# ABSTRACT

The real time operating system is an operating system that can be used for embedded systems to be able to process tasks that are given to the system regularly and the tasks need to be executed in real time. The embedded system is a system specifically designed to carry out certain objectives to improve the function of the system.

In this final project, a scheduling-based real time operating system with a soft real-time system will be designed to operate an embedded biomedical system in the form of an electrocardiogram. The real time operating system functions to receive the task given to the system and sort the task according to the priority given to the task. The task given to the real time operating system is to check the electrodes used as sensors for reading the voltage on the heart, reading the voltage on the heart, and displaying the voltage through *alphanumeric* LCD 16x2.

**Key words:** *Real Time Operating System*, *embedded system*, *electrocardiogram* (ECG)