

Final Project

Select a computational platform and operating system that you are interested in learning or feel comfortable working with. Examples of these are (a) Single Board Computer (SBC), (b) Microcontroller, (c) Field-Programmable Gate Array (FPGA), or (d) Digital Signal Processing (DSP). Implement a digital control system. This will be your embedded controller (you may need to also use ADCs and DACs to interface it with the process you want to control). The system has to have the following characteristics:

- Contain at least one actuator and one sensor.
- Determine the controlled variable and suitable sampling interval for this system.
- Model if possible the system and compare the behavior of the model to the behavior of the actual system.
- Design and tune a controller to meet your design specifications, and compare the simulated performance to the actual performance of the system.
- Provide a 15 minute presentation summarizing all the aspects of the analysis and design of the digital control system.
- Turn in a report summarizing the design, simulation results, and actual results.