

FABRICADEMY
FINAL PROJECT

MADDIE OLSEN
2025-2026

PRAIRIE INTERFACES

IMAGINING LOST LANDSCAPES THROUGH E-TEXTILE INSTALLATION

“The prairie remnants of north-central Texas are islands in a sea of injured land.”

Jim Eidson, quoted by Amy Martin in *Wild DFW*.



How can we sensitize ourselves to an ecosystem?

"A prairie is receptive and horizontal — the sky is half the landscape. Yet it begs intimate inspection. Kneel and gaze at the first eighteen inches."

Amy Martin in *Wild DFW*.

"...There is another way of responding to environmental amnesia. It is simply to begin the process of remembering how the landscape used to be...So much creativity, local knowledge, connection to place, and sense of meaning has already been extinguished—we need to nurture a sense of radical ecological alternatives."

C.J. Alvarez in *Environmental Amnesia and the Rio Grande*.

LAND USAGE

developed

rangeland

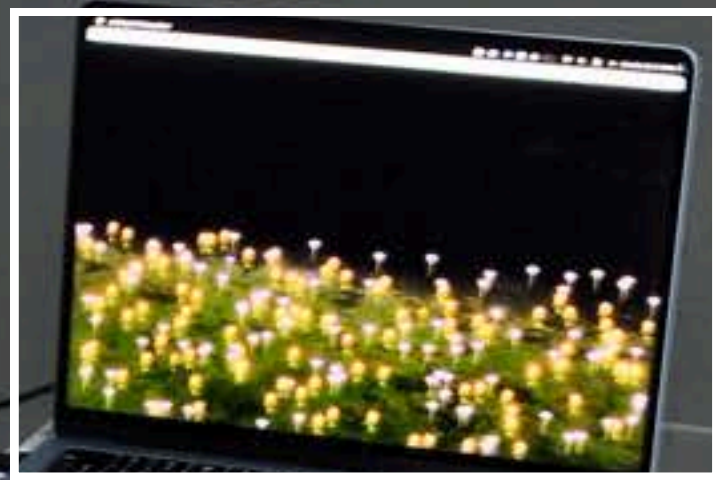
cropland

Major cities and surrounding suburbs of Dallas, San Antonio, and Austin.

Uncultivated grazing land. Introduced species and fire suppression degraded native plant populations.

Cultivated land hosting row crops, which drastically change soil composition.

FOCUS AREAS



digital prairie
from sensor data



sensor
behavior



natural dye +
textile construction

NATURAL DYES

Cochineal, Logwood, Coreopsis, Madder, Weld + Black
Hollyhock, Indigo + Blackbean (from friends)

