

## Wireless RF Scanner Group status email: Due 2014 January 14

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master Current Group Leader

Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)

Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)

Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)

Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)

Prahlad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### Problems

We aren't really sure at this point of how to divide up the work in the team. We are hoping once we have the parts and we all play with it a little bit, we will know more whose skills are more suited for which work.

### Current Status

We decided on Avnish Kumar to be the Webmaster. For group leader, as we had decided last semester, we will be rotating between everyone for the group leader. Sahil Gupta was the group leader towards the end of the last semester. This semester, the group leader will change every 3 weeks (3\*5 weeks = 15 weeks of semester). Currently, Avnish Kumar is the group leader for the first 3 weeks. This semester, till now we have met with our advisor, Greg Durgin, and have gone over the project proposal. We have also contacted our sponsor company, DasPoint, to arrange a meeting between them and our advisor. Our project summary form is also completely up to date.

### Task Status: Actions on last week's Action Items

We decided on meeting with our advisor every week on Monday 2-3pm. As per his request, for the first few weeks when the work is slow, we will email him the weekly report instead of meeting.

Our team will be using the two time slots given to us (Tu, Thu 4:30-7:30) to meet and do the necessary work for the week.

### Planned Tasks: Action Items for the upcoming week

Avnish and Vatsal will update the changes on the proposal that Professor Durgin mentioned

Sahil and Cameron will go over the entire proposal as well as summary form to review it and make any necessary changes

Email the project proposal to Professor to review it

Pooja and Prahlad will go over the proposal to make the changes after the review

Arrange a meeting with DasPoint and Professor Durgin

Contact DasPoint to get the parts

## Wireless RF Scanner Group status email: Due 2014 January 21

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master Current Group Leader

Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)

Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)

Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)

Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)

Prahlad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### Problems

We aren't really sure at this point of how to divide up the work in the team. We are hoping once we have the parts and we all play with it a little bit, we will know more whose skills are more suited for which work.

### Current Status

We went over the changes we needed to make in the proposal. We revised the proposal and have submitted it for grading. We also have asked DasPoint for the parts.

### Task Status: Actions on last week's Action Items

Changes were made by Avnish & Vatsal based on Professor Durgin's feedback.

Sahil & Cameron went over the proposal and revised it.

Sahil emailed the proposal to Professor Durgin for a final review.

We submitted the proposal for grading.

DasPoint has been contacted for the parts.

### Planned Tasks: Action Items for the upcoming week

Once the parts arrive, go over them as a team and decide division of work.

Set up the team website this week and upload the project proposal.

## Wireless RF Scanner Group status email: Due 2014 February 4

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu) Current Group Leader  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlaad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### Problems

We are trying to get in touch with Daspoint to get the parts. They have been on a big Project in Texas so its been hard getting in touch with them. Last week due to the snow I got caught up in traffic and forgot to submit the weekly report.

### Current Status

We are working on the android application, until the parts arrive. From that point, we will start programming the hardware.

### Task Status: Actions on last week's Action Items

Parts still haven't arrived. Still waiting for the parts.  
Team website building is in progress.  
Currently team members are doing research on different components.

### Planned Tasks: Action Items for the upcoming week

Once the parts arrive, go over them as a team and decide division of work.  
Finish website.

# Wireless RF Scanner Group status email: Due 2014 February 11

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu) Current Group Leader  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlaad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

## Problems

Currently we are having a problem setting up a meeting between Daspoint and our team, to collect the parts from them and also get some more specific details.

## Current Status

Still working on the Android Application. Also currently in the process of collecting the parts from daspoint. Email has been sent to set up this meeting. Waiting on their reply.

## Task Status: Actions on last week's Action Items

Parts still haven't arrived. Still waiting for the parts.  
Team website building is in progress.  
Currently team members are doing research on different components.

## Planned Tasks: Action Items for the upcoming week

Set up a meeting with Daspoint, to collect the parts and discuss some finer details.

## Wireless RF Scanner Group status email: Due 2014 February 19

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu) Current Group Leader  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### **Problems**

Due to snow and Test week for us, we been falling behind. I think the problem will be solved on its own since the parts will be here today.

### **Current Status**

Meeting with DasPoint today to get the parts and more information on the implementation of the project. From this point, we will go ahead and divide up the work we will be doing individually and as small teams.

### **Task Status: Actions on last week's Action Items**

Meeting is with Daspoint is today.

### **Planned Tasks: Action Items for the upcoming week**

Meet with DasPoint today to get the parts  
Go ahead and divide up the work into small teams.  
Start working on the Nuand board and implement the algorithms for different protocols.

## Wireless RF Scanner Group status email: Due 2014 February 25

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu) Current Group Leader  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### Problems

Things seem to be falling in place now. Right now our main problem is understanding how different components of our project work in detail, so we are in the process of learning some material.

### Current Status

We received the part from DasPoint. We have started to work on the nuand board by learning the API and different protocols for it. We have also started learning and translating the UMTS algorithm into code.

### Task Status: Actions on last week's Action Items

Meet with DasPoint today to get the parts- done  
Go ahead and divide up the work into small teams. - done  
Start working on the Nuand board and implement the algorithms for different protocols. -done

### Planned Tasks: Action Items for the upcoming week

Have a proper understanding of the Nuand Board  
Have a proper understanding of the UMTS signals

## Wireless RF Scanner Group status email: Due 2014 March 3

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu) Current Group Leader  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### Problems

Installation of Nuand device drivers on Linux and Mac is problematic because of software legacy issues. Upgrading the libraries will fix them.

### Current Status

Installation of Nuand device drivers on Windows is successful.  
Website construction is on hold, as everyone gets familiar with the hardware and begins testing.

