

GreenHouse Group 1

Final Report

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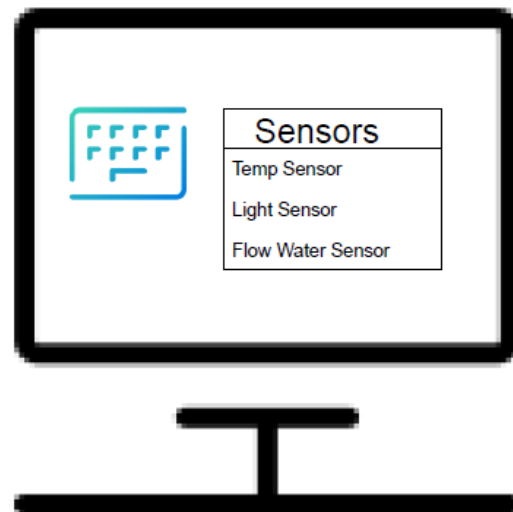
Date: 2021-09-29

What did we want to achieve?


GreenHouse Testing

We will test the HMI module at the greenhouse. We will set up the tests in SimuLink and send them via labkit1. Labkit2 reads data from the CAN bus and reacts to this. If it is data to be displayed on the GreenHouse display, data about this is sent via serial communication to the computer that has an emulator of display/keyboard. You can also send data from the emulator to labkit2 which changes the status of sensors in labkit2.

