# Creativity Support Tools

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# Table of contents

## 01
### I/O Brush

Get colors, patterns, and textures from the real world!

## 02
### Draco

Add animations to digital artwork!

## 03
### Lillicon

Adjust parts of a digital icon/widget!

## 04
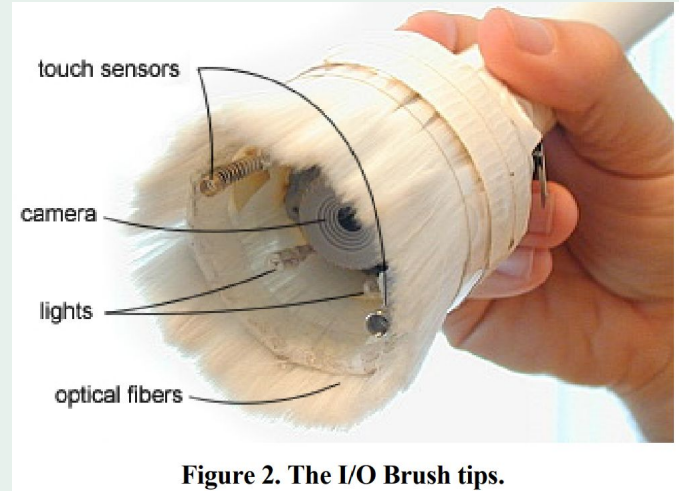### Art Activity

Group drawing project!

# 01

# I/O Brush

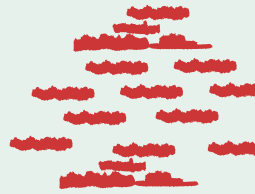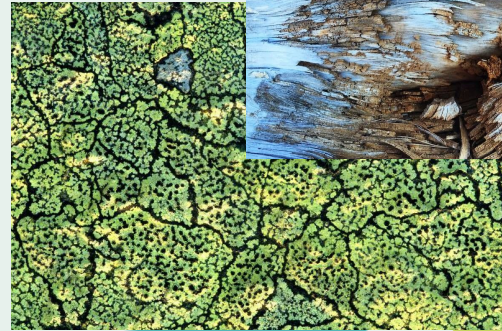Tool for children to create personalized art

# I/O Brush Components

- Video camera inside the paint brush that picks up images from the outside world

- Wacom pen inside the paint brush that allows drawing on the Wacom canvas

- Can pick up color, texture, movement

- Mostly targeted towards young artists (ages 4 to 5)



Figure 2. The I/O Brush tips.

# Benefits of I/O Brush

- Teaches kids about textures and patterns in art

- Allows kids to have a personal touch on their art

- Forces kids to look for inspiration from the real world

# 02

## Draco

Animate drawings with kinetic textures
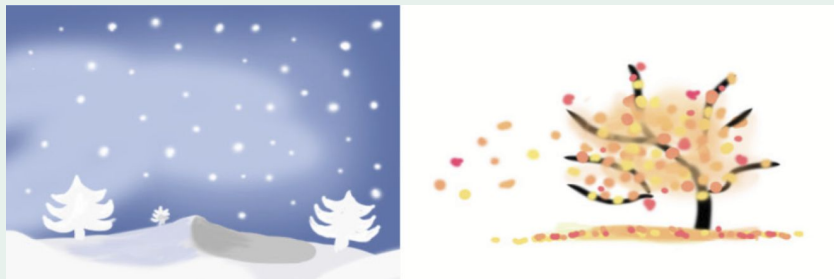
# Motivation

## Sketching is static

But what if we enriched static sketches with moving elements?
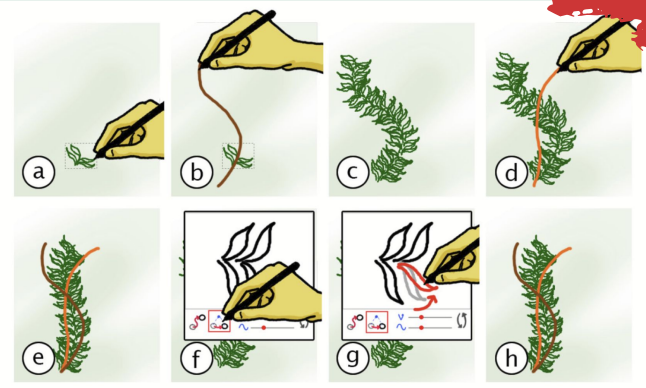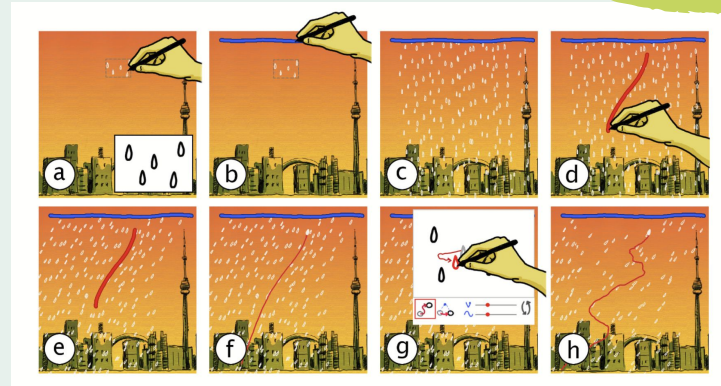
## Animating collections