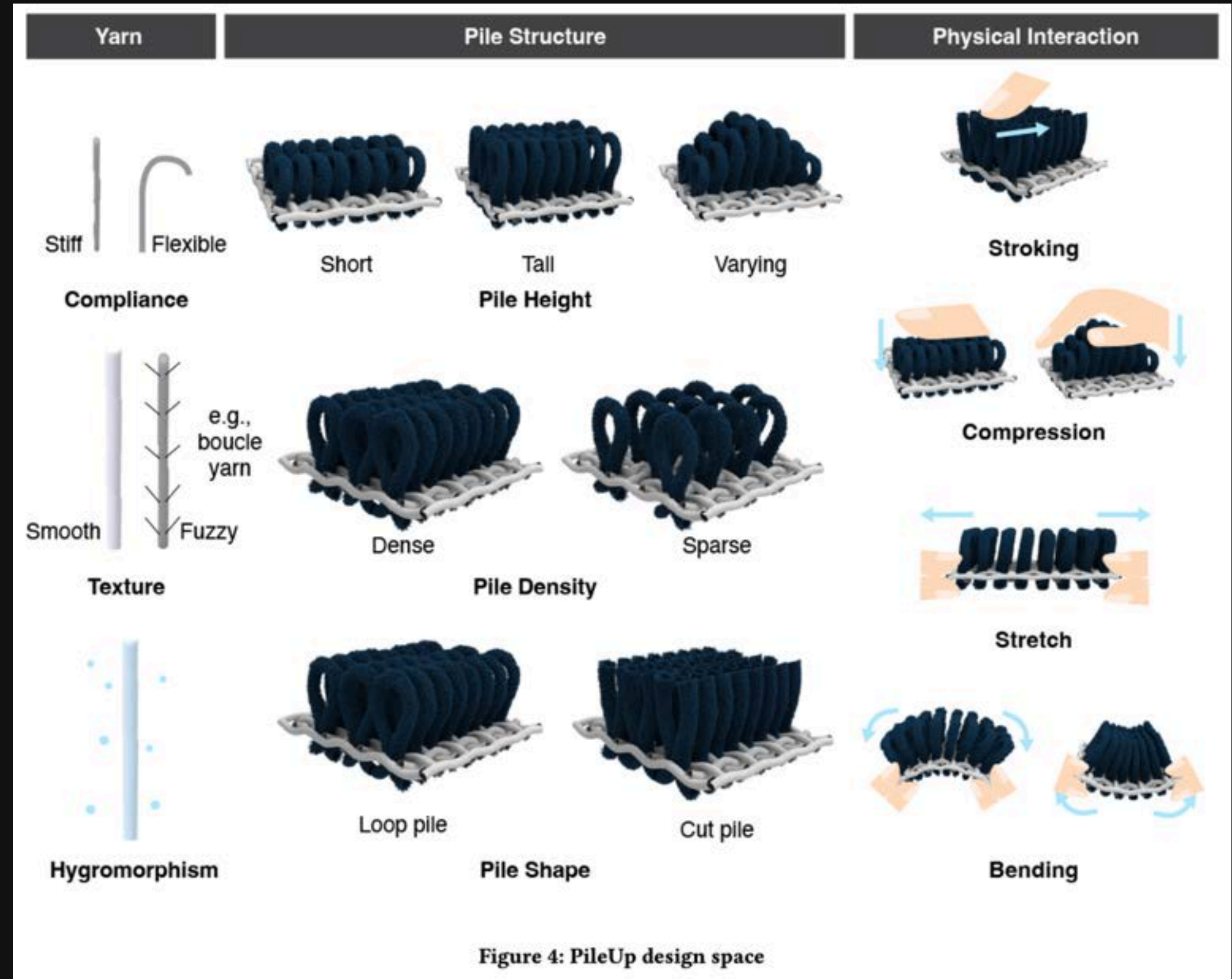


TEXTILE CONSTRUCTION



PILE SENSORS

“Textural interfaces not only create tactile landscapes that invite touch and encourage exploration, but also enable unique sensing behaviors that emerge from yarn interactions.”



Choi et al. in *PileUp: A Tufting Approach to Soft, Tactile, and Volumetric E-Textile Interfaces*.