### Task Status: Actions on last week's Action Items

Have a proper understanding of the Nuand Board. - researched.  
Have a proper understanding of the UMTS signals. - researched.

### Planned Tasks: Action Items for the upcoming week

Set up Nuand programming environment.  
Build a test program in C++ to try controlling the Nuand hardware.  
Port MATLAB DasPoint demo code to C++.  
Install GNU Radio libraries to allow use of radio utility functions.  
Become familiar with board FPGA programming.

## Wireless RF Scanner Group status email: Due 2014 March 11

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu) Current Group Leader  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlaad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### Problems

Software has been successfully installed, and the current issue of device-device communication of large data samples through software is being focused on.

### Current Status

The hardware environment is up and running. We are becoming familiar with the basic programming environments for the odroid and bladeRF. We have emailed DasPoint in order to get the final piece of hardware, the RF Front-end board.

### Task Status: Actions on last week's Action Items

Set up Nuand programming environment. -- done  
Build a test program in C++ to try controlling the Nuand hardware. -- in progress.  
Port MATLAB DasPoint demo code to C++. -- done  
Install GNU Radio libraries to allow use of radio utility functions. -- done  
Become familiar with board FPGA programming. -- in progress

### Planned Tasks: Action Items for the upcoming week

Continue programming in C++ to test controlling the Nuand hardware, and communicate with the odroid.  
Contact DasPoint in order to obtain the final Hardware required, the RF Front-end board.  
Research possible ways to accelerate FPGA programming with a C++ to Verilog conversion utility.



## Wireless RF Scanner Group status email: Due 2014 March 25

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlaad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu) (New Group Leader)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### Problems

DasPoint software programmer Ethan has not sent the dependency code needed to compile the base algorithms. The RF front-end board is still not available.

### Current Status

After contacting DasPoint, the RF front-end board and the dependency code will be given to the team by Thursday. Programming the Odroid and Nuand continues.

### Task Status: Actions on last week's Action Items

Build a test program to control the Nuand hardware. -- done.  
Become familiar with board FPGA programming. -- done  
Contact DasPoint in order to obtain the final Hardware required, the RF Front-end board. -- done  
Continue programming in C++ to control the Nuand hardware, and communicate with the odroid. -- in progress  
Research possible ways to accelerate FPGA programming with a C++ to Verilog conversion utility. -- in progress

### Planned Tasks: Action Items for the upcoming week

Work on implementing UMTS analysis code on Odroid.  
Work on implementing Nuand data passing API.  
Work on group website.

# Wireless RF Scanner Group status email: Due 2014 April 1

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

## Problems

We still don't have the front-end board, and we are having trouble transferring the I and Q values obtained by the RFBlade to the C++ UMTS analysis code.

As the newly appointed group leader, I apologize for submitting the report a day late.

## Current Status

We have set up bladeRF lib in the Odroid, and have built a C++ project that uses lib bladeRF to obtain I and Q values.

## Task Status: Actions on last week's Action Items

Work on implementing UMTS analysis code on Odroid - in progress

Work on implementing Nuand data passing API - nearly done

Work on group website - in progress

## Planned Tasks: Action Items for the upcoming week

Work on setting up code on the Odroid

Get the full C++ UMTS analysis code working

Set up a design template for the Android app

## Wireless RF Scanner Group status email: Due 2014 April 8

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master

Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)

Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)

Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)

Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)

Prahlad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Not Uploaded Yet

Advisor: Dr. Durgin

### Problems

Need to debug the C++ UMTS analysis code.

### Current Status

In the process of developing code for the Android app, and tying together the UMTS analysis code with it.

### Task Status: Actions on last week's Action Items

Work on setting up code on the Odroid - in progress

Get the full C++ UMTS analysis code working - almost done

Implement the Android app - in progress

### Planned Tasks: Action Items for the upcoming week

Work on documentation

Finalize website

Get the entire code working, from the bladeRF controller code to the Android app

## Wireless RF Scanner Group status email: Due 2014 April 15

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master  
Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)  
Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)  
Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)  
Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)  
Prahlaad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Uploaded

Advisor: Dr. Durgin

### Problems

C++ UMTS analysis code has some compiling issues.

### Current Status

Finished up most of the android app, with just the graph display and bluetooth handshake to be completed. Started working on the poster, website has been completed, and documentation is in progress.

### Task Status: Action items from previous week:

Work on documentation - in progress  
Finalize website - done  
Get the entire code working - in progress

### Action items for the upcoming week:

Finalize android app  
Fix errors pertaining to the UMTS analysis C++ code.  
Finish documentation and poster

## Wireless RF Scanner Group status email: Due 2014 April 22nd

Avnish Kumar [akumar96@gatech.edu](mailto:akumar96@gatech.edu) Web Master

Vatsal Patel [vpatel92@gatech.edu](mailto:vpatel92@gatech.edu)

Pooja Modi [pmodi6@gatech.edu](mailto:pmodi6@gatech.edu)

Cameron Karlsson [ckarlsson3@gatech.edu](mailto:ckarlsson3@gatech.edu)

Sahil Gupta [sahilgupta05@gatech.edu](mailto:sahilgupta05@gatech.edu)

Prahlad Venkatesh [pvenkatesh3@gatech.edu](mailto:pvenkatesh3@gatech.edu)

Group Web Site: Uploaded

Advisor: Dr. Durgin

### Problems

Establishing bluetooth communication between the Android app and the computer - switched to a wifi connection

### Current Status

Finished up all of the android app, and almost done with establishing the wifi connection. Completed working on the poster, website has been completed, and documentation is in progress.

### Task Status: Action items from previous week:

Finalize android app - Almost complete

Fix errors pertaining to the UMTS analysis C++ code. - done

Finish documentation and poster - In progress

### Action items for the upcoming week:

Complete the Final Report

Complete the Final Project Summary