Prototype Cart 353:
Diffractive Methodologies

Celeste Pimm

Research Question

“How do I use 3-dimensional digital environments and interactive 2-D and 3-D forms in web to iconify my personal and professional brand, which centralizes the intersection of contemporary art and scientific tools and methods. How can I create a branded interactive web experience that is exemplary of my existing artistic professional identity and continues within the current narrative of technology and artistic themes as tools for new conceptual possibilities.”

Research Question Visualization

Artist Statement

This web-based 3D logo object functions as the iconification of my personal brand, a web-specific introduction to my professional website. At the core of this specific piece is the wish to exemplify the philosophies of my work: the intersection of technology and art as their own unique perspective that can be differentiated from mere interdisciplinary practise. This method is aided by academic writing on the diffractive methodologies theorized by Karen Barad and Donna Haraway. The concept of “diffraction” is in addition visually explored through the project’s use of digital “diamonds” and the light they “refract”.

Emerging Questions

“How can I expand my technical and conceptual skills to include ideas condensed in visual form (a departure from my current, concept and audio based portfolio)”

“How do i expand my employable technical skills to include web in a way that builds on my current brand of audio-motivated concept based work”

“What does the iconification of my complex personal identity look like”

“How has my aesthetic vision for this project changed through the course of this project as I gain more insight into the technical methods that I will use/ how do they answer my design question”

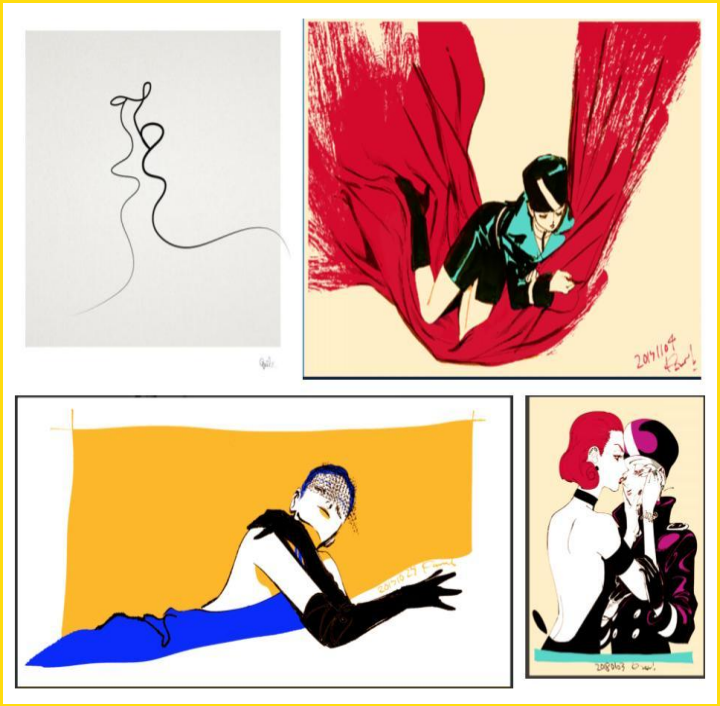
Evolution of Aesthetic Inspiration

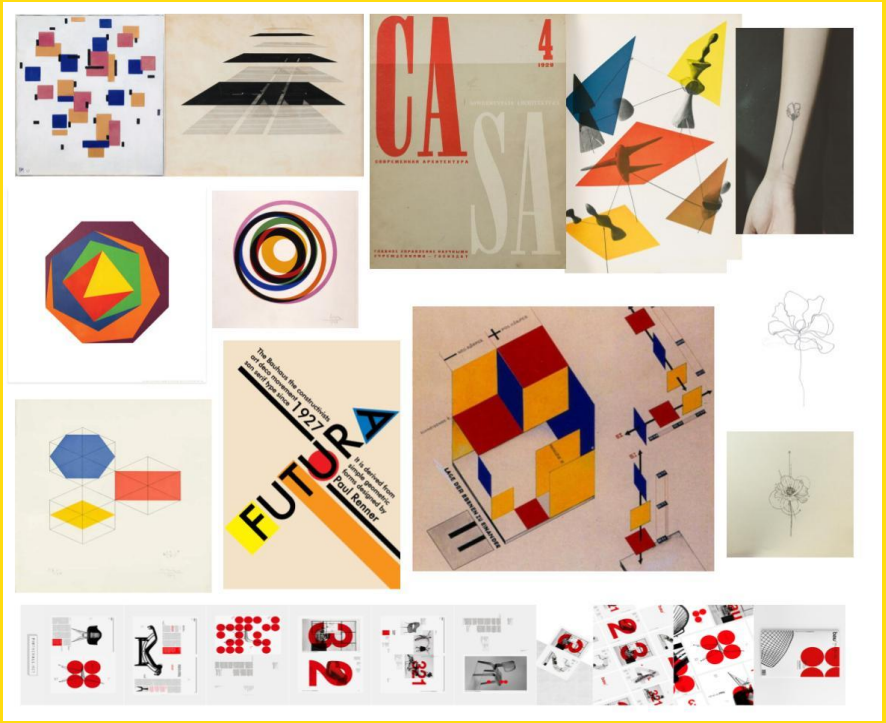
Visuals From Past Project and Initial Moodboard

