

## ABSTRACT

*Unwittingly waste water is often the case comes from small activities in daily life. Some examples are the use of manual taps for ablution and the process of filling the water tank. Water wastage that occurs when the ablution is a bad use of such closing faucet tap with less dense and often forgot to close the tap is opened during ablution. In addition, the user taps the controller is not equipped with water discharge resulting in the interval from one limb to the other limb discharge volume of water that comes out will be the same. At the time of filling the water tank sometimes often overlooked, causing the water in the tank is full, overflowing and wasted. To overcome these problems, we need a new system that is able to reduce water wastage problems that often occur.*

*For that, the system is designed an automatic faucet menggunakan ultrasonic sensor which sensor that will detect objects and removing water automatically when the movement of the limbs and the volume of water will shrink. On filling the water tank to prevent overflow of water used water level sensor that will automatically fill when the sensor is in low level and will also automatically stop filling when the level is in full so that no water is wasted due to negligence of the user. Both sensors are used to be controlled by a microcontroller that AT-Mega 328.*

*System designed has been able to reduce the waste of water that often occurs among the community. This system can save about  $\pm 38\%$  of water usage from the use of normal tap used for ablution. There has also been able to automate filling the water tank. So that the tool is able to improve use of water everyday.*

*Keywords: Ultrasonic Sensor, sensor ultrasonik, water level sensor, automatic taps*