CC3501 weekly report example

Group number: 2
Team members: Hunter Kruger-Ilingworth, Thomas Mehes, Quentin Bouet
Week number: 11

Progress this week:

Task	Who did it?	What were the outcomes?	Who did the peer review?	What did you learn?
Debug I2C drivers	Hunter	In the process of getting the DAC functioning, software implementations on github were found, but scanning the I2C bus showed nothing on the bus. This lead to the conclusion that it was a hardware issue	Quentin Hunter Laurance	Confirmed that it was hardware issues through excessive testing and suffering (Please refer to Quentin's section for more detail).
Progressed report & updated milestones	Thomas	Added more to the technical problems section from this week's issues. The hardware did halt further progress on the report and milestones by about a week.	Quentin	Peer reviewed and discussed the troubleshooting process that was taken.
DAC troubleshooting (Tested and Fixed the DAC)	Quentin Laurance	Identified several hardware issues: - SDA and SCL pins were switched on RP2040 - Incorrect DAC pullup resistors SDA and SCL pins were swapped through cutting traces and resoldering by hand. Smaller pullup resistors were added manually to compensate for the capacitance from the tracks. A level shifter was considered then rejected when testing was successful. Basic and working software was written for the DAC, confirming functionality.	Thomas	Observed the clock and data lines finally working after between retraced by hand on the board. Demonstrates that our reviewing of the final PCB before submission was lacking. It was clear that the pullup resistor values were too large as the rising edge of the clock cycle was more triangular then square. The initial quick fix for the incorrect pullup resistor values was soldered with through-hole resistors but going to be changed to surface mount.

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 Report: begin report writing
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	All major functionality of the project working but unrefined. Fixed hardware issues and updated software.
12	Software: data logging applications including averaging, variable sampling periods and clean exported data. 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.