ENGG 156 Project 2 Second Progress Report

Interfacing a Temperature Sensor

Creating the Resistor Process Implementation

The process of porting the equation

$$R(T) = R_0 e^{\beta\left(\frac{1}{T} - \frac{1}{T_0}\right)}$$

In C++ was created where the input values for tempIn outputs a resistance value that corresponds to the temperature stimulus that is detected by the virtual simulation.

Creating the Resistor Process Implementation

The C++ implementation of the Analog to Digital converter was created with corresponding values displayed in the terminal. Values are also outputted as a way to debug and check if the program is running properly when compared to the values that were manually computed in an external spreadsheet

Implementing a Spreadsheet of Values for Output Comparison

A spreadsheet was created which also simulates the input values for the temperature process and provides a detailed output of the values that the program is expected to reflect. This allows the collaborators of the project to detect any differences in the code implementation and to see if the equations follow with the concept as shown in the instructions sheet of the project.

Conclusion

The project as of the moment is around 45% complete. There is still a bit more that needs to be worked on particularly on the polishing of the virtual temperature sensor.

Task	Description	Status
Project Research	Research and familiarize software that would be suitable project	DONE
Project Outline	Create a draft document as a guide for the project paper	ONGOING
Revision I & II	Following each progress report, provide the necessary corrections and apply feedback & revisions	ONGOING
Finalize Paper	Finish the paper and draw insights and conclusions on the Project	TBD