

## **Abstract**

In Riau Province, a type of forest called Peat always caught fire in almost every year. The fire on Peatland belongs to a underground fire that hard to put out because it still able to spread under the surface. The smoke from the fire cause trouble for the life of humans, animals and plants. In an effort to reduce the bad impact, then one way to do it is by preventing before it happens. The purpose of this Final Task is to build a prototype that use the technology of Internet of Things that can monitor the temperature on Peatland by using thermal sensor that attached to raspberry pi through gateway to be stored into the server that used platform OpenMTC. This Final Task is about web-based application monitoring to inform the status condition on Peatland that can be seen in PC Desktop or even mobile phones with the "save", "caution" and "alert" as the parameter. Overall, all the systems that built to be implemented and utilized as alternative solution to Balai Besar Konservasi Sumber Daya Alam (BBKSDA) in Riau especially in preventing of fire on Peatland in the future.

Keyword : *Peatland, Thermal sensor*