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 2 (2022-11-24)

**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** |
| 30 | Test purchased sensors are non-defects | *100* | *Yes* |  |
| 31 | Create Block diagram for sensor module | *100* | *Yes* |  |
| 32 | Breadboard sensor module circuit | *100* | *Yes* |  |
| 33 | Verify upper and lower bounds of frequency, linearize readings and determine sensitivity required to measure \*time | *100* | *Yes* |  |
| 34 | Determine how MCU can send required frequency, do we need an oscillator or transistor to boost frequnecy from two sources? | *100* | *Yes* |  |
| 35 | Create Schematic for sensor module circuit | *100* | *Yes* |  |
| 36 | Verify Schematic for sensor module with sponsor | *100* | *Yes* |  |
| 37 | Breadboard/prototype a sensor module circuit with the Devboard | 20 | No |  |
| 38 | Measure flow of water on test pipes using a MCU | 0 | *No* |  |
| 39 | Design final sensor module plastics/enclosure | 0 | No |  |
| 40 | Create block diagrams for MCU module | 100 | Yes |  |
| 41 | Verify Schematic for MCU module with sponsor | 100 | Yes |  |
| 42 | Create beta pcb design for MCU module | 100 | Yes |  |
| 43 | Verify pcb design for MCU module with sponsor | 100 | Yes |  |
| 44 | Build 2-3 sets of beta pcb MCU modules | 0 | No |  |
| 45 | Upload firmware to beta MCU module (Flash led) | 0 | No |  |
| 46 | Modify webpage the wifi chip's local server serves (atmelConfig.com -> our own page) | 100 | Yes |  |
| 47 | Save SSID and PASSWORD to a network on a successful connection (Winc flash or NVM) | 100 | Yes |  |
| 48 | Interface devboard with Ethernet chip | 100 | Yes |  |
| 49 | Get an IP address with Ethernet chip attached to Devboard | 25 | No |  |
| 50 | On MCU powerup, determine to use Ethernet or Wifi depending on if a network cable is connected to module | 70 | No |  |
| 51 | Enable watchdog to reset module if MCU module gets stuck in infinite loop | 100 | Yes |  |
| 52 | Send a packet of data to a server(fake) with Wifi chip | 0 | No |  |
| 53 | Send a packet of data to a server(fake) with Ethernet chip | 0 | No |  |
| 54 | Receive a packet of data to a server(fake) with Wifi chip | 0 | No |  |
| 55 | Receive a packet of data to a server(fake) with Ethernet chip | 0 | No |  |