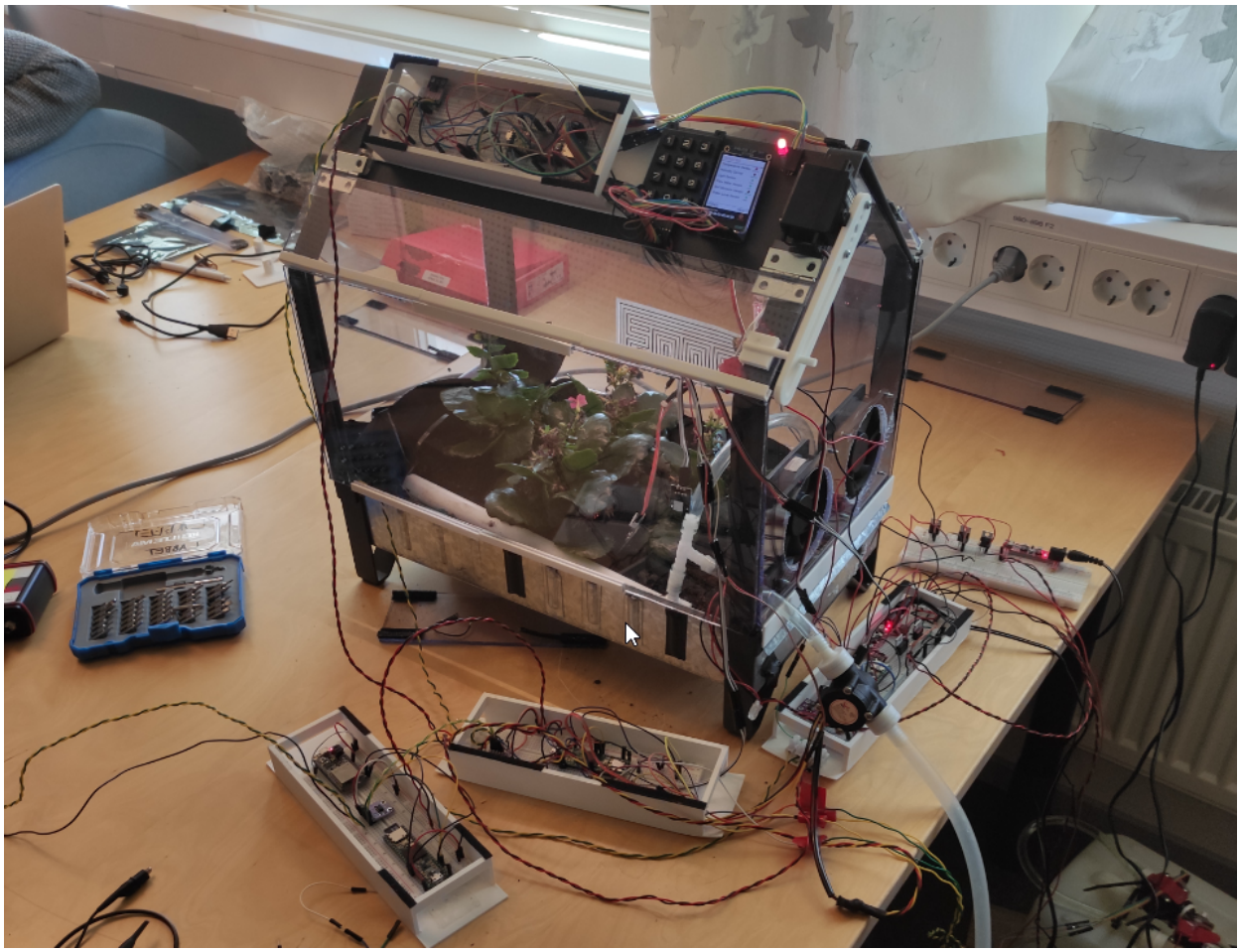


# GreenHouse Group 1

## *Final Report*

**Group Members: Gonzalo, Obaid, Magnus**