Emulate GreenHouse Key/LCD



Serial
USB

 Labkit 1


Running Tests

Purpose: Run tests from SimuLink

SoftWare: Lab kit

Connected to: SimuLink

CAN

 Labkit 2

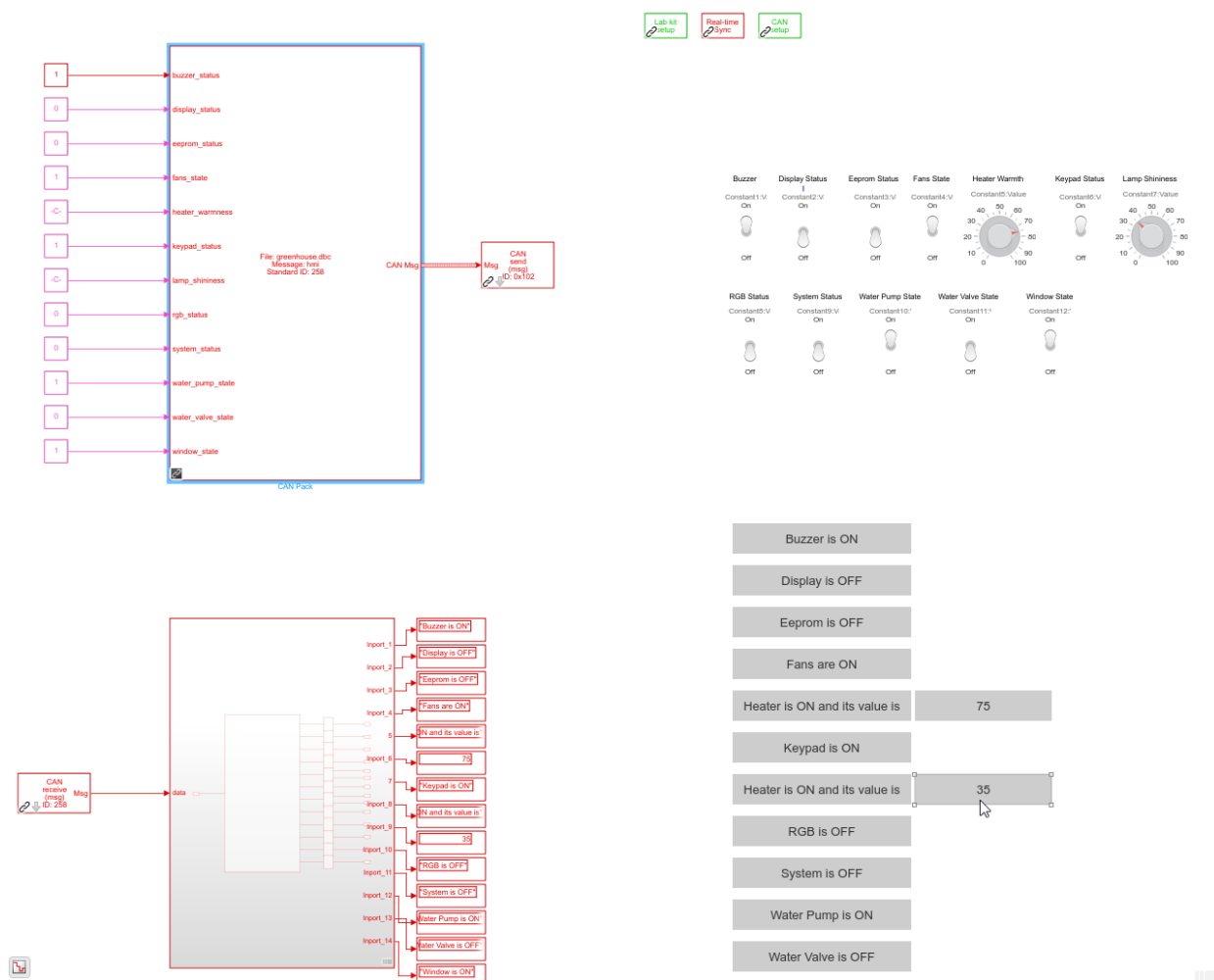
GreenHouse HMI

Purpose: Emulate GreenHouse hardware

SoftWare: Modded Lab Kit

How did it go?

We worked hard towards the goal from the beginning but soon realized that we might have a little trouble catching up with everything we anticipated. We chose to make a few things a little easier to keep up with everything. So we removed the emulation on the PC and chose to show that material in Simulink instead.



Resources used

- Simulink, Labkits and GreenHouse
- GitHub to distribute and keep track of our versions of software
- Discord and Zoom to work together

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main 4 branches 0 tags Go to file Add file Code

Mad-Mange Added a presentation under Docs 3316408 4 minutes ago 24 commits

File	Description	Time
Docs	Added a presentation under Docs	4 minutes ago
Labkit1	Added a presentation under Docs	4 minutes ago
Labkit2	Added code for Lab Kit 2	12 days ago
Labkit2_Modded_Org	Added flash.bin to root folder	8 days ago
PCEmulator	Changes in the buttons of the emulator	14 days ago
.gitignore	Initial commit	16 days ago
LICENSE	Initial commit	16 days ago
README.md	Update README.md	16 days ago

README.md

GreenHouse_Group1

Set up tests against GreenHouse in Trollhättan. The tests are set up in SimuLink, which then sends them via an ESP32 and then out on the CAN bus.

