CC3501 weekly report example

Group number: 2
Team members: Hunter Kruger-Ilingworth, Thomas Mehes, Quentin Bouet
Week number: 6

Progress this week:

Task	Who did it?	What were the outcomes?	Who did the peer review?	What did you learn?
Add SD card to schematic	Hunter	Learned there are multiple ways to wire it up to enable either 1bit or 4bit bus width. There is also example interfacing code provided by raspberry pi pico-extras/src/rp2_common/pico_sd_card at master · raspberrypi/pico-extras · GitHub Another repo has great info on software and hardware implementation on the RP2040 https://github.com/carlk3/no-OS-FatFS-SD-SPI-RPi-Pico	Quentin	Fixed up the wiring from correctly adapting the RP2040 datasheet (the interface was changed from 4bit to SPI).
Get all the Sensors for free	Hunter & Quentin	Met with client Got SF-5M sap flow sensor (SDI-12) Got LT-1T leaf temperature sensor (SDI-12) Got MT-603 load cell	Hunter	Read the datasheets and examined how we could implement these sensors
Add DAC to the schematic	Quentin & Thomas	MCP4716 DAC was chosen for the circuit as reference from p. 64 of DAC datasheet.	Thomas	Vdd is connected to the reference internally. Induced noise can affect DAC performance, thus bypass are included as close to the Vdd pin as possible (<4mm).
Update milestones	Thomas	Determined more specific goals to for both hardware and software application in future weeks.	Quentin	We should be able to finish the schematic in Wk7

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, SDI-12 interfacing and Informal check with Laurance
8	Hardware design: finish PCB layout and review to make sure all design rules pass. Submit draft schematic to Laurance for review. Begin Software
9	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 SDI12 sensors & I^2C DAC
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.