

Group number: 22

Project title: Smartphone based nano-device for human breath sensing

Client &/Advisor: Prof. Long Que

Team Members/Role: Jared Smiley-Team Leader, Zhaobo Huang-Webmaster, Mengzhou Sha-Communication Leader, Concept Holder-Xin Chen

- **Weekly Summary**

This week we started revising the project plan, developed an app that can take pictures and display them on screen and met with our professor to show our previous progress on our Matlab code for determining frequency spectrum. We also met with our mentor's graduate assistant to view their lab spectrometer setup and discuss his idea for how to construct our smartphone spectrometer. We continued to research how to transfer our matlab code to an android app.

- **Past week accomplishments**

- Xin: Started revising design section project plan
- Mengzhou: Started revising timeline section project plan
- Zhaobo: Started revising specifications section project plan
- Jared: Developed android app for image capture

- **Pending issues**

- **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Xin	Attended project work meeting, mentor meeting, lab tour, project plan revise	3	21.5
Mengzhou	Attended project work meeting, mentor meeting, lab tour, project plan revise	3	21.5
Zhaobo	Attended project work meeting, mentor meeting, lab tour, project plan revise	3	21.5
Jared	Attended project work meeting, mentor meeting, lab tour, started android app	3	22

- **Plan for coming week**

- Xin: Start app that can analyze image taken by app, take picture of spectrum from spectrometer in lab and compare our matlab results to actual spectrometer results, finish project plan
- Mengzhou: Start app that can analyze image taken by app, take picture of spectrum from spectrometer in lab and compare our matlab results to actual spectrometer results, finish project plan
- Zhaobo: Start app that can analyze image taken by app, take picture of spectrum from spectrometer in lab and compare our matlab results to actual spectrometer results, finish project plan
- Jared: Start app that can analyze image taken by app, take picture of spectrum from spectrometer in lab and compare our matlab results to actual spectrometer results, finish project plan

- **summary of meeting with our professor**

In this meeting, we showed off our matlab code that can determine the frequency vs intensity graph from an image. He gave us suggestions for how to improve its accuracy and described how we are going to test it at our next meeting. He said we are going to take a picture with the lab spectrometer, run it through our matlab code, and ensure that our results are similar to the commercial spectrometer in the lab. Additionally we discussed how we will design and construct our spectrometer for attachment to our smartphone.