ABCTRACT

The Process monitoring and surveillance is an important activity in research to obtain information about the state somewhere. The information obtained can be data that will be analyzed for certain parameters, such as temperature, humidity, barometric pressure, altitude, slope of land and also the visualization of a place that is monitored. Generally, the process is still done manually by using human power to get to the location that want investigated. But, how if the location is dangerous and may endanger human life, so it is no longer possible to use human power.

Based on the matter above, in this final project created a tool that can be fly and controlled by humans, contains a wide range of sensors for monitoring and supervision in a place. The sensor will measure the parameters such as compass, accelerometer, temperature, pressure, altitude, and also the visualization of monitored places. Sensor system is controlled using a microcontroller and data transmission using the Xbee-PRO, so that the sensor system can be used to obtain data in real time.

Sensor system consists of sensors CMPS10, HP03S, SR-HC04, and wireless camera. Siatem can work well, because of all sensors have been integrated in one system using a microcontroller. Each sensor is almost the same issue with other measuring devices are used as a comparison of quality performance of the sensor. All data obtained can be seen on the side of the ground segment, so the monitoring and measurement can be performed remotely.

Keywords: sensor, microcontroller, Xbee-PRO, ground segment