

ABSTRACT

Increasing number of large cities that experienced flooding due to overflowing rivers caused by the lack of monitoring system on the river water surface elevation information for residents around the river flow. Flood warning system from overflowing river is not currently present any signs automatically to determine the height of water level. This causes local people do not know when the surface of the river has overflowed. Therefore, we need a system design automatically to learn about river water levels.

Design water surface elevation monitoring system designed using ping ultrasonic sensor parallax, 5 pieces of water sensors, arduino uno, GSM module, voice warning and warning light. 5 pieces of ultrasonic sensors and water sensors for performing the detection of water levels continuously. Arduino uno functions as a regulator of the system, processing the input data and as a giver of instruction for Activation sending SMS, voice warning and warning light. GSM module for sending SMS alert function while the voice warning and warning light is used as a warning sign when the surface of the water will overflow.

SMS a 'AWAS and SIAGA 4' will be sent to guard sluice to delay delivery for 2.3 minutes, a warning voice sound 'Peringatan!! Bahwa ketinggian permukaan air sudah mencapai *level* awas' warning light and emit light that flashes continuously with time wait for 10 minutes which will then notify a warning to residents about the flow of the river. So any signs of change in water surface elevation can automatically known to the early residents.

Keywords: Ultrasonic Sensor, Water Sensor, Voice Warning, Warning Light, Microcontroller.