**FINAL PROJECT – Term 1 Creative Coding Workshop**

**Stream 3 – WebGL with Wen**

**Setting Up for Viewing**

1. Update IP address in both the ‘frontend’ and ‘remote’ to ensure that they are on the same network
2. Set up terminal to open frontend, server, and remote
3. Open up localhost:9966 on the computer screen
4. Open up localhost:9967 on the phone (this will require the following format - (IP address):9967)
   1. It is recommended to open the remote control on a phone or in developer view to ensure that the AspectRatio is accurate – it should only be viewed vertically.
   2. If it opens the wrong way, please orient the phone vertically and refresh the page

**Concept and Visualization for ‘Paper Folding’:**

Referencing Paul Jackson’s book ‘[*Folding techniques for designers from sheet to form*,](https://www.academia.edu/35012028/Paul_Jackson-_Folding_techniques_for_designers_from_sheet_to_form)’ I wanted to further explore the concept of paper folding through his chapter called ‘*7. No Crease, One Crease*.’ In this particular chapter, Jackson explores the possibilities of creating forms without creating creases. Through this technique, he is able to generate a whole collection of forms that has smooth curvatures, despite paper being quite a structural material.

Building upon his concept, ‘*7.1 No Crease*,’ I wanted to take his concept further through the simple idea of playing with convex and concave structures. In my project, this is done through the ability for the code to generate random forms through the ‘if/else’ statement via the ‘click’ event that is passed through the server. Having created two new uniforms ‘uSeed’ and ‘uFoldingStrength’ in the vertex shader, I am able to generate a collection of ‘paper foldings.’ This will allow designers interested in exploring this idea, the ability to do so easily without having to spend as much time exploring physically.

I have also updated the remote control to be more intuitive to the user as well. The remote control has been separated into two parts – one, the ability to rotate; two, the ability to have a click screen that is reflective of where the ‘paper’ is being clicked – this perspective is visualized in two manners, a) on the remote represented as a gradient and b) on the frontend display screen as the darker area. For consistency and more natural representation, both the ‘click’ remote and the frontend display are the same colour, including the area that is ‘clicked.’

If this project was to be presented in a more professional setting, the aspectRatio of the remote control window is something I would look into permanently installing as vertical.