IoT Bootcamp - Capstone Project Proposal Viola Arduini

Title (tentative): closeness of relatedness might be a problem



Concept:

The installation offers a point in space to perceive – at a human scale– two major flows that cross Albuquerque: the flowing south of the river and the yearlong birds' migrations in their planet-wide breathing movements. Hidden to most of us as we are separated by the urban, artificial environments, these movements represent important indicators for ecological, climatic, and biological health of the land that host and sustain the city and beyond. The installation represents a tool to immerse into these more-than-human movements, larger than us yet to which we belong to.

Installation:

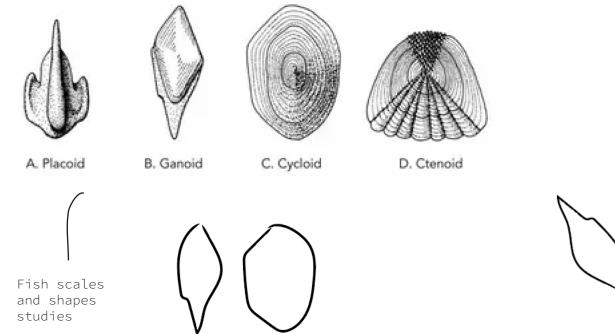
The installation is everchanging and composed of two main parts:

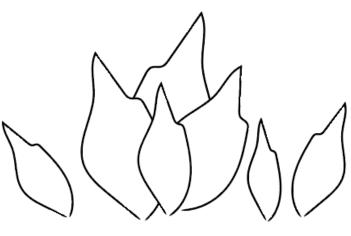
- a sculptural piece inspired by the scale of the silvery minnow, that opens and closes based on the Rio Grande water flow. The installation is also inspired by the work of the UNM Turner Lab on the genetic diversity of the Rio Grande fishes and its relations to drought and river flow.
- a light installation made of an LEDs floor that lights up based on the current birds' migration data in the region of Albuquerque.

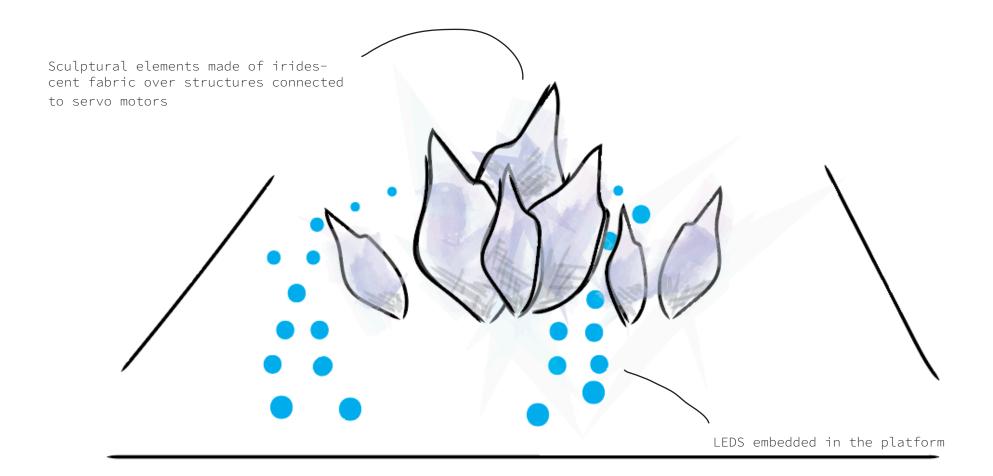
Reference website for data:

https://birdcast.info/migration-tools/live-migration-maps/

https://waterdata.usgs.gov/monitoring-location/08330000/#parameterCode=00060&period=P7D&showMedian=true







Capabilities:

Capturing real data from online repositories. Based on established thresholds and in close time, the servo motors move the sculpture to visualize different level of closeness and openness. The LEDs are controlled as pixels in a larger map and animated through the processor. Solar panels to provide energy.

Questions:

Structural challenges - what materials will ensure structural resilience but enough lightness for the servo motors?

Capturing real time data - how can I create a code capable for real time change?

Interaction between scales and light - how to enhance it and how to make LED visible during the day and the sculpture at night?

Future:

Creating the temporary art installation for the City of Albuquerque in a larger, immersive scale. Additionally, an interactive online archive/dashboard for citizens' science and stories, in collaboration with education and environmental associations and Valle de Oro Wildlife refuge.