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|  | **Weekly Team Task Report** | **17** |

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| Team: Team Lora | | | | | | **Date: 3/9/20** | | |
| **Project Title: Mobil Crowdsensing Framework Over Low-Power Wide Area Networks** | | | | | | | | |
|  | Ryan  Present  On-time |  | Mohammed  Present  On-time |  | Benjamin  Present  On-time | |  | Brandon  Present  On-time |

### Recent Meetings:

* Team Meeting (2/2420) Team meeting via Discord. Discussed tasks for the upcoming week, worked on revising the software design document.
* Team Meeting (2/27/20) Met to troubleshoot bugs in configuration service and LoRaMessenger

### TASKS COMPLETED since the last meeting:

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| **Task Title: Set up a Router to be our "CANIS LAB" connection** | **Task Initiation:**  2/24/20 | **Orig. Due Date:**  2/26/20 | **Status:** Completed |
| **Who (%): Ryan (100%)** | | | |
| **Description:** Buy and Set up a router as a "test" router to act as the CANIS LAB Lora connection | | | |
| **Expected Outcome:** A router connected to our phone and able to mimic a Lora Connection via IP. | | | |

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| **Task Title: Implement Android Device to LoRa Node Connection** | **Task Initiation:**  1/30/20 | **Orig. Due Date:**  2/17/20 | **Status:** Completed |
| **Who (%): Ryan (50%) Mohammed (50%)** | | | |
| **Description:** Getting connection between the library and the lora node via kotlin connection. | | | |
| **Expected Outcome:** A connection is created. | | | |

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| **Task Title: readEncodingTable()** | **Task Initiation:**  2/16/20 | **Orig. Due Date:**  2/29/20 | **Status:** Completed |
| **Who (%): Ben (33%) Ryan (33%) Brandon (33%)** | | | |
| **Description:** A function that reads the lookup table and translates strings into byte strings. | | | |
| **Expected Outcome:** usable lookup table that works before spring break and works with encodeFromTable function. | | | |

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| **Task Title: encodeFromTable()** | **Task Initiation:**  2/16/20 | **Orig. Due Date:**  2/29/20 | **Status:** Completed |
| **Who (%): Ben (33%) Ryan (33%) Brandon (33%)** | | | |
| **Description:** A function that encodes the message based on the lookup table parameters. | | | |
| **Expected Outcome:** Encoded message ready to be sent to the loRa Node. | | | |

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| **Task Title: handleMessage()** | **Task Initiation:**  2/24/20 | **Orig. Due Date:**  3/7/20 | **Status:** Completed |
| **Who (%): Ben (100%)** | | | |
| **Description:** A function for the Proxy Server designed to handle the messages being received. | | | |
| **Expected Outcome:** A basic function that can handle the messages received. | | | |

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| **Task Title: sendLoRaMessage()** | **Task Initiation:**  2/16/20 | **Orig. Due Date:**  3/14/20 | **Status:** Completed |
| **Who (%): Ryan (50%) Mohammed (50%)** | | | |
| **Description:** A function that sends the "message" to the lora node. | | | |
| **Expected Outcome:** A basic function that can send a message to the lora node. | | | |

### This week’s Tasks: Work plan for the coming week

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| **Task Title: Create Wiki For Documentation** | **Task Initiation:**  2/10/20 | **Orig. Due Date:**  2/17/20 | **Status:** In-Progress  0% Completed |
| **Who (%): Ryan (25%) Mohammed (25%) Benjamin (25%) Brandon (25%)** | | | |
| **Description:** Create the start of the Wiki for our project. | | | |
| **Expected Outcome:** A github wiki for our github project that explains how to use our code. | | | |

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| **Task Title: Secure Proxy Server’s Connections** | **Task Initiation:**  2/8/20 | **Orig. Due Date:**  2/29/20 | **Status:** In-Progress  0% Completed |
| **Who (%): Ben (100%)** | | | |
| **Description:** Ensure that the packets being transmitted to and from the proxy server are properly encrypted, and that the server validates all connections made to it. | | | |
| **Expected Outcome:** Demonstrate that the packets transmitted to and from the proxy server are encoded, show a connection without proper certification be refused | | | |

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| **Task Title: Have Library Run Sockets Concurrently** | **Task Initiation:**  3/7/20 | **Orig. Due Date:**  4/24/20 | **Status:** In-Progress  90% Completed |
| **Who (%): Mohammed (100%)** | | | |
| **Description:** Currently, the sendLoRaMessage() function creates the socket to send the encoded message to the LoRaNode while running as part of the MainActivity. This is unideal as it means that the user’s app cannot respond to them while it is waiting for the socket to establish a connection. Ideally, the library should be able to run the socket responsible for connecting to the LoRaNode in a thread separate from the main one. | | | |
| **Expected Outcome:** Demonstrate that the library can send a message to the LoRaNode without overriding the MainActivity to allow sockets. | | | |

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| **Task Title: Implement Fragmentation** | **Task Initiation:**  3/7/20 | **Orig. Due Date:**  4/24/20 | **Status:** In-Progress  0% Completed |
| **Who (%): Ryan (25%) Mohammed (25%) Benjamin (25%) Brandon (25%)** | | | |
| **Description:** Currently, boths sides of our framework can only handle a single packet at a time. This puts a great deal of constraint on the amount of data that we can send. Implement best-effort fragmentation so that a single large message can be split into multiple packets to fit through the LoRaWAN pipe. | | | |
| **Expected Outcome:** Demonstrate that the framework can send a large message over LoRaWAN using fragmentation. | | | |

### Upcoming Tasks: Planning

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| **Task Title: testing and finalizing LoRaMessenger Library** | **Task Initiation:**  3/8/20 | **Orig. Due Date:**  5/1/20 | **Status:** In-Progress  0% Completed |
| **Who (%): Ryan (25%) Mohammed (25%) Benjamin (25%) Brandon (25%)** | | | |
| **Description:** This is the part where we perfect our code and make our project run smoothly and remove any issues we find. This might also include adding more functionality to our project. | | | |
| **Expected Outcome:** Polished and finalized android library. | | | |

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| **Task Title: Have Library Read JSON File** | **Task Initiation:**  3/7/20 | **Orig. Due Date:**  4/24/20 | **Status:** In-Progress  0% Completed |
| **Who (%): Ryan (25%) Mohammed (25%) Benjamin (25%) Brandon (25%)** | | | |
| **Description:** Currently, the decoding table JSON file is read by the main thread of the demo app and the resulting JSON string is passed to the library. Ideally, the library should be able to read the decoding table without the main thread’s assistance. | | | |
| **Expected Outcome:** Demonstrate that the library can read in the decoding\_table.json file when it is placed in a specific place in the app’s package. | | | |

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| **Task Title: Implement OpenCellID Demo App** | **Task Initiation:**  3/7/20 | **Orig. Due Date:**  4/24/20 | **Status:** In-Progress  0% Completed |
| **Who (%): Ryan (25%) Mohammed (25%) Benjamin (25%) Brandon (25%)** | | | |
| **Description:** Create a demo app which extends the OpenCellID SendSingleMeasurement API to show our framework in action. | | | |
| **Expected Outcome:** Demonstrate the working app being able to send a valid SendSinglemeasurement call over LoRaWAN.. | | | |

### Other Problems / Other Issues: