We have several solutions for implementing projects this semester. Since it is entirely online, I will allow any of the following. None are preferred over the other. I would like to give you as many options as possible.

The text is found on the website:

eng.utoledo.edu/~wevans

And then> Hybrid Text

It is free. It has been written by me over the years and contains all materials including reading/homework/labs for the course.

I do not necessarily recommend any of the software only solutions below but here they are:

From a student last semester:

“I was searching online for an environment to perform ladder logic programming for the labs, and I found CODESYS. It is claimed to be an open-source PLC and HMI environment, and they have a variety of free and paid products. I installed their newest development environment for Windows (it is free) and within 20 minutes I configured and successfully simulated a simple set/reset program. I will probably continue to use this software for my own sake, but I thought I would reach out to you if you wanted to investigate it for yourself and possibly share it with the class.

Additionally, I have found resources online that enable you to use a Raspberry Pi as a PLC (of sorts). Given that I already own a Raspberry Pi and some hobbyist electronic components, I may attempt this and try to run some programs on actual hardware. I understand that a Raspberry Pi is not representative of the capabilities of an actual PLC, but I think it could serve a role as an educational tool.

Lastly, I know you are very big on teaching us how to use the actual environments found in industry, so I understand if this does not interest you (although the CODESYS website states several companies that run a version of their software). I just thought it might pique your interest given the times. I have provided a link to their website should you want to investigate this further.”

<https://www.codesys.com/>

This is a hardware/software solution but is generic. The Siemens solution below is hardware/software and vendor specific (preferred by most employers).

Another source has the following software:

<https://www.plcfiddle.com/fiddles/>

If you want to have a full-blown PLC, the following is the best buy:

PLC, cable, and software

[https://www.studica.com/us/en/SiemensPLM/simatic-s7-1200.html](https://urldefense.com/v3/__https:/www.studica.com/us/en/SiemensPLM/simatic-s7-1200.html__;!!LoBwcKfm!2p8K7OG3q9ZShfFNkKHHeqzfFq_eHoYGTpduQlpCzx8gPzo2H7KD1bP6jIambwXKdzrXK9U$)

plus:

SHNITPWR 24V DC Power Supply 24 Volt 5A 120W Power Adapter 100V~240V AC to DC Converter Transformer 5.5x2.5mm Plug for 5050 3528 LED Strip Light 3D Printer LED Driver CCTV Security System LCD Monitor

by [SHNITPWR](https://www.amazon.com/SHNITPWR/b/ref=bl_dp_s_web_20326145011?ie=UTF8&node=20326145011&field-lbr_brands_browse-bin=SHNITPWR)

[*4.4 out of 5 stars*](javascript:void(0)) [48 ratings](https://www.amazon.com/SHNITPWR-100V-240V-Converter-Transformer-5-5x2-5mm/dp/B07PWZQ4MB/ref=sr_1_1_sspa?dchild=1&keywords=24v+power+supply&qid=1589208923&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUExVVA0TVVHWTE5T05RJmVuY3J5cHRlZElkPUEwNTQwNDQ1SFRJWVU2TEo4V0VNJmVuY3J5cHRlZEFkSWQ9QTA3MjA1MTEzRjhSUEVYQVFUR0Y1JndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==#customerReviews)

Amazon's Choice for "[24v 5a power supply](https://www.amazon.com/s/ref=choice_dp_b?keywords=24v%205a%20power%20supply)"

Also, there is a totally software solution from Allen-Bradley that may be able to be used this summer on VM. Will know more about this as time progresses.

Hope this helps in your preparation for the course.

Wm Ted Evans