SI4 M2M_intro challenge Introduction: CODESYS IDE Installation.

Task 1

Minimal requirements for this introduction course: Laptop with minimal Windows 10 OS and an installation of CODESYS development software.

Important: Acquiring knowledge to do a proper installation of a development software in general is a skill that we'll expect from you, so please read all instructions very carefully, make sure that your windows OS is up to date.

CODESYS application IDE can be found here for download: https://store.codesys.com/en/ after registration. A copy is also available on Fontys server: (use your i-account for login) https://www.fhict.nl/docent/downloads/Semester4_softwares/CODESYS/. This software only runs on Windows!

Remarks:

This course is mainly research based. For additional help for CODESYS check also: https://help.codesys.com/.

Download the archived project solution "`OvenSimulation.projectarchive`" and extract the archived project solution as shown in Figure 1 and save it in your own project Folder.

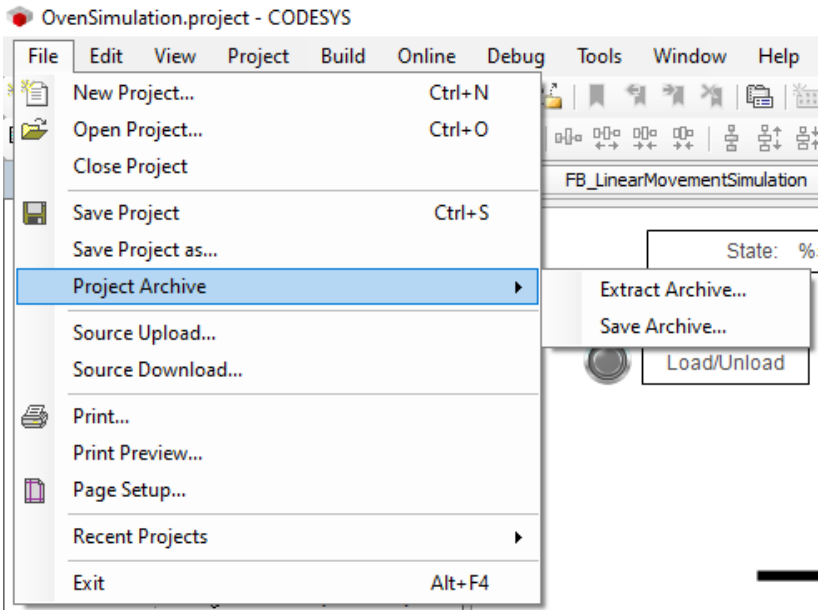

Figure 1 Open an Archived Project Solution with CODESYS...

After opening your project Solution, you can open the visualization file, "PizzaUInterface" from the Solution Explorer, as shown in Figure 2.
Explore through the code, build the Solution, Login and Run the project.
Press "Power On" first, followed by pressing "StartProcess" and observe the behaviors, responses, the states, etc. of this simulated process. A screen recording of this simulation is also available on Canvas "OvenSimulation.MP4"

The contents of the files stored in "Simulation Components" are not considered as a subject of this course.

Task 2

Show the teacher that you're able run this application. Give a demo.

