ABSTRACT

Human needs right now really depend on electricity started from daily jobs up to home chores. To operate any electronic devices without any cable attached, battery is needed to store the energy for the device, and so it can be used anywhere. But battery cannot just directly connect like that to electronic devices. Because if the battery connected to the load directly, there will be a potential that there's an overcharge or over discharge that may cause damages to the battery health, or maybe even make the battery unusable because it's broken. Therefore, a system is needed to prevent those things from happening, which is by designing a Battery Monitoring and Control System. Because this system will prevent electric current to flow inside the battery or outside to a load if exceed the fair usage limit. Not only that, the variable that'll be monitored by the device can be sent to an Android device so the user can watch the battery condition from afar that the data processed by the micro controller.

On this final task, there will be a design for the battery system that have a purpose to maintain the security of the robot that will be installed with this system. This system will automatically be activated when the robot operating or when it's charging. If the current, voltage, or the temperature exceed the fair usage limit, there will be a termination of the electric current. Then, the capacity of the battery can be monitored from an Android device without any cable attached. The results are, that BMCS have succeeded to cut off the current from battery to system when the current reached 4A. And it succeeded to give an alert on Android device when the battery reached 50%.