

Evaluation Form 5: Visualizing Complex Functions

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Milestone 5 Task Matrix

Task	Paul G	Branden D	Bradley W
Improve Error Handling	33%	33%	33%
Website Features	20%	60%	20%
Viewpoint Effect	50%	25%	25%
Infinite domain	33%	33%	33%
Poster	33%	33%	33%

Milestone 5 Summary

Improve Error Handling

We want to catch and display errors in a better fashion. The main area to look at is where the user inputs a function. We need to check for any characters that should not belong, and also check to see if the function is entered properly (e.g. $2*z$ instead of $2z$). We also need to look at where setting tick mark intervals, setting width, and setting height could be 0. The last value to look at is setting the center point for the image to be outside the range of a double.

Website Features

We are adding the applet to a website, and also including several help dialogs and descriptions.

Viewpoint Effect

The viewpoint effect is where the input image partly lies outside the boundaries in the domain grid. When you zoom out in the range grid, the parts that aren't on the domain grid aren't mapped to the range grid. We want to increase the size internally and remember where the picture should be on the domain grid. This is partly related to increasing the grid size to be "infinite".

Infinite domain

This is partly adding in another pattern and fixing the viewpoint effect. The pattern would be to make each quadrant its own color and have that extend as far as possible. The image would then be graphed according to a function. We have to determine how to graph our images without using a

finite domain, and in doing so, would help us solve the viewpoint effect.

Poster

Creating a poster for the senior design showcase.

Milestone 6 Matrix

Task	Branden	Paul	Bradley
Website	60%	20%	20%
Resolving errors	20%	20%	60%
Smoothing	33%	33%	33%
Refactoring	20%	60%	20%
Demo video	33%	33%	33%
Manual	33%	33%	33%

Milestone 6 Summary

Finish website descriptions and help menus

Making the website more user-friendly as well as look better. The finished demo video and user manual will be put as links on the website. The list of available functions will be on the site as well.

Resolve outstanding errors

There are a few outstanding errors such as handling illegal input. The main changes that will occur are in the parser in dealing with unrecognized characters. Other errors will be addressed as they appear.

Refactor code for better readability

This mostly refers to the structure of the Grid class. The Grid class has many methods that have no standard naming conventions. There are some artifacts of code comments that shouldn't be there, and more comments are needed to specify what the class is doing. Also, some of the work in the Grid class could be subdivided into smaller worker classes so that Grid isn't so large.

Implement smoothing to allow faster rendering speeds

Right now, the only way to get rid of white space and pixel separation is to increase the resolution value, which greatly increases the computation time. We want to simply take the image on the range and apply smoothing to it so that single-pixel white spaces are smoothed together.

Demo video

A video that highlights the most important and useful features of our program.

Manual

An instruction list that will lay out every feature that is present and how to correctly work with the program.

Sponsor Feedback

Signature _____ Date _____

Sponsor Evaluation

Sponsor: detach and return this page to Dr. Chan (HC 322)

- Score (0-10) for each member: circle a score (or circle two adjacent scores for .25 or write down a real/float number between 0 and 10)

Paul G	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Branden D	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Bradley W	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10

Additional Comments (if any)

Signature _____ Date _____