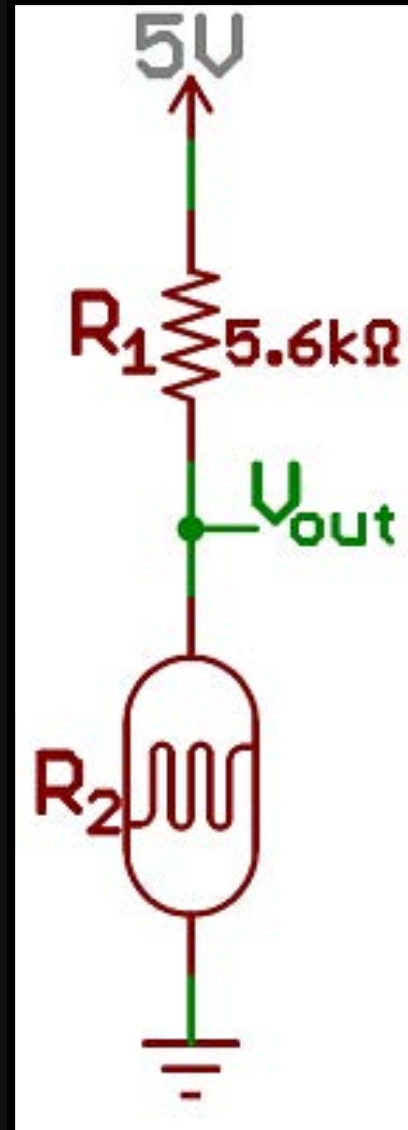
SENSOR BEHAVIOUR

Analog + Digital qualities

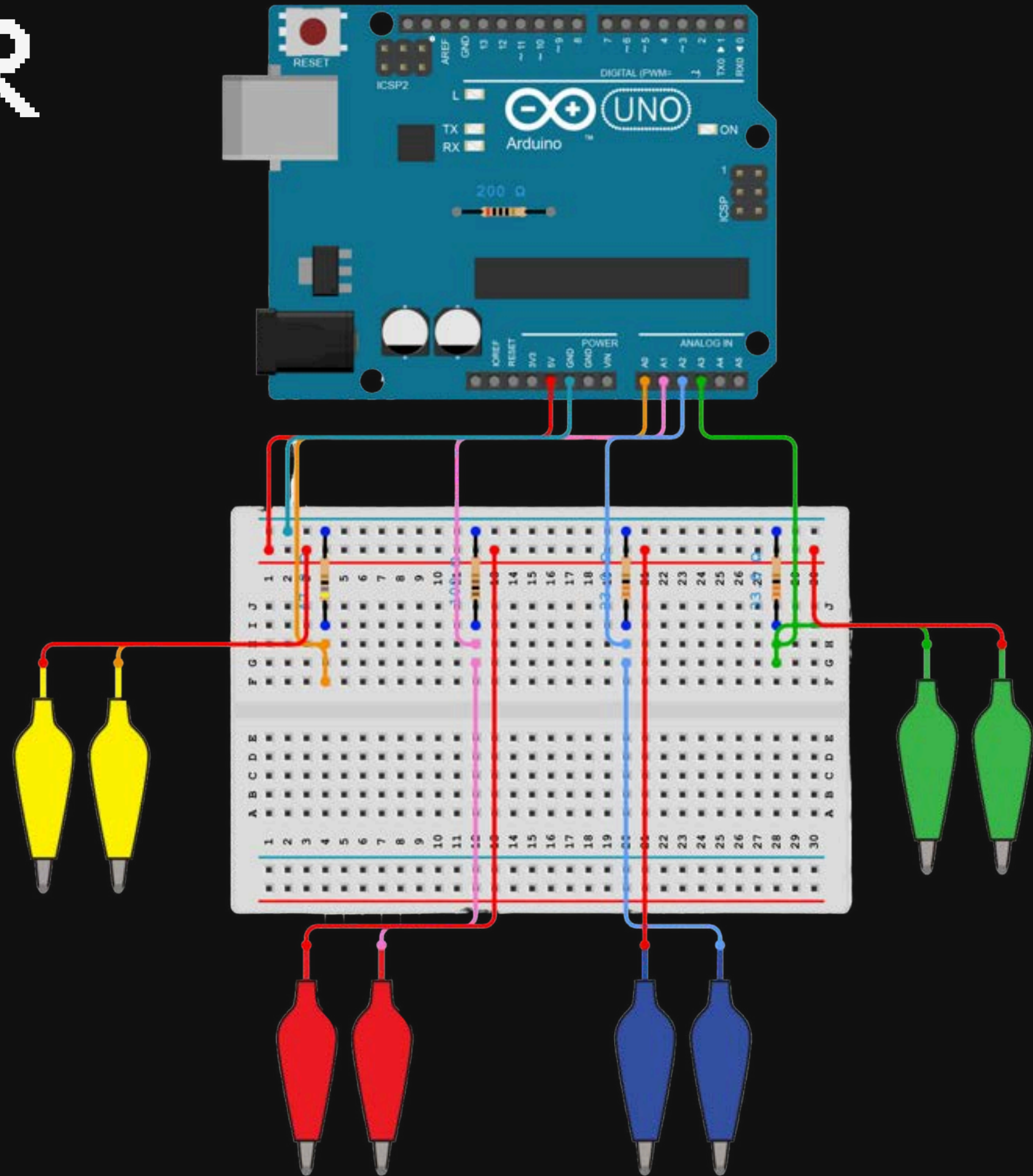
Variable resistance provides a range of values in serial monitor using `analogRead()`

