EE 491 WEEKLY REPORT 1 *Date: 9/6/16-9/12/16*

Group number: 18

Project title: Radio Frequency Readout Device (RFRD)

Client &/Advisor: Dr. Qiao

Team Members/Role: Brandon Baxter/Team Leader, Vaughn Dorsey/Team Webmaster, Luke Myers/Team Communication Leader, Kurt Turner/Team Key Concept Holder, Aaron Haywood, Robert Buckley, Mehdy Faik, Kellen Yoder, Michael Miller

- **Weekly Summary**

Our team leader Brandon Baxter met with our project advisor Dr. Qiao to begin initial discussion for our project. Details from that meeting are included below. Brandon presented that information to the rest of our group at our first large group meeting. We discussed the three main components of the project and divided into three different groups based on experience and interest. Each of the groups set a weekly meeting team conducive to everyone's schedule and made initial plans for research.

- **Past week accomplishments/contributions**
    - Brandon Baxter met with the project advisor.
    - All team members attended weekly meeting (Sunday, 9/11 @ 2 PM) and were assigned to a subgroup for the project
- **Comments and extended discussion**

Each group is planning to have a meeting with all members and Dr. Qiao within the next couple of weeks. We are also supposed to start ordering parts by November.

- **Plan for coming week**

Each of the subgroups will be meeting at a specific time during this week to discuss initial research findings. The three subgroups will be focused on the signal reader/coding, the antenna, and capacitor sensor for the RFRD, respectively.

- **Summary of weekly advisor meeting**

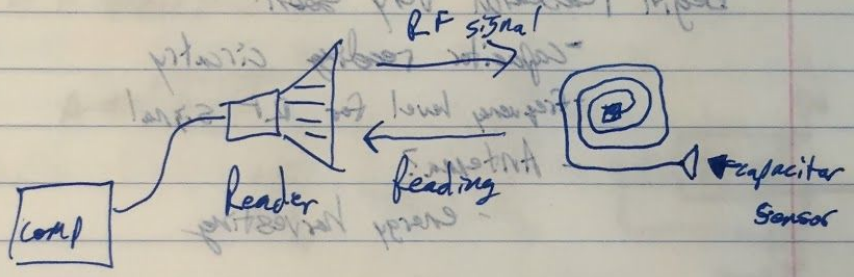
Brandon Baxter met with the advisor and they went over the guidelines as well as suggestions for the project. He suggested the “RFRD” project be broken up into 3 subgroups to form a group that will be in charge of the reader, the antenna, and a group for the capacitor sensor. The advisor also mentioned some of the requirements for the project including a sample timeline of getting parts ordered around November as to allow the group to reorder parts if certain aspects do not work according to calculation.

Meeting with Senior Design Advisor

- Size consideration → for the IC part
- cost ⊛ is very important

range of frequency ↔ size of antennae

commercial reader is possible



2-4 ~~thursday~~ HKN Help room — Reader research (open source?)
- build own
- buy commercial (and hack)
- Vaughn (database) / embedded system guy

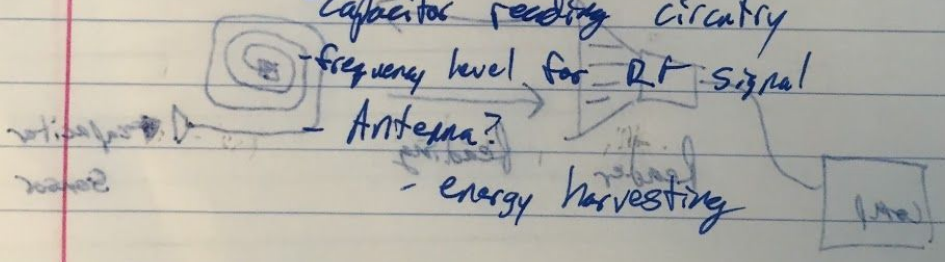
10AM Tuesday — Antenna group (research frequency for size of antenna)
- antenna guy

2-4 thursday TLA - Sensor for the IC circuit
- circuitry stuff

System level description

identify numerous options
- choose the options after weighing pros and cons

Begin research very soon!
- capacitor reading circuitry
- frequency level for RF signal
- Antenna?
- energy harvesting



RFID - How does it work?
- Frequency bands

* Add a master student/Advisor to mailing list