Project Proposal
Lab Question Implementation

Group Members

- William Wu
    - 3rd year CS major
    - Java, Python, React, HTML, CSS, JavaScript, SQL
    - Task assignment: Frontend
- Camille Bossut
    - 2nd year CS major
    - Java, Python, C++, Arduino, Matlab
    - Task assignment: Backend
- Ting Qiu
    - 3rd year CS major (Intelligence & Media thread)
    - Java, C, Python, SQL, Matlab, HTML, Assembly
    - Task assignment: Frontend
- Will Smith
    - 2nd year CS major
    - Java, Python
    - Task assignment: GUI

Project Goals and Description

Problem to Solve/Goals

In the past, other developers have converted MatLab graphs into JSX graphs, which can be used on the class website as learning tools. We want to translate one or more of the labs so that students can answer lab questions and utilize the graph GUIs online. Our goal is to have the graphs communicate with each other and react to different inputs to keep the GUIs consistent with these inputs. A future goal we would like to try is to have our system save the state of these graphs. The saved states will allow instructors to easily view and sign-off on these completed labs, rather than having to go through each individual lab on paper. We hope to implement a database that is able to grab information from the students' inputs.

Potential Issues

- Learning JavaScript and JSXGraph

- Since we are a team of only new VIP members, we will need to spend a lot of time learning about our project and be very efficient with our time management.
- Working with Python-Flask and JavaScript, which has not been done with these labs before.

Working Plan Chart

Time Schedule	**Task**	**Responsibility**
Week 5 Feb 4 - 8	1. Complete final Project Proposal 2. Learn some JavaScript and play around with JSXGraph	Download an existing JSXGraph to create your own modified version based off of that code.
Week 6 Feb 11 - 15	Have a slightly modified version of an already existing graph	Create your own using what you learned the week previous
Week 7 Feb 18 - 22	1. Get simple GUI working in JSXGraph 2. Work on Notebooks	Create a GUI that has the same functionality as one in the labs (with or without user inputs) and learn more about the lab and DSP concepts we are trying to teach.
Week 8 - 10 Feb 25 - Mar 14	1. Look over assigned lab and see what is manipulatable 2. Start creating graphs on lab	Create functional lab graphs and connect html/css pages. Embed javascript code into our html.
Week 11 - 13 Mar 18 - Apr 5	1. Get two graphs working simultaneously	Each member will work on getting the graphs to communicate.
Week 14 - 15 Apr 8 - Apr 19	If task above is completed quickly, then work on saving state of graphs.	Each member will work together to try and save the state of the GUIs. This may be very challenging.

Week 16 Apr 22 - 26	1. Final Presentation 2. Complete final Notebooks	Create the powerpoint and present.
Week 17 Apr 29	Merge with master	Each member will merge with master

Major Milestones

Week of March 11- week 10: Have the newly updated GUI done for DLTI
Week of March 25- week 12: Have the controller and the communicating graphs done

Implementation Tools and Resources

- GitHub: https://github.gatech.edu/VIP-ITS
- W3Schools: https://www.w3schools.com/
- Project Documentation Notebook
- JSXGraph Demos: http://its.vip.gatech.edu/VIP/demos/
- Flask Documentation: http://flask.pocoo.org/docs/1.0/