

ABSTRACT

The waste bank is one solution to reduce the existing waste problem, because the waste bank is an environmentally based waste management which is carried out by recycling waste into goods of economic value. However, in practice, the transaction process and data flow in waste bank management is constrained by the use of books in customer management and management. This allows data to occur and is less effective than recapitulating the amount of waste.

Based on this, a website-based Garbage Bank information system is designed. The design uses a website as its appearance which functions to facilitate the public in improving the performance of the Waste Bank in managing data and providing accurate information. Data taken in real time from the microcontroller device which will then be added to the web page, the website can be accessed anywhere to facilitate the mobility of the community.

The test results show that the website can be integrated with hardware. The website can accurately monitor waste weight and customer data when saving waste. In the performance of the website from each page that is tested the functionality runs as expected. The time test on the hardware gets an average time of 2.23 seconds and from testing the accuracy of the scales it gets 0% error, it can be stated that the hardware is running as expected. Using a lighthouse an average value of 75, and according to the parameters of the lighthouse it is stated that the website performance of each page tested is normal, and using Apache Jmeter an average response value is given 335 milliseconds or 0.335 seconds does not exceed 1 second is stated to have great response.

Keywords: *Waste Bank, information system, internet of things, monitoring, hardware, website, Google Firebase Realtime Database*