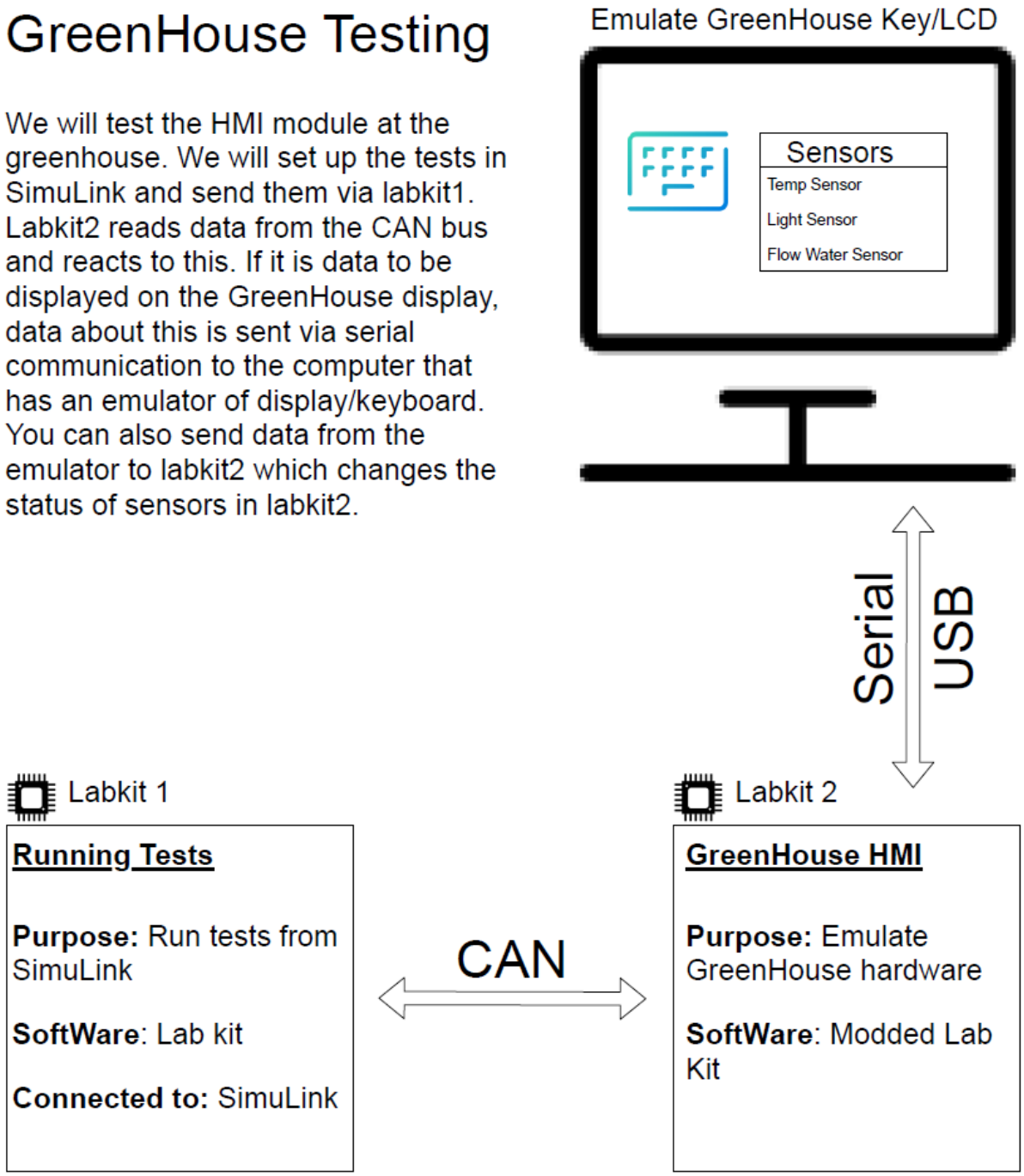
**Supervisor**: Joachim Lublin

**Date**: 2021-09-29

## What did we want to achieve?

