

## ABSTRACT

Flooding is one of the adverse effects caused by piles of garbage in the river flow. The obligation to maintain and preserve the river seemed just a dream. Lack of responsibility from the public on the dangers of garbage to the flow of the river into one of the effects due to the overflow of water flow and weak supervision and not his response of the manager to control and prevent the unscrupulous discharge waste into the main cause of the flooding problems. Therefore designed a tool in the form of a support device monitoring camera system that is positioned on the box that is supported by mini pc as a safety system in the panel box and notifications in real-time using a telegram. Support system security are made considering the height of the laying of the device as well as the angle of the camera and implement mini pc such as Raspberry Pi 2 B + as a controller to manage input sensors such as sensors PIR (Passive Infrared) to detect indications of theft and sensor DS18B20 that provide information of high and low temperature to keep the device damage due to extreme temperatures. Notifications will be sent automatically by bots Telegram form of text messages.

Based on testing this thesis, Raspberry Pi that uses sensors DS18B20 as the reference temperature at the panel box to get accuracy rate of 100% with a limit of highest temperature 30°C by sending telegrams average 1.4207 s with a 3G connection while the 4G connection generates delivery time average 0887 s. Passive Infrared Sensor as a security system device also has a good level of sensitivity that is able to capture every movement across the surface of the sensor, as well as foundation piles with a height of 5 meters are able to withstand a load of 37.2 kg with a power capacity of land clearance 0257 kg / cm<sup>2</sup>, and optimal tilt angle camera obtained at an angle of 60 °.

*Keywords: Raspberry Pi, Passive Infrared, DS18b20, Panel box, Blender, Bot Telegram*