Celeste Crest from previous visuals (2017)

Initial Prototype Colour & Design MoodBoard

Second Iteration Aesthetic Inspiration





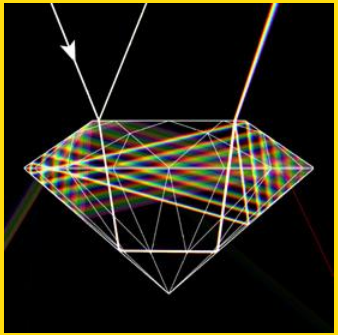
Max Bill, Mondrian, Bauhaus Aesthetics, Kandinsky

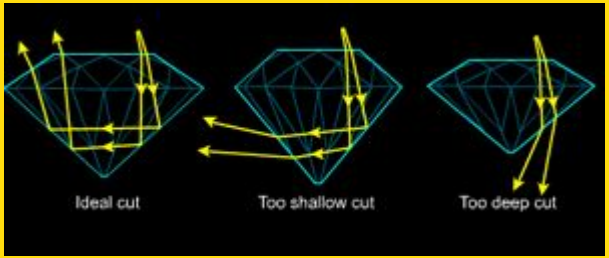
Additional Visual Influences

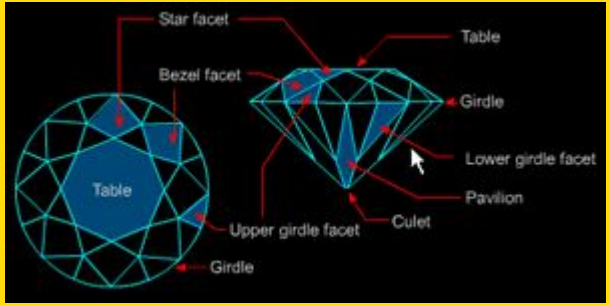
Diffraction (Donna Haraway)

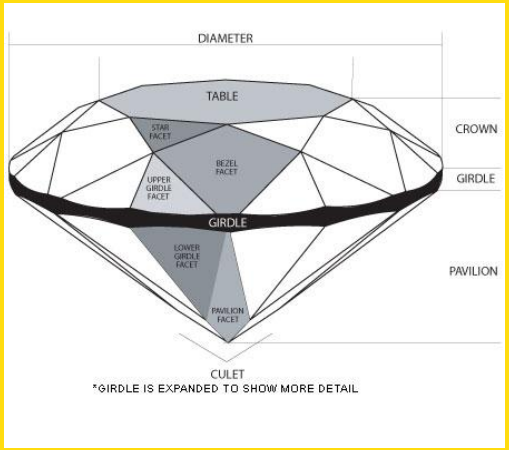
Diffraction is her term for the kind of critical scholarship that aims always to 'make a difference' in the world in the very doing of the scholarship itself. She borrows this word from Lynn Randolph's painting, *A Diffraction*, which shows 'a split [female] figure moving through a screen into a world where interference patterns can make a difference in how meanings are made and lived' (Haraway, 1997: 14). Diffraction is an optical metaphor that she describes as involving the recording of difference patterns that result as light is passed through a prism or a screen with planes that make the rays change direction, move elsewhere; they are, in short, diffracted. Diffraction, both in Randolph's painting and

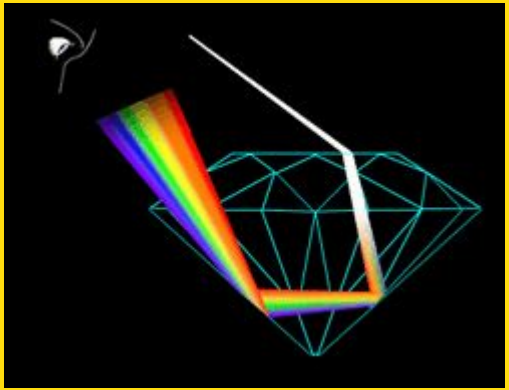
Animation / Physics

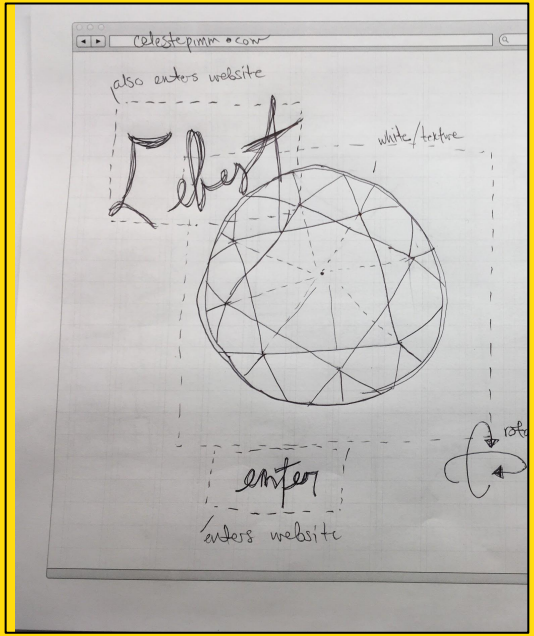












Wireframe

Technical Strategy and Research Creation

Stage One
-Initially attempted to use P5.js
-many frustrating issues with working with .obj files
-considered possibility of it being remote server issue, created local server with Node.js
-continuous “404” errors when retrieving .obj files and very little relevant online support, Server/file issues