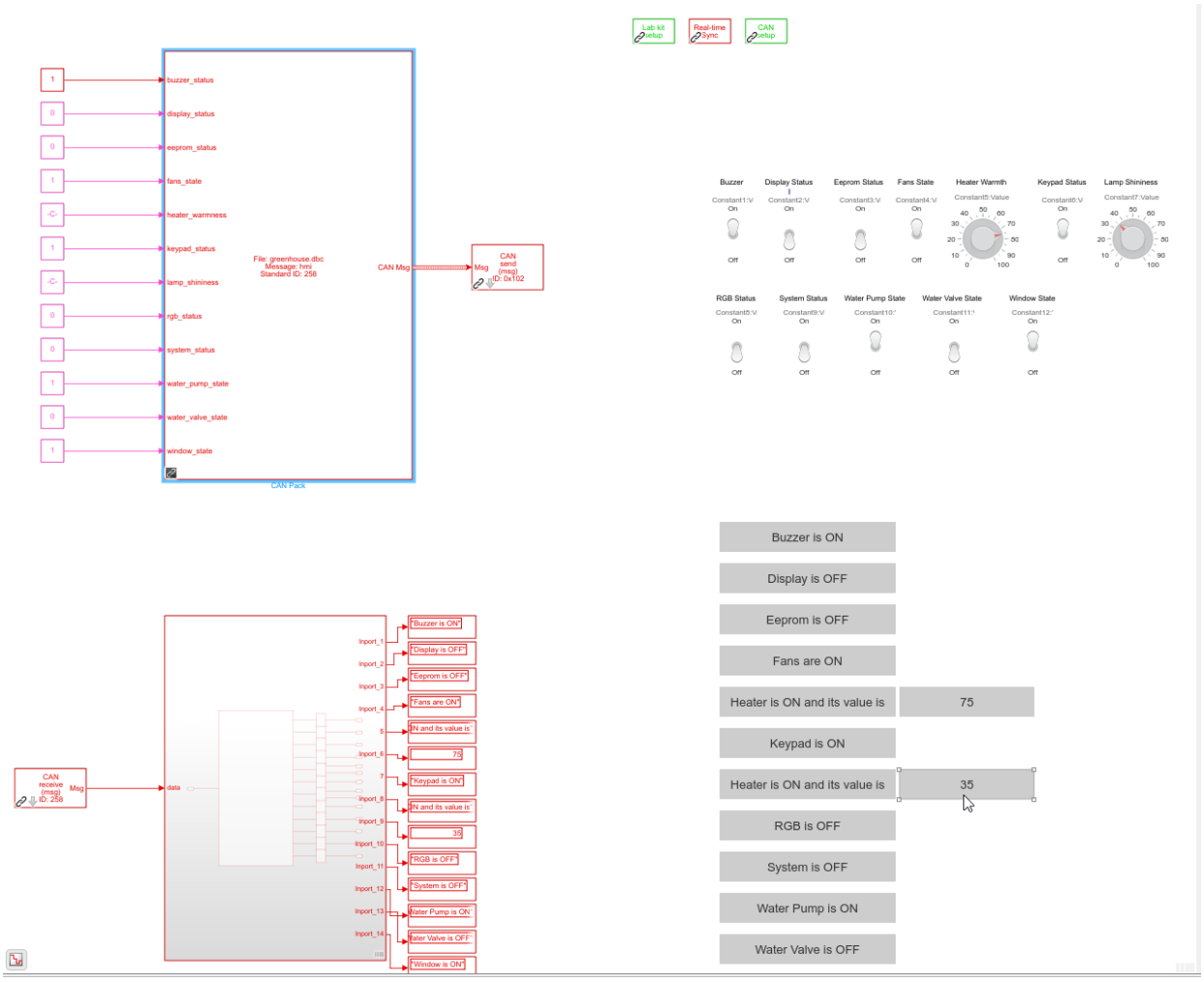
# GreenHouse Testing

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.



