

## ABSTRACT

*Based on the Regulation of the Minister of Health of the Republic of Indonesia Number 4 of 2018, concerning Hospital obligations and patient obligations in Chapter II Part One General Article 6 Paragraph (1) states that the Hospital's obligation to provide safe, quality, anti-discriminatory, and effective health services by prioritizing the interests of patients in accordance with hospital service standards. One of the services that support the interests of patients is by knowing the location of mental hospital patients who are difficult to reach. In the literature study conducted, the large number of patients in mental hospitals and the limited number of medical personnel working caused some patients to be neglected.*

*This final project designs and realizes a mental hospital patient detection system using the Global Position System (GPS) system and the General Packet Radio Service (GPRS) module. GPS and GPRS are used as a psychiatric hospital patient tracking system by providing an accurate location point. The purpose of using the GPS tracking module is to detect the coordinates of the patient's presence when the patient's out from health workers sight. GPRS module is a medium for sending data to the database. With a website-based tracking system, it is easier for health workers to monitor the location of mental hospital patients through the website in real-time.*

*The tracking system at the Mental Hospital uses component functionality testing, tool testing, and testing the accuracy of the tool. Component functionality testing aims to ensure components run properly. Testing the tool displays the coordinates of the location, the layout of the web interface. Testing the level of accuracy of the tool compares the latitude and longitude coordinates on the web interface and Google Maps. In testing the accuracy of the tool, it also displays the database layout in real-time. The average MOS acquisition ((MOS) ) in the patient detection system is 4.78 out of a scale of 5 which states that the patient detection system is very beneficial for health workers of the West Java Provincial Mental Hospital.*

**Keywords:** GPS, Tracking, GPRS, Mikrokontroler