ABSTRACT

The increasing development of technology currently, especially the development of the internet which really helps people to ease their daily work. Therefore, the development of the internet is very useful in today's modern era, for that you must study the internet more broadly so that you can understand the use of the internet as much as possible. The development of internet technology that is already known by the public today is the Internet of Things (IoT).

Therefore, this final project discusses monitoring the temperature and humidity in the blood storage room at the Indonesian Red Cross (PMI) to see whether the temperature and humidity of the blood storage room are well conditioned. Therefore, it is necessary to have an intelligent system that can monitor temperature and humidity in real time. The use of IoT can help simplify the temperature and humidity monitoring system in the blood storage room by using two websites, namely php localhost and with the IoT platform, Thingspeak. Both websites can be accessed using a PC or smartphone.

The results obtained from the monitoring system for temperature, humidity, and air quality in the blood storage room at PMI can function properly and as expected, all sensors used can detect it properly. Throughput results are 4823 kbps, according to the TIPHON standard. The resulting Througput is good with index category 4. The results from the transmission delay test are 1,857 ms according to the TIPHON delay standard, which is good. The results of the packet loss test do not find lost packets or get very good results because the packet loss value is 0%.

Keywords: *Internet of Things, Arduino, ESP8266, Thingspeak, Website.*