

ABSTRACT

Bathtub is a pool where water is used for bathing, in its use the user must fill the bathtub until it is full first. Once full, the tap can be turned off and the bathtub is ready to be used for bathing. But because of the length of the process of filling the water until it meets the volume in the bathtub, most bathtub users open the faucet, then leave it until the water volume is met. This allows wasted water because the volume of water in the bathtub has exceeded the capacity of the bathtub.

The system is made equipped with an ultrasonic sensor as a gauge of the water surface in the bathtub. If the water has reached the height as instructed, the entire solenoid valve will be closed. To control the bathtub using the application on the smartphone by adjusting the temperature as desired, then automatically fill the water with the temperature according to the order. To control the water temperature is done by opening or closing the tap of hot and normal water alternately.

Based on the survey results of 60 people, 77% of people answered this final project was easy to use. Then 75.8% of people answered this final project to make it easier for users to use a bathtub to bathe. The error tolerance level of the water temperature measurement reaches 0.72%. And the average time needed for filling water is 30.2 minutes.

Keywords: Bathtub, Ultrasonic Sensor, Solenoid Valve