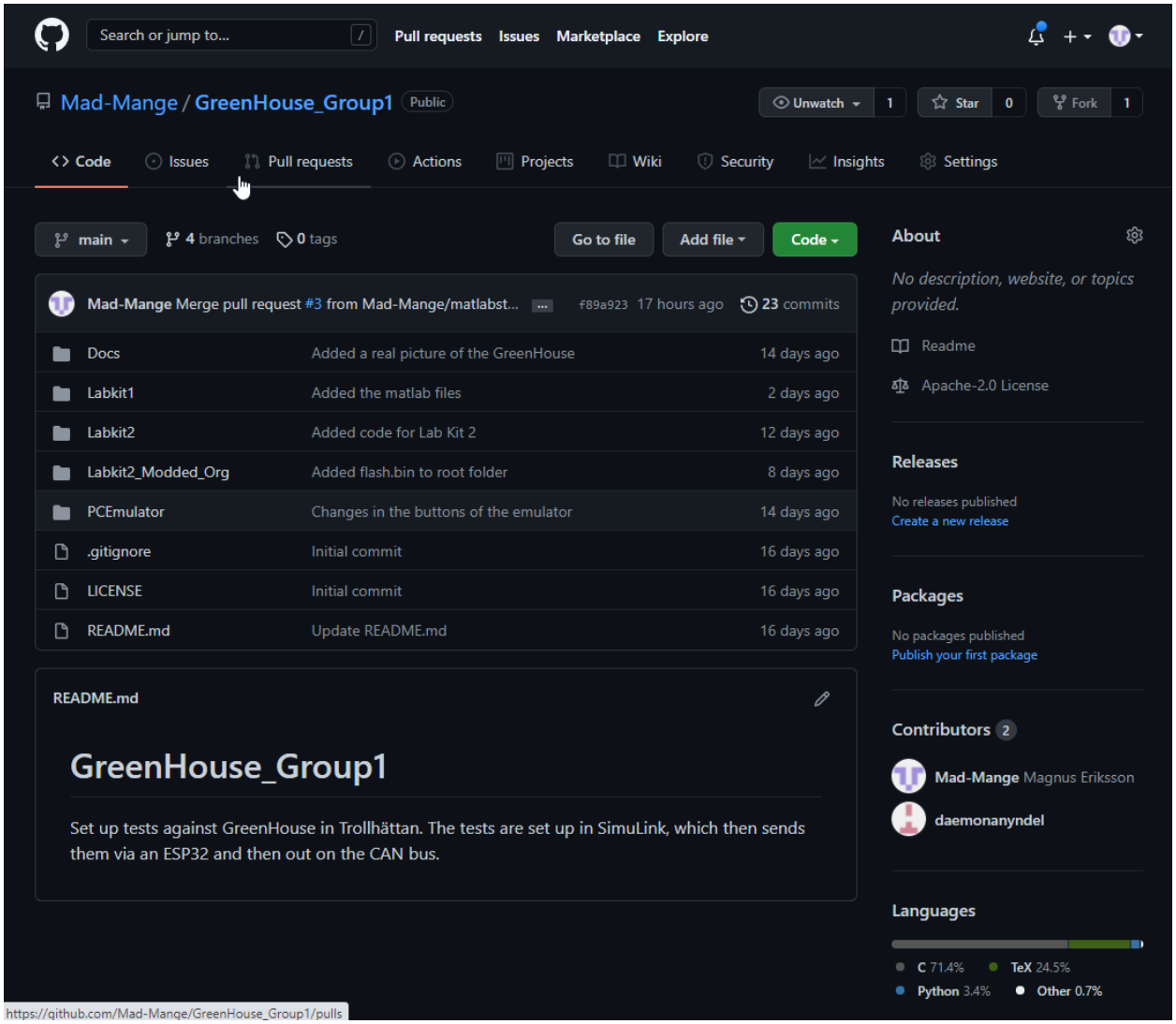
# How did it go?