About: No description, website, or topics provided. Readme Apache-2.0 License

Releases: No releases published. Create a new release

Packages: No packages published. Publish your first package

Contributors: Gonzalo, Obaid, Magnus

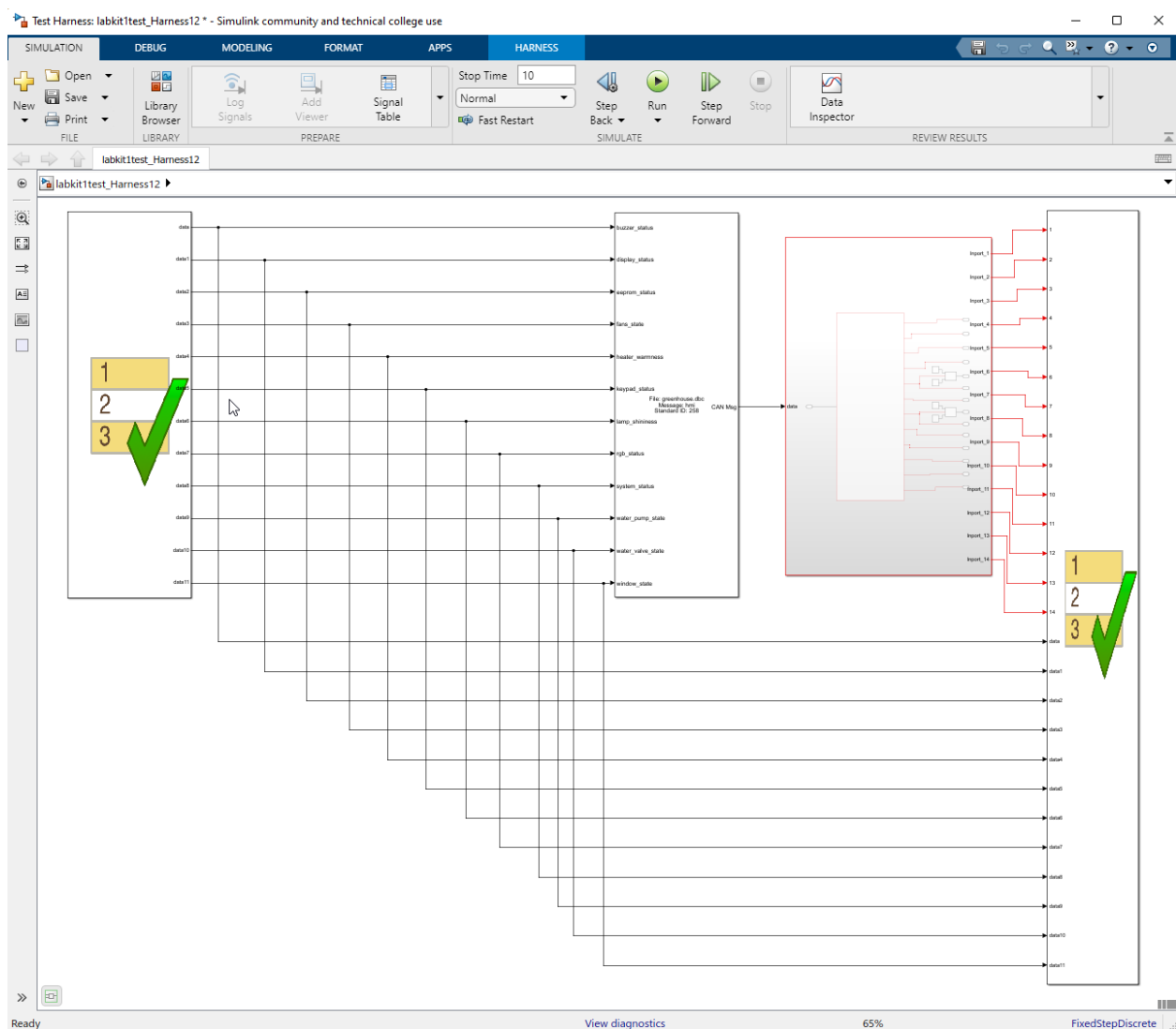
Languages: C 71.4%, TeX 24.5%, Python 3.4%, Other 0.7%

https://github.com/Mad-Mange/GreenHouse_Group1/issues

Testing and results

All our tests had to be performed on our model in Simulink as we did not really get the expected results when driving towards the Greenhouse due to technical problems. We would need a few more hours with the hardware so it would probably work great.

- Test Harness



- Test Signals

- Test Report

New Test Case 1

Test Result Information

Result Type: Test Case Result
 Parent: None
 Start Time: 28-Sep-2021 22:43:35
 End Time: 28-Sep-2021 22:43:36
 Outcome: **Passed**

Test Case Information

Name: New Test Case 1
 Type: Baseline Test

Simulation

System Under Test Information

Model: labkit1test
 Harness: labkit1test_Harness12
 Harness Owner: labkit1test/Subsystem12
 Release: Current
 Simulation Mode: normal
 Override SIL or PIL Mode: 0
 Configuration Set: esp32_currentConfigObj
 Start Time: 0
 Stop Time: 10
 Checksum: 2146938175 2579099657 1619783866 3604602056
 Simulink Version: 10.3
 Model Version: 1.17
 Model Author: user
 Date: Mon Sep 27 10:14:48 2021
 User ID: user
 Model Path: C:\Users\user\Documents\SoftwareTesterStuff\Greenhouse Stuff\labkit1test.slx

 Machine Name: W105
 Solver Name: FixedStepDiscrete
 Solver Type: Fixed-Step
 Fixed Step Size: 0.20000000000000001

What did we learn?

- Really fun project when you have a real physical object to work against. Now you understand better how difficult it can be to predict how the hardware product will react with its software and tests. We think it is important to use the hardware as early in the project as possible.