**SOFTWARE:**

The software will be made up of two modules: A GUI (Windows) which will be the interactive interface between the microcontroller and the user, a module for sending or receiving signal via serial communication using USB port.

The serial communication (from GUI) will be used to update and send signal to filter block and function generator block according to user input as described in firmware section. The GUI code will specify the scope/layout of the graphical with components (Text box, button, slider, input box, etc.) with binding components (event handlers) which can handle necessary user inputs and interact with the user as appropriate.

Java language will be used for the GUI and serial communication. Java is a very versatile software language and is independent of platform. Therefore, the deployment of java-based software is easier to run in any operating system. Incidentally, javaFx library (part of Java) can effortlessly create GUI software and jSerialComm (a free serial port access library) can be used for communicating using java code.

The style guide for GUI and serial communication code are the standard java language style guide by Google. (url: see the git page for this).

The software installation guide, code documentation and version control will be maintained and stored using GIT repository (master: engg2800g43) provided by UQ.