

## **ABSTRACT**

*To keep the fish healthy, the aquarium's water volume and temperature must be taken into account. The ultrasonic sensor HC-SR04 can control volume based on the distance from the water's surface, while the DS18B20 sensors can measure temperature. Based on the information the sensor receives, automatic water control is implemented. The Arduino Uno microcontroller processes the data and outputs the water pump's in and out. The temperature of the water supply that will go into the aquarium must be a consistent 26°C. The microcontroller modifies the state of the pump switch in accordance with the necessary criteria in order to maintain temperature stability and a high distance from the water's surface if the distance between the temperature and the surface exceeds either the highest or lowest limit. With an average temperature change of 1°C every 2 minutes and 38 seconds, this control system can operate automatically in aquariums that measure 30x22x26 cm and have a water flow rate of 17 milliliters per second.*

**Keywords** : *water temperature, arduino uno, DS18B20 sensor, HC-SR04 sensor*