

DESIGNING AND TESTING FLOOD EARLY WARNING DETECTOR BASED ON INTERNET OF THINGS (IOT)

Darwin

*Electrical Engineering Study Program, Faculty of Information Technology and Electro
Universitas Teknologi Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : darwinahmad9@gmail.com*

ABSTRACT

Indonesia is an archipelagic region with a tropical climate. It has two seasons, i.e. dry and rainy. These two seasons are distinguished by the high intensity of rainfall. During the dry season, the rainfall is low, while in the rainy season the rainfall is high. When the rainy season begins, the threat of flooding also comes. Many areas in Indonesia are prone to flooding. Almost every rainy season comes, some areas are flooded. For this reason, flood early warning detector is needed in order to minimize the loss, both materially and psychologically. Several methods for providing flood early warnings have been implemented using communications such as SMS and websites. Therefore, this final project discusses the flood early warning detection tools using the internet of things by sending information through Telegram application. The test proved that using a rain sensor to detect rainy or non-rainy conditions, and ultrasonic sensors to measure the height of the safe, alert, hazard, and flood limits with a fairly good reading accuracy, as well as sending information using Telegram messages, for the longest delay for sending warnings takes the fastest 4 seconds and the maximum is 13 seconds.

Keywords: *Flood Disaster, Early Warning, Ultrasonic Sensor, Internet of Things*