

CC3501 weekly report example

Group number: 2

Team members: Hunter Kruger-Ilingworth, Thomas Mehes, Quentin Bouet

Week number: 12

Progress this week:

Task	Who did it?	What were the outcomes?	Who did the peer review?	What did you learn?
Implement UI and data sampling program	Hunter	<p>Terminal program that implements the following commands,</p> <pre>help set_voltage number //set dac voltage, get_data sdi12_send command shutdown</pre> <p>All whilst in the background sample and save data to the SD card via SPI.</p> <p>Begun the implementation of SDI-12 sensor data input but did not complete this yet. The main issue will be having the interrupts not “collide” with each other since the low baud rate increases the probability that other things will interrupt the middle of a communication session with one of the SDI-12 sensors. No hardware issues identified. Simple commands (OI!) sent and received a response from.</p>	Thomas	Saw quick demo of using the terminal program and can confirm that it functions correctly. I like the help feature and find it very useful.
DAC driver	Quentin	The DAC driver was rewritten and finalised. The “Write to all memory” command is used to update everything at once. Several functions were made to configure the settings of the DAC (gain, Vref, power down modes). Enum and documentation were used to allow easier configuration when using the driver.	Hunter	The driver works and the DAC outputs the correct voltage (when measured using a multi meter, it is correct to the nearest ~0.02V). This has the accuracy needed for the client’s application.
Solder on correct SM resistors and wiring traces	Thomas Hunter Laurance	Several attempts were made at swapping SDA & SCL and at soldering the correct surface mount pull up resistors of the DAC.	Quentin	The impossible can only be accomplished with the help of Laurance. Non-conductive coating was added to avoid shorting.
Report	Thomas	Completed discussion section of the report, specifically making critical	Quentin	Read through the recently written sections and suggested improvements.

		analysis of design choices and evaluating final products success.		
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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 ² C 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.