Many natural phenomena is represented as a collection, but this requires complex workflows to animate

# Features of Draco



- Simple, sketch-based interface
- Intuitive controls
- Easily allows artists to animate their drawings

# Design goals

### Generality

Users should be able to create a variety of effects

### Multi-Scale Motion Dynamics

Both overall shape of motion and individual elements should be able to be controlled

### Control & Flexibility

Mixed approach between completely manual and completely automatic control of motion
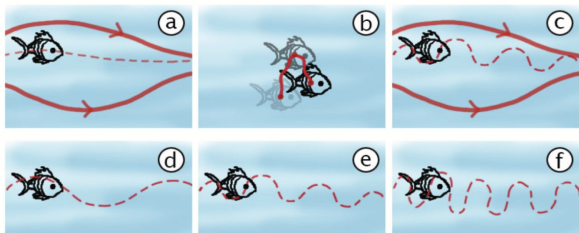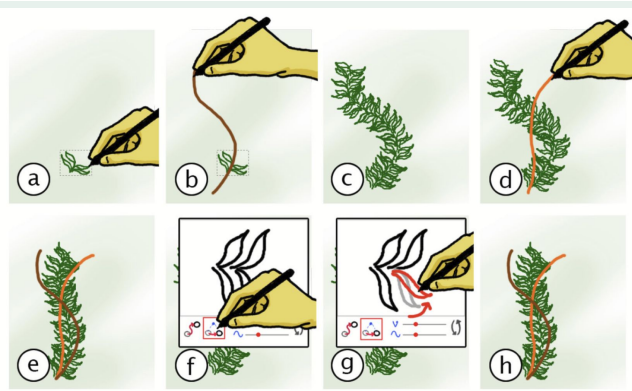
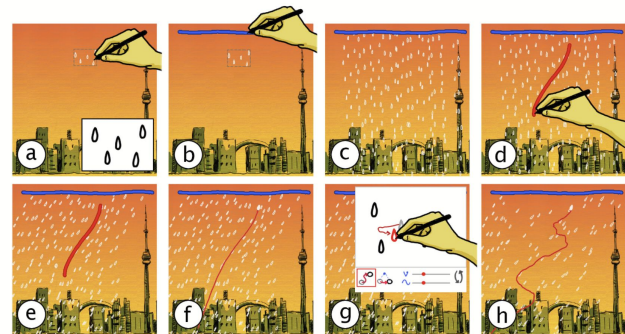# Kinetic texture

## Global motion



Figure 6: Motion factorization. Combining (a) the global motion trajectory and (b) the granular motion results in (c) the trajectory of individual objects. Manipulating the velocity of granular motion affects the object's trajectory (d-f).

