Week 7 Report (7/21/16)

JOGL Implementation

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| C:\Users\ootut\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Capture.png |

I have implemented the vector field from using the graphics library to JOGL. Now the coordinate values are floats and the range and domain of the field is (-1,1). OpenGL takes care of the drawing by using world coordinates rather than window (pixel) coordinates. Therefore I had to convert the pixel coordinates that were recorded through mouse input to world values. The weight function can now be optimized to save center values better and our issue with multiple elements on the field is resolved.

Some additional tasks I need to clean up are normalizing vectors to refine the visual. This can be done by dividing the distance vector by vector value. Also I will tinker the weight coefficient values to optimize the kernel function to reach all points. I will remember to add on the triangle meshes.

Flow Texturing

The OpenGL texturing has been difficult for me to understand. I will work on several online examples with detailed explanations and get back to you as soon as I can with questions and solutions. I believe the texture implementation on C is initialized different than Java so instead of reviewing the C code it would be best to use a Java example. Ideally, the online examples I have found will provide me with an idea of the initialization and details with texturing so that I can reference how it works in the sample C code. I have found java code from OpenGL redbook example. After getting a texture to appear, the animation for the flow be added. I believe this is already done with patterns being calculated so I will just have to correct switch the buffers and redisplay.

Conclusion

My additional objectives for next week is to begin working on implementing regular elements to my vector field. The specifics that I remember are that these are elements that can rotate and scale based on transformations defined by user input. With the formulas you provided I have a clear picture of calculating the vectors and values. I will get back with you if there are any problems.