Plants populate every 200 milliseconds if data is between a set of numbers

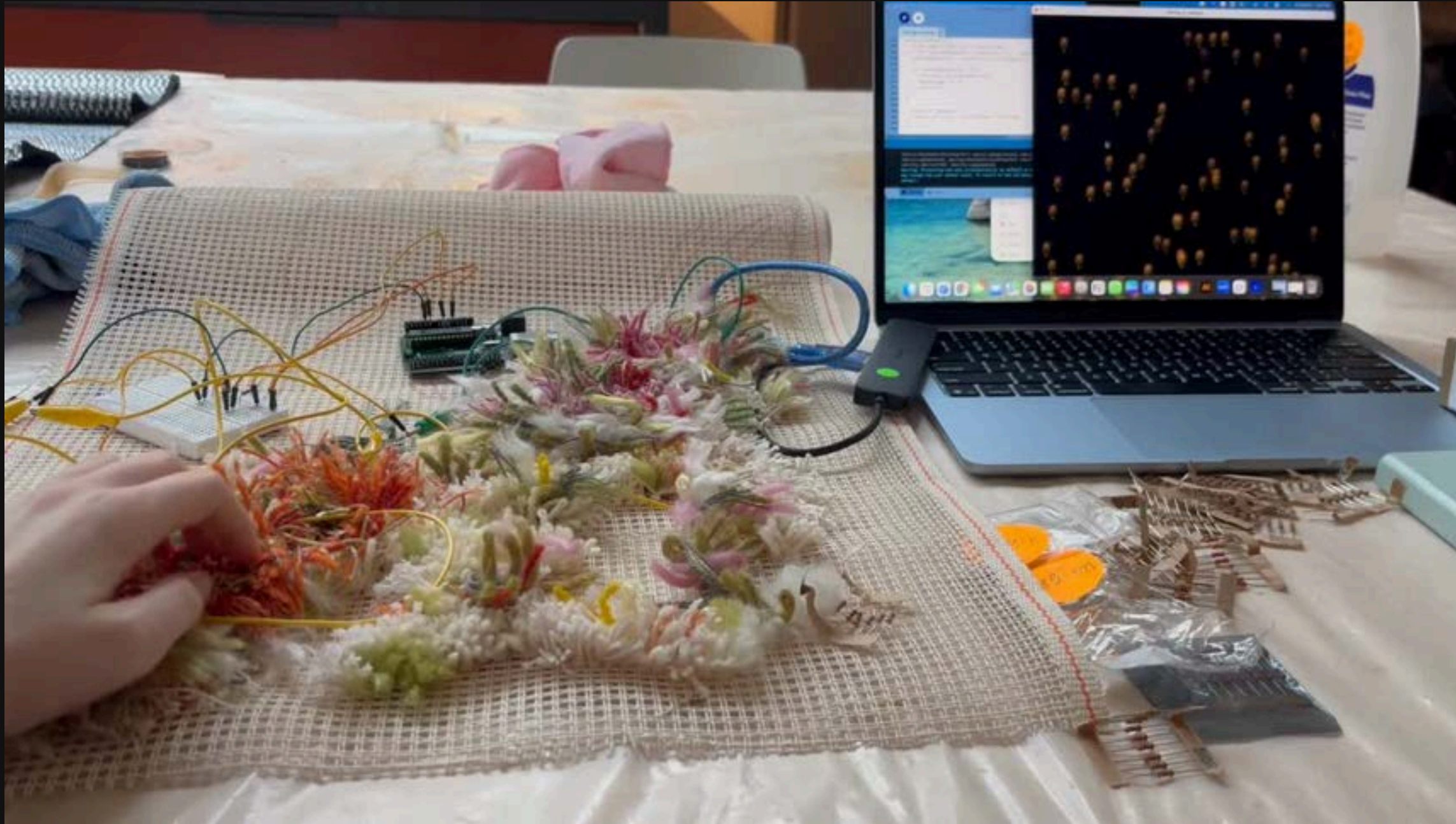
Opacity of each image determined by mapped values



Sparkfun
Voltage divider



CONNECTING



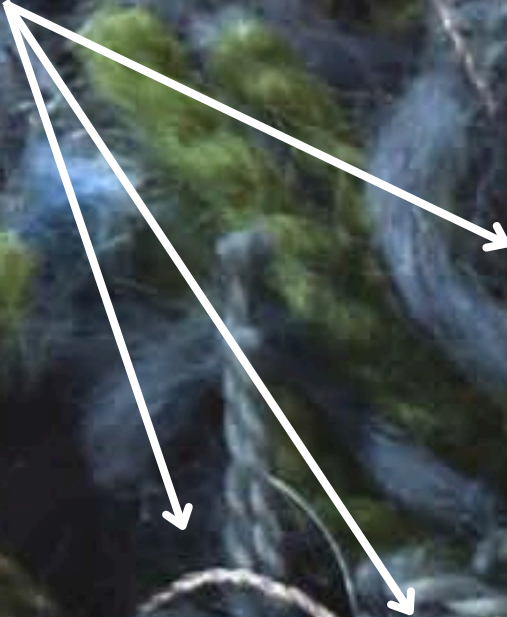
Tested different resistor values to obtain best range.

