Microcontroller Unit - Based Rain Gauge
With Global System for Mobile Communications

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ABSTRACT

Title: Microcontroller Unit – based Rain Gauge with Global System for Mobile Communications

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The Rain Gauge is an instrument for gathering and measuring the amount of rainfall that a storm drops during its precipitation. It is one of the measuring tools that observers in PAGASA use to gather rainfall data needed to create weather forecasts. Despite the advancement in modern technology, many countries including the Philippines still use the manual measuring tool because of its accuracy. In order to create an accurate forecast, observers gather data from multiple rainfall depth measuring devices and compare them all using the computers installed at the PAGASA forecasting department. The drawback of using the manual rain gauge is the danger that it imposes on the observer that will use it. When a storm is present, the observer may be exposed to lightning strikes and heavy rain.

This study aims to aid PAGASA by creating a device that will measure rainfall depth on a certain location and will automatically send the information on a set interval via SMS. Upon the completion of the said device, the observer will no longer subject himself to environmental hazards during rainfall depth measurement. A Microcontroller Unit will be used to control all the processes in rainfall depth measurement, namely water level sensing, motor control, draining via solenoid valve and sending information using the GSM module. The researchers will test the said device by simulating artificial rain.

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