CC3501 weekly report example

Group number: 2
Team members: Hunter Kruger-Ilingworth, Thomas Mehes, Quentin Bouet
Week number: 8

Progress this week:

Task	Who did it?	What were the outcomes?	Who did the peer review?	What did you learn?
Troubleshooting SDI-12 sensor	Hunter and Quentin	Tested RS485 with oscilloscope and SDI-12 sensor again for troubleshooting. Worked on finding the issue when receiving measurements from sensor.	Hunter	The issue was that the SDI-12 protocol has a specific byte frame format to follow. The uart_set_format() function fixes this problem.
Correct and optimise software for SDI-12 sensors	Hunter	Applied the uart_set_format() function to fix the communication problem with the sensors. Cleaned up original code with functions and comments. Created is_timed_out() function to avoid sleeping and automate receiving characters.	Quentin	Reviewed the code and confirmed its functionality with the measurement received from the SDI-12 sensor.
Acquired testing equipment	Hunter, Laurance, Terence	Got a scale, an SD card reader breakout board. Identified a github repository for the SD card reader. https://github.com/carlk3/no-OS-FatFS-SD-SPI-RPi-Pico	Quentin, Laurance	Had a quick look at the SD card reader repository. Searched for headers for final implementation. Discussed housing of board with client (IP68 rated box preferred, something waterproof).
Started the PCB	Thomas	Created the PCB file and imported components. Started placing components, arranging the board and drawing tracks.	Hunter	Discussed the practicality of placing of some components close to the edge of the

				board such as the SD card reader.
Update milestones	Quentin	Took note of progress of the software aspect of the project.	Thomas	Confirmed and agreed with the update.
Found components and worked on footprint and Schematic	Quentin	Found terminal blocks for SDI-12 sensors and made a footprint for it. Found a terminal block to connect to bulk BNC connectors. Added components to schematic.	Laurance, Terence, Thomas	Reviewed and discussed how to connect the dew point generator inputs and outputs with a terminal block and bulk BNC connectors.

Overall project tracking:

Week number	**Milestones**
4	Confirm project topic
5	Begin Overview and planning
6	Hardware design: Microcontroller, DAC, SD card, flash and usb interface
7	Hardware design: Voltage regulators, loadcell circuit layout and testing, SDI-12 testing and interfacing and Informal check with Laurance
8	Hardware design: write working SDI-12 code, start PCB layout Finalise draft schematic for Laurance to review.
9	Finish PCB layout and review to make sure all design rules pass. Implement fixes to the PCB. Final PCB design submitted on Friday to Terence
LR	Software: Begin development that doesn't require hardware testing
10	Hardware: Solder components to PCB and begin interfacing Software: Coding to receive data from I^2C DAC and optimise more SDI-12 sensor code
11	Software: data logging applications including averaging, variable sampling periods and clean exported data.
12	Verify all hardware functionality, perform testing of existing software on the physical board. Polish the software.
13	Implement final bug fixes. Write the report. Demo day during Friday lab.