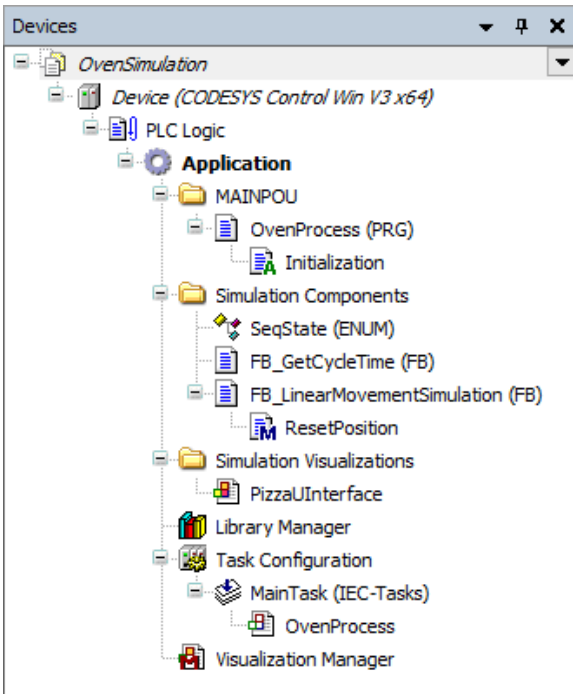

Figure 2 Devices Project tree

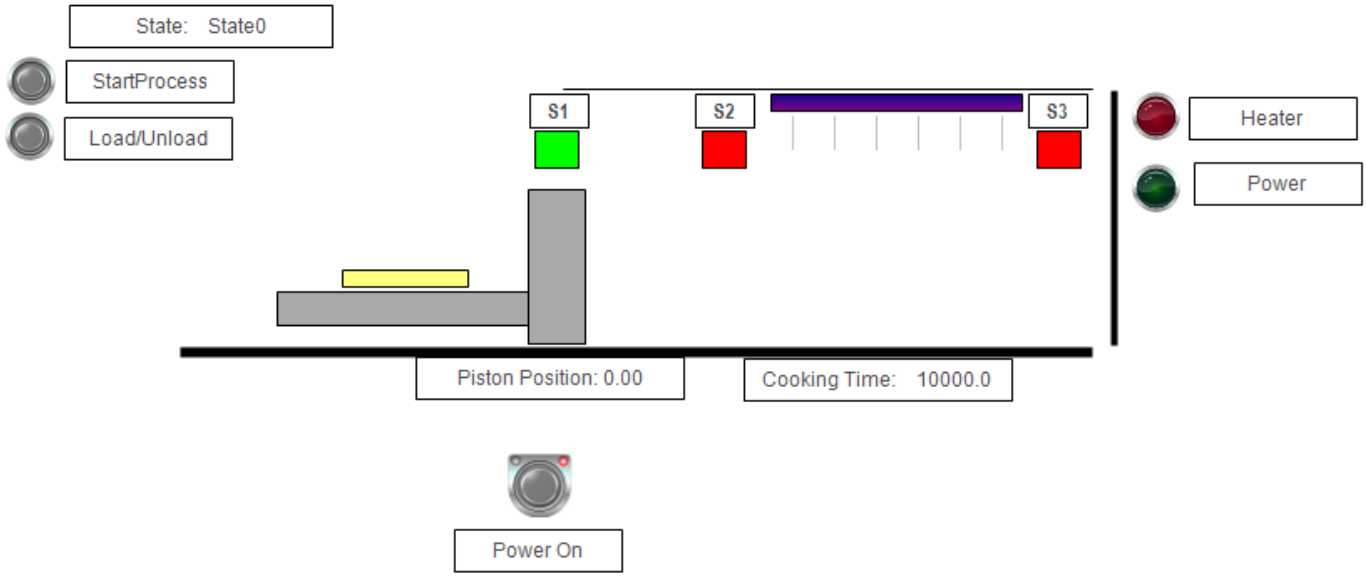

Figure 3 PizzaUInterface

Task 3

a) Draw a state machine diagram (reverse engineering) or a flowchart of this simulated process, by watching the simulation, you can also browse into the OvenProcess.PRG source code for more information. The current state names are “State1”, “State2” “State3” etc. Choose an appropriate name for the states e.g., “Heating” etc.
b) This Oven Application has only one cooking time of 10 seconds or “10.000 msec.” Add a new button to choose between two different cooking time. (E.g. toggling between 10 seconds and 16 seconds.
c) You are free to add more features to this application without loosing the current ones!

Please submit your results in Canvas:

i. A separated report (in *.pdf or in *.docx format) including your state machine diagram or flowchart with comments, remarks, or findings and modified state names.
ii. An archived file “`OvenSimulation.projectarchive`” with your modified application, see also Figure 1 how to save a (new) version an archived file “`OvenSimulation.projectarchive`”

You are free to discuss with other students, but you must submit your own original work. Submissions without a separated report (as *.pdf or *.docx file) and a separated archived project solution (*. `Projectarchive)` will not be graded!

Good luck!