

Project Team: DCA

Project Title: Non-Invasive Ultra-sonic Meter Reader

Team Members: Darren, Carter, Austin

Sprint No. and Demonstration Date (YYYY-MM-DD): Sprint 1 (2022-10-20)

Sprint Demonstration Preparation Checklist

Sprint demonstration preparation checklist is provided to ensure readiness for demonstration. Please make sure all preparation tasks, listed below, are complete. If any task is not completed, the sprint results may not be considered ready for demonstration and a grade of zero may be assigned for the sprint.

Task No.	Task	Completed (Yes/No)
1	Completed Demonstration Preparation Checklist?	Yes
2	Highlighted/marked the progress for this sprint on: 1. All figures including schematics, block diagrams, and flowcharts; 2. Software code by adding comments indicating work for the sprint;	Yes
3	Submitted items in Task 2 (figures and software), above, to eConestoga as a single compressed file in “zip” format.	Yes

Sprint Feature List

On this Separate Document please list all features/tasks from Sprint backlog. Please attach Test Results for each Feature as a separate document. Please attach Design Documentation, Schematics, Flowcharts, etc.

# (Use number from Sprint Backlog)	Feature Description	Percent Complete	Tested? (Yes or No)	Faculty Assessment
1	Review ATSAMD20 dev kit	100	Yes	
2	Setup Ide Enviroment for firmware (Microchip Studio)	100	Yes	
3	Led blink using Dev Board	100	Yes	
4	SAMD21 implement/research Timers	90	No	
5	SAMD21 implement/research Interrupts	75	No	
6	SAMD21 implement/research Watchdog	90	No	
7	SAMD21 implement/research Clocks	80	No	
8	Interface devboard ENC28J60	10	No	
9	Interface with devboard's ATWINC1500	85	Yes	
10	Simulate using Wink card to communicate with a network on dev board	25	No	
11	Simulate using ENC card to communicate with network on dev board	0	No	
12	Explore KiCad software	100	Yes	
13	Design a Power Source	100	Yes	
14	Solder Power Circuit	0	No	
15	Test Power Sources	0	No	
16	Add ATSAMD20E18 to circuit	100	Yes	
17	Add ENC28J60to circuit	100	Yes	
18	Add ATWINC1500 circuit	100	Yes	
19	Add LED(status code) circuit	100	Yes	
20	Research communication circuit(how to upload firmware to a microcontroller)	100	Yes	
21	Implement communication port to hardware prototype	100	Yes	
22	Upload firmware to prototype for the first time(blink led)	0	No	
23	Research Ultrasonic sensors	100	Yes	
24	Determine/Order peizos that will work for our use case	100	Yes	
25	Build prototypes using ordered sensors	0	No	
26	Build testing pipes for sensors(closed loop)	100	Yes	
27	Determine final sensor used for project	0	No	
28	Create alpha-prototype of ultrasonic sensor	0	No	

29	Research how to read gear revolutions/ultrasonic readings to calculate flow	100	Yes	
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