

CprE 492 Bi-Weekly Report 01

3/15/2021 - 3/28/2021

Group #: 50

Project Title: Cy-Sec Game

Advisor: Manimaran Govindarasu

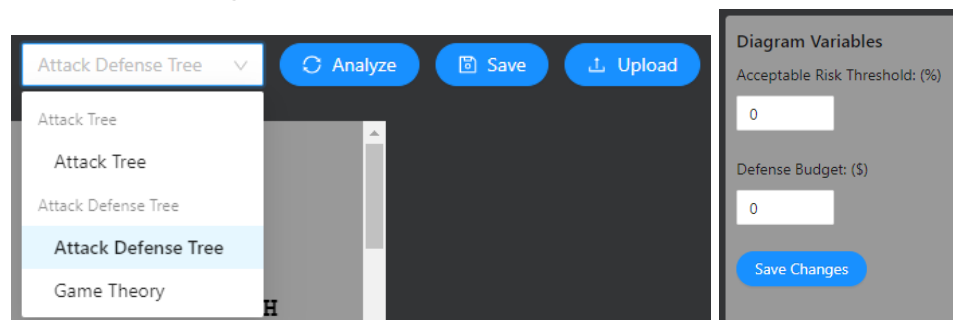
Front End Members: Jon Greazel, Hayden Sellars, Joseph Strobel

Back End Members: Harrison Majerus, Nicholas Battani, Stefan Peng

Bi-Weekly Summary: These past two weeks, we've been working to finish our applications first viable working product. We've focused on the smaller details and worked to make sure everything will soon be ready for user testing.

Past 2 Weeks Accomplishments:

- Jon:
 - Edited and added new user inputs as described by our advisor
 - Refactored the code to make things more modular and make maintenance easier for the student who continues this project next year
 - Added Ant Design (a styled UI component library) components and grid



- Hayden:
 - Worked on front end visualization for displaying to the user the output from the backend.
- Joe:
 - Changed json download to account for different engines - it now includes acceptable risk and budget. Began experimenting with output visualizations after discussing with Harry. Just received sample output from the backend, so we will implement it this week.

- Harry:
 - Created Attack-Defense Tree analysis algorithm (based off of restructured AT alg; includes processing tree paths and analysis of attack scenarios with a string output to console). Worked with client to redefine the analysis in a way that would produce output that would be easier to interpret
- Nick:
 - Continued frontend and backend integration, added new API calls for the various algorithms.
- Stefan:
 - Worked on refining and testing game theory algorithm

Pending Issues: Our frontend and backend aren't functioning together just yet. We have some planned alterations, like creating separate end points for each engine, that we plan to make in the next week.

Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Jon Greazel	Refactoring and including antd components	6/7	44.5
Hayden Sellars		6/6	42
Joe Strobel	Download accounts for engine selector. Understand/experiment with attack output	6/6	43
Harry Majerus	Attack-Defense Algorithm progress, redefining output and functionality so that values are more understandable	6/8	46
Nicholas Battani	API work and algorithm integration.	6/6	42
Stefan Peng	Worked on the game theory engine	6/6	42

Plans for the Upcoming 2 Weeks:

- Jon:

- Work alongside other front end developers to find a suitable way to visualize our results. We hope to use color changing or outlining on the graph and plan to show easily-digestible data to the user as well.
- Hayden:
 - Work with the front end team on implementing front end visualization of data reports.
- Joe:
 - Implement visualization of output from the backend with the frontend team. Possibly test and look for bugs on the frontend.
- Harry:
 - Finish Attack-Defense Tree algorithm by implementing defined changes, finishing json output and help with frontend integration
 - Test Attack-Tree algorithm and maybe make changes based on new analysis direction implemented in Attack-Defense Tree algorithm
 - Testing
- Nick:
 - Ensure that testing is able to be conducted for all three engines via the frontend. Test the API as well as assist in testing the engines.
- Stefan:
 - Further test game theory engine with scenarios provided by our client
 - Continue to integrate game theory engine with the front end

Summary of Weekly Advisor Meetings: We've used our last two advisor meetings to double check small errors like input field types as well as to receive feedback on our backend algorithms. Together we have settled on suitable algorithms for the scope of the project.