Imported the serial library to Processing sketch.

My code started with ChatGPT. As I learned more about it, I made changes to the final appearance and behavior.

I included each new sensor as it was completed.

conductive
threads



A DIGITAL PRAIRIE

prairie_interfaces_final



coreopsis



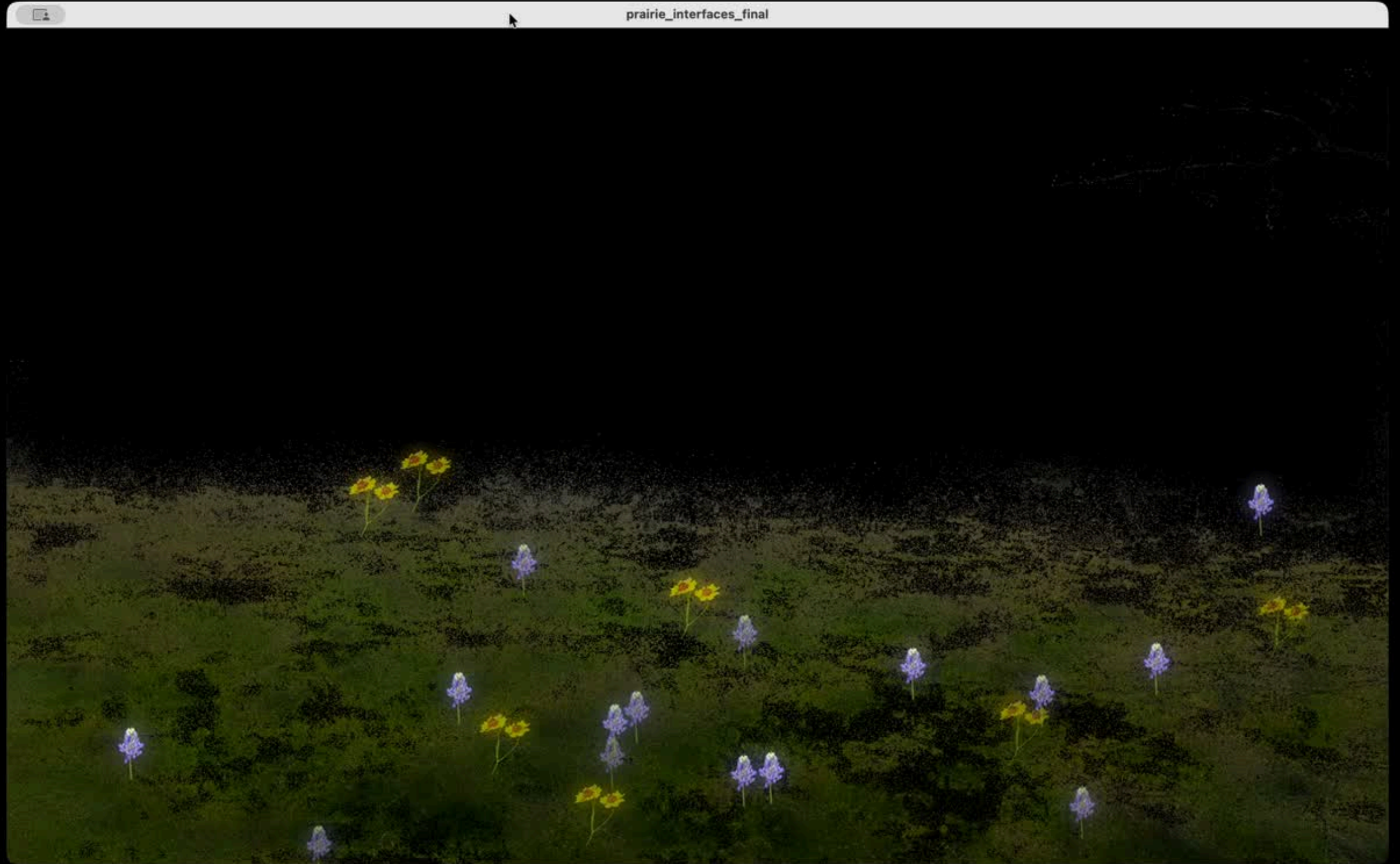
texas thistle



bluebonnet



prairie-fire





Portable and adaptable installation: connect to a laptop or projector





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THANK YOU