Stage Two: Migration to Three.js
-very diverse set of 3D examples and robust 3D capacity
-much more complex

Incorporation of Javascript Libraries for Text of Website
-Blotter.js incorporation
-Discovered Incompatibility issues with Three.js if script declarations are placed out of order

Local Server Vs File Server
-continual “404” errors and loading issues with asset files
-discovery of Atom-live-server

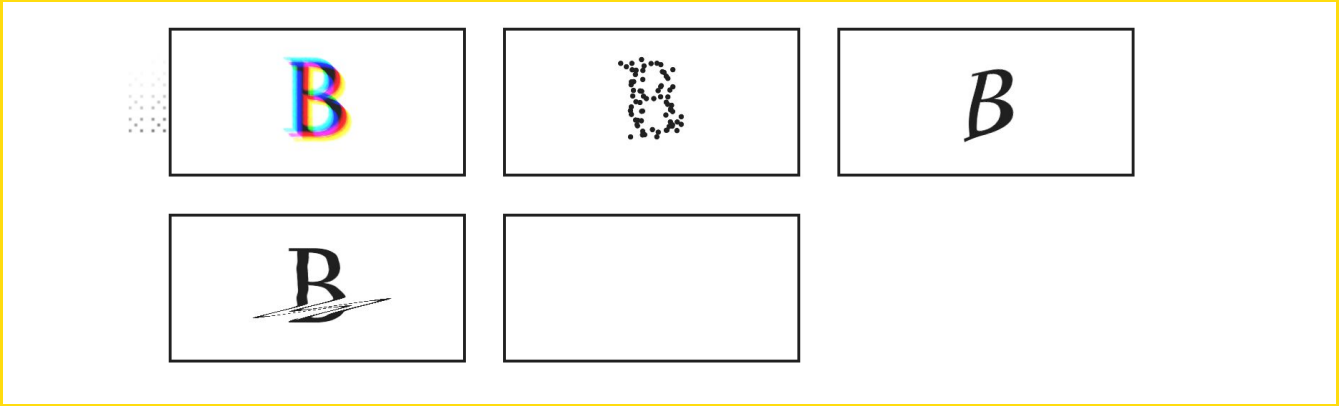
Typography Javascript Libraries

I am interested in using Blotter.js for text on the website.

https://blotter.js.org/

A JavaScript API for drawing unconventional text effects on the web

https://github.com/bradley/Blotter#making-changes--custom-builds



Concept Reintroduction

Conceptual Research Goals:

“How do I use 3-dimensional digital environments and interactive 2-D and 3-D forms in web to iconify my personal and professional brand, which centralizes the intersection of contemporary art and scientific tools and methods. How can I create a branded interactive web experience that is exemplary of my existing artistic professional identity and continues within the current narrative of technology and artistic themes as tools for new conceptual possibilities.”

Technical Research Goals:

Incorporation of javascript and openGL into a personal webpage, development of workflow for working with three.js and html/css at the same time. Use of three.js for animation and possibly blender for openGL animations.

Design Goals: create something useable and updateable that can be a permanent part of my portfolio and feels finished

Project:

A WebGL landing page for a portfolio website that features an animated 3D diamond

First Iteration: P5.js Prototype
Technical Goal: Load any 3D object in a web browser
Research conclusion: 3D Libraries in P5 are not robust enough for meaningful 3D, my goals
Technical Status: failed

Second Iteration: First Three.js prototype (working with 'pointlights' example)
Technical Goal: Load any 3D object in a web browser
Research conclusion: Workflow is difficult with .obj files and requires a local server, point lights is too technically complicated for me to understand yet, need to work with simpler examples
Technical Status: failed

Third Iteration: Second Three.js prototype (working with 'Obj' loader example) [PRESENTED PROTOTYPE 1]
Technical Goal: Load any 3D object in a web browser
Research conclusion: Workflow is difficult with .obj files and requires a local server
Technical Status: successful

Fourth Iteration: Three.js prototype Compatible with Existing HTML site [PRESENTED PROTOTYPE 2]
Technical Goal: Incorporate Three.js into an existing html-based website
Research conclusion: Workflow is difficult with .obj files and requires a local server, canvas elements of three.js must be forced into compatibility with css
Technical Status: successful

Fifth Iteration: Improved Three.js Interaction & Conceptual, Design Direction Refinement
Technical Goal: Incorporate Buffer Technology, Blender Animation

Final Prototype Goals

Improved Three.js Interaction & Conceptual, Design Direction Refinement

Technical Goal: Incorporate Geometry Buffer Technology in three.js, Blender Animation to add animation effects to diamond, clickable effects

Design Goals: Visual Cohesion, Visual Balance, Refinement of typography choices, visual cohesion between portfolio website and loading animation, an emotional experience, a “Polished” product