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

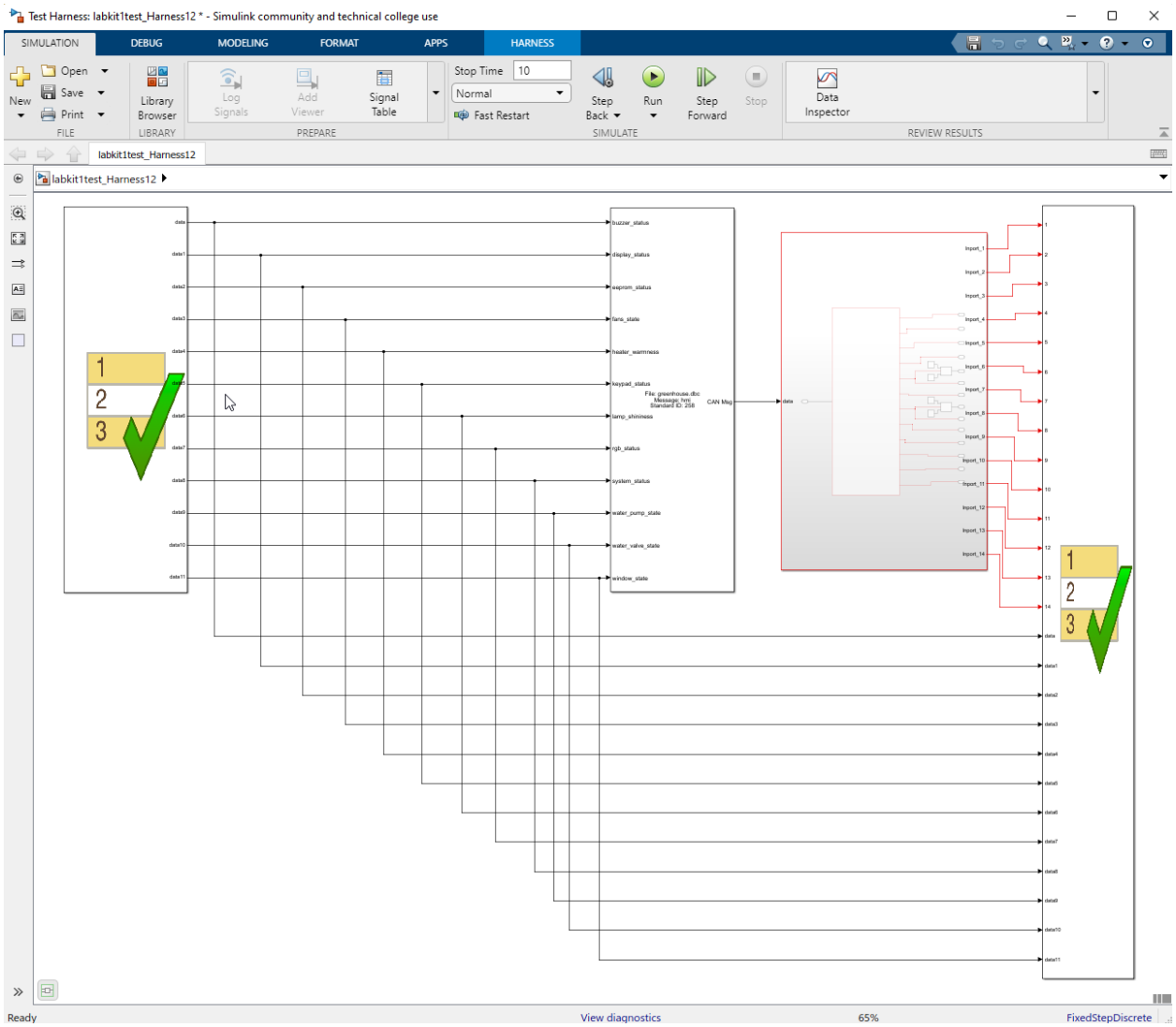
- Simulink, Labkits and GreenHouse
- GitHub to distribute and keep track of our versions of software
- Discord and Zoom to work together