## Granular motion

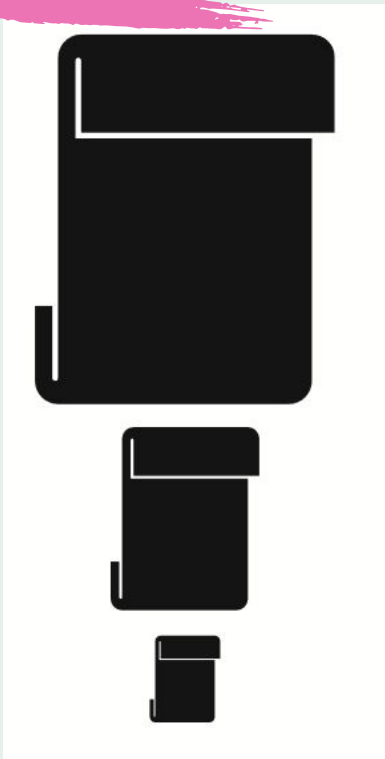## Emitting texture



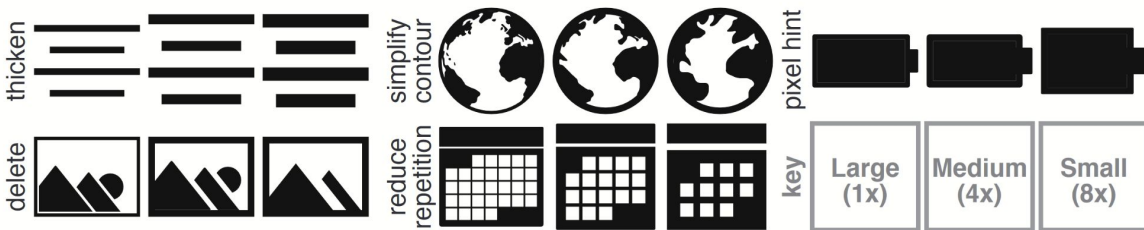## Oscillating texture

# 03

# Lillicon

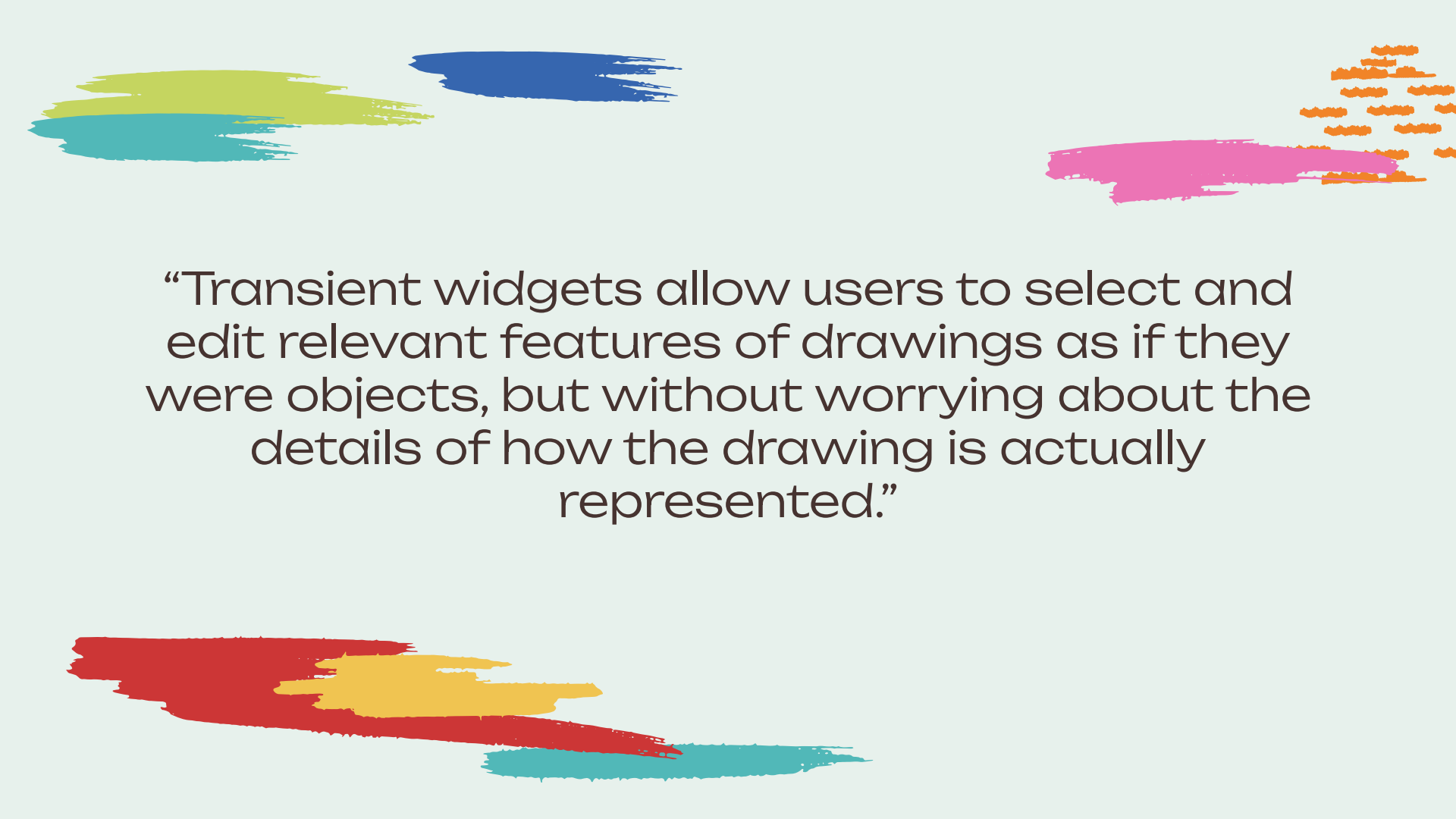Easily create scale variations of icons

# Does this icon look good at all sizes?
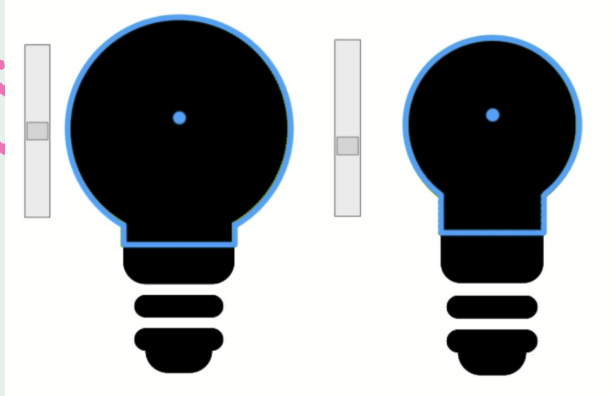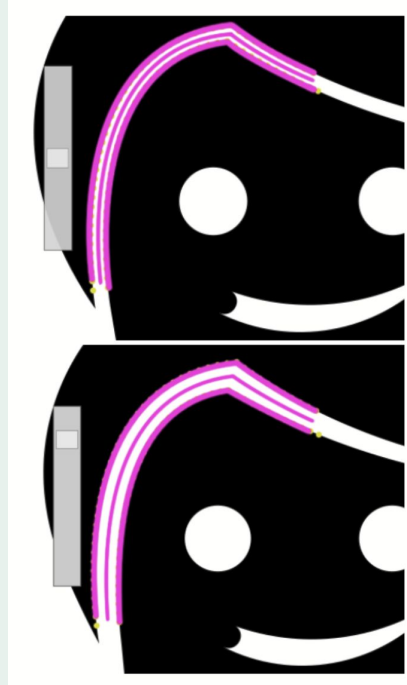
Many icons need different scale versions!

"Transient widgets allow users to select and edit relevant features of drawings as if they were objects, but without worrying about the details of how the drawing is actually represented."
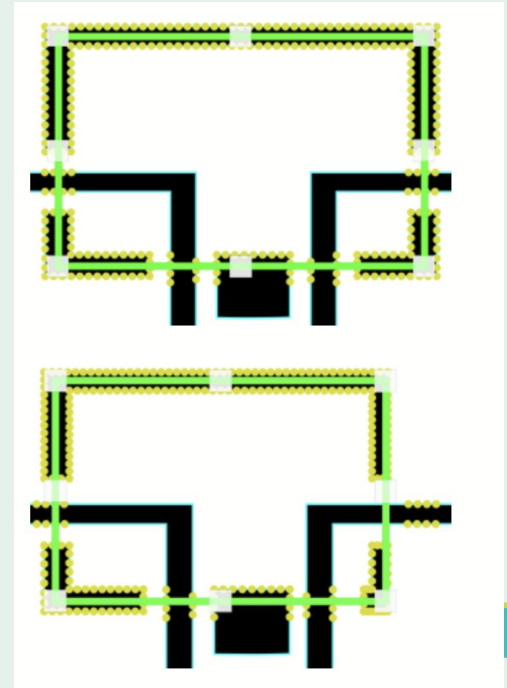
# Transient Widgets

## Blobs

## Strokes

## Rectangles

# 04

# Activity

Create a drawing in groups of 4

# Creative Activity

- Get in a group of 4

- Make a drawing with your group (5 min)

- Identify at least three places in your drawing where you can use the I/O brush, Draco, and Lillicon tools

- Present your drawings to the class (1 min per group)

- Did you find any of the tools harder to incorporate than others? If so, why?



**I/O Brush**



**Draco**



**Lillicon**

# Discussion questions

1. Do you see yourself using I/O Brush for any personal creative projects? What about Draco? Lillicon?

2. What do you think are some drawbacks to these tools?

3. Why do you think these programs are solely research projects and not publicly distributed or sold? What do you think this says about producing creativity support tools?

**I/O Brush**

**Draco**

**Lillicon**