**FSK Radio**

Meeting Summaries

VIP Spring 2016

Shannon Sremac

Htoo Thein

**Week 2/22 - 2/28**

Week Goals:learn Github, GNU radio software, Hamming code, Set team roles, set Milestones

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| **Summary :**  This week we managed to set up Github accounts, began understanding the GNU radio software, and did some research into error correction for the FSK (Hamming code).  *Group tasks* -  We began our meeting by discussing team goals for the upcoming weeks then transitioned to a demonstration of GNU radio by Alejandro. After the demonstration, we set up our Github accounts and discussed how to distribute the tasks amongst the team.  *Individual tasks* -  For the hamming code, we have decided to use the (8,4), this will be programmed by Htoo in the upcoming weeks. Shannon has been looking into how to work Github through tutorials and readings. |

**Hamming Code :** create power point

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| **Milestone** | **Completion Date** |
| **Complete Hamming Code encoding and decoding files in C** | March 11, 2016 |
| **Complete the transmission flowgraph for FSK** | March 11, 2016 |
| **Test and debug for audio signal** | March 21-27 |
| **Test and debug for radio signal** | March 28-April 2 |

**Week 2/29 - 3/6**

Week Goals: complete hamming code powerpoint, begin to create new flowchart, complete hamming code

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| **Summary :**  This week, our group has completed the hamming code powerpoint and the flowchart for the encoder. We have also begun to understand the decoder part of the flowchart and begun writing the code for hamming code.  For next week, we plan to complete both the hamming code and the flow chart.  *Group Tasks* -  Discussed weekly goals, determined to use (12,8) over (7,3) hamming code, planned next team meeting for Friday 3/11.  *Individual tasks* -  Htoo - hamming code powerpoint, hamming code (coding)  Shannon - flowchart for encoder, began decoder flowchart |

**Week 3/21 - 3/26**

Week goals: Complete flow chart and hamming code by Friday. Create code block in flow chart for hamming code.

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| **Summary :**  *Group Tasks* -  Tried to find how to create block for hamming code - discovered that blocks can only programmed in python or C++. We need to work on changing the C code we wrote for the hamming code to C++ or python. Observed complete flow chart and checked for errors.  *Individual tasks* -  Htoo - complete hamming code  Shannon - complete decoder flow chart |

**Week 3/27 - 4/1**

Week goals: Debug flowchart, create block descriptions.

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| **Summary :**  Worked to debug the flowchart and to create gnu block descriptions. We did not complete the descriptions for the decoder, but as a group we have a better understanding of how FSK radio works. We hope to finish the block descriptions by the end of the week, to fully debug the the flowchart, and to begin writing the hamming code in C++ in order to use it to create a new block in the flowchart.  *Group Tasks* -  Worked on creating block descriptions - finished descriptions for encoder part of the flow chart.  *Individual Tasks -*  None  Future Goal : complete descriptions for decoder, continue to debug flowchart |

**Week 4/2 - 4/8**

Week goals: Debug flowchart, create block descriptions, complete poster board

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| **Summary :**  Worked to debug the flowchart and to create gnu block descriptions. We have completed the encoder block descriptions and finished debugging the encoder part of the flowchart. Worked on poster for presentation.  *Group Tasks* -  Worked on creating block descriptions - correct descriptions for encoder part of the flow chart. Also worked on debugging the flow chart.  Worked on the poster for the presentation.  *Individual Tasks -*  None  Future Goal : complete descriptions for decoder, continue to debug flowchart |

**4/9 - 4/29**

Week goals: Debug flowchart, create block descriptions.

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| **Summary :**  During the final weeks of the course, our team has been focusing on debugging the new flowchart we created and on creating a word document of block descriptions so that future teams can have a better understanding on how to use gnu radio.  Flowchart issues -  We created our full flowchart but had issues with debugging it. Our current problem is on the receiver side on the flowchart. When we run the flowchart, the receiver corrupts the file we want to send the results to. We believe part of this problem is not knowing how some of the the blocks function. Because of this, we can’t pinpoint the exact location of the error. This is why we shifted our focus to understanding the different block components of the flowchart.  Accomplishments as a team -  Our team initially struggled to understand how gnu radio works but we now have a better understanding of the program. To help future teams get past the learning curve, we worked on creating block descriptions so that they could understand how to work gnu radio. We believe that the lack of understanding gnu radio is what slowed down our progress as a team.  Future goals -  Create a fully functional flowchart that uses the most simple process and that can be easily changed. Implement hamming code. |