 23.50-24.00 with an average temperature change of 1.94, and the lowest average temperature change occurred at 06.00-06.10 with an average temperature change of 1.72 . Based on the tests that have been carried out for 7 days, the lowest soil moisture is found on the 12th day with 62% soil moisture and the highest soil moisture is on the 3rd day at 23:50 with 81% soil moisture. The highest change in soil moisture occurred at 12.00-12.10 with an average change in soil moisture of 11.28, and the lowest average change in soil moisture occurred at 18.00-18.10 with an average change in temperature of 5.42. Based on the results of the soil pH sensor testing obtained, the soil pH value in strawberry plants is a good soil pH value. because the pH value of the soil is good for planting strawberries, namely 5.6-6.5.

Keywords: strawberries, controlling, monitoring,lot, mit app inventor