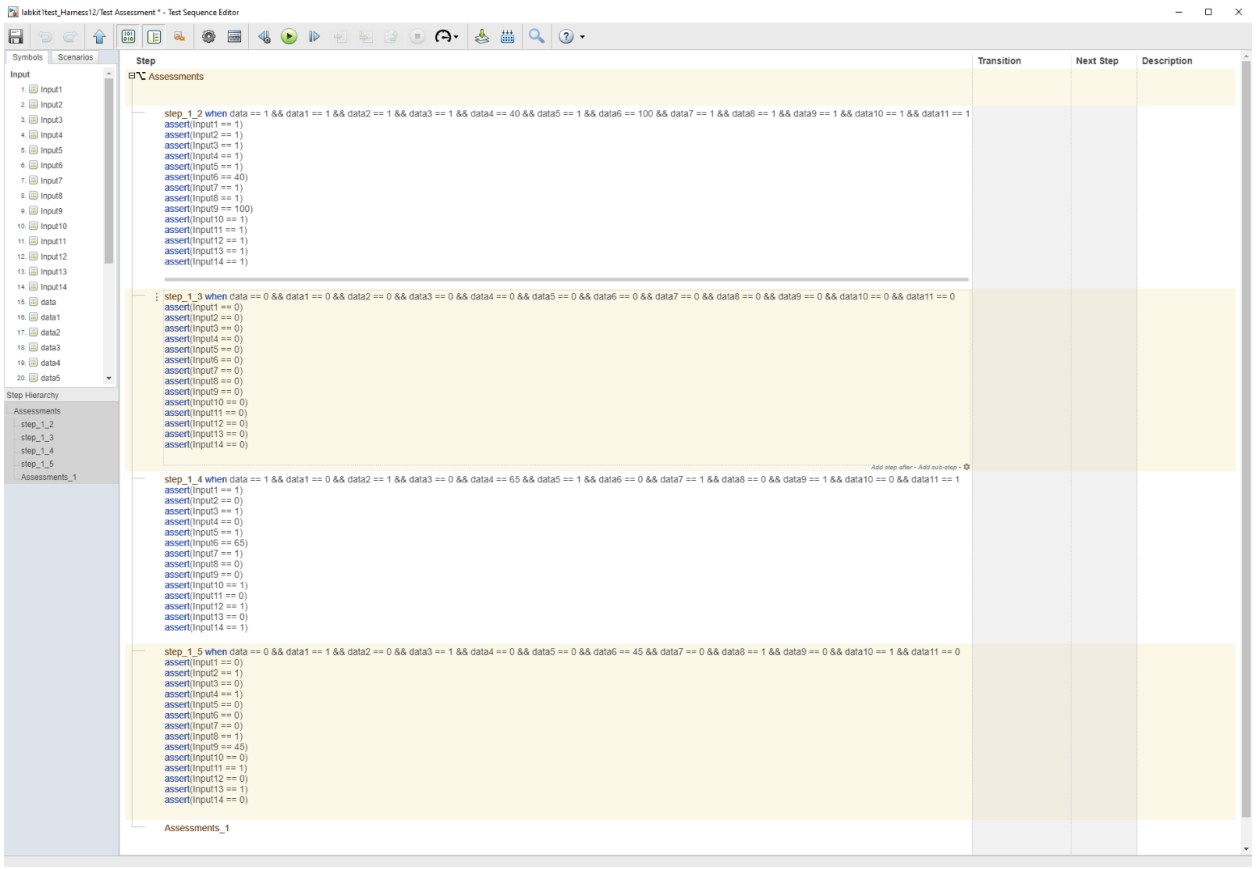
# Testing and results

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.