Glossary

sensor

person

content

value — *A number changing over time*

color — *A color represented by RGB (or HSLA) values*

curve — *A set of points describing a path. May also have control points for smooth curves*

depthmap — *A greyscale image of a scene, where the brightness of each pixel shows its distance from a hypothetical camera*

event — *Events are things that happen instantaneously, like a key press or button click*

geolocation — *A location somewhere on the Earth*

graph — *A set of edges and nodes*

image — *A picture, represented by pixel data (which may be RGB or HSL)*

particle — *Points with properties like mass, velocity, size, and color*

shape — *Shapes mathematically defined by curves or straight lines*

soundwave — *A digital or analog recording of a sound's vibration*

state — *Whether something is true or false, over time, between starting and stopping points*

text — *Letters, numbers, words or other symbols. May be emoji or non-English characters*

trimesh — *A triangle mesh represents a 3D scene or object as a set of triangular faces (which may have texture or color)*

vector — *A three- or two- dimensional point in space*

vectorfield — *A grid (or cube) of values, so that each point in space has a value*

voxel — *A 'volumetric pixel' that represents volume in space*

Science Museum installation	Rock concert game	Seventh Inning stretch
Teach something about science	A game to be played on a big screen by crowds at a rock concert if the band is late	A game to be played on a big screen at a ballpark during a break
maximum durability, loud boisterous environment	assume 4000 drunk, loud players and 4000 drunk loud non-players	many people are sitting with their families and friends
usable by children age 4-16 (consider height, control-complexity, and number of interactors)		consider the 'kiss cam'
Public park bench	**County Fair game**	**An enrichment game for bored pigs on farms**
Outdoor long-term installation of an interactive bench	You have a booth at a county fair for one day	playable by pigs and networked humans (or just pigs)
maximum durabiity, weatherproofness, resistance to theft	bright sunshine, large crowds of families	low maintenance
has to be powered by a small solar panel	you can charge $1 per play	pigs can follow bright lights, but dont understand images
needs to still function as a bench	earn money	
A game for orangutans	**An installation for a cat shelter**	**Decrease loneliness in senior centers**
Orangutans are enormously strong (they can snap an ipad) and can be dangerous to trainers	Playable by many cats	Make an installation to be installed in many senior centers
they can recognize shapes, but have to be trained in cause-and-effect logic	should make the cats look cute on webcams to encourage adoption	help seniors socialize with each other
orangutans have good hearning, color vision, and love to touch strange objects	can humans play with the cats remotely?	design for limited mobility, eyesight, strength, and no video game experience

Creativity for senior centers creativity is linked to positive aging outcomes design a way for seniors to make art, and feel proud of their work design for limited mobility, eyesight, strength, and no video game experience	**An art installation for a hospital atrium** make an installation that can be interacted with quickly, or just appreciated as people walk through an atrium the environment is stressful and noisy, design something calming for sanitation, no touching the art is allowed	**An installation for a department store window** usable by passing people from behind the glass window the funders want people to engage the brand on social media
Indiecade 'soaker' Indiecade has commissioned you to show a game but it has to absorb 100 players per hour you can choose whether its played at day or at night	**Airport game** A game that can be played while waiting at the luggage carousel played on a screen or other sculpture in the center of the carousel everyone has luggage with them, can you use that?	**Rollercoaster queue game** A game to be played while in line at an amusement park people will be moving though the space for an hour or more in groups of friends, families or strangers
Stair game A game or artwork to be installed in the back staircase in Baskin Engineering get more people to take the stairs don't impede people who don't want to play installed for a day, or over months?	**Everybody recycle!** An commission to be installed in a recycling can in a park make recycling fun ideally: get people to tweet about recycling	**Stroke rehab game** A commission for an installation in a stroke rehab center encourage people of many different physical abilities (and wheelchairs) to move more
Finals Week Stress Relief Stevenson College wants you to make a stress relief game to be played each day at 6pm during finals week should handle 200+ students, budget $200	**Gym game** A gym has commissioned an digital game to attract people to the gym to be installed next to the cardio machines it should make working out fun it should stand up to sweaty, energetic people	**Musical improv** A string quartet (or rockband, or jazz trio) wants some digital art to respond to their music should respond to their music should be engaging to the audience will only be played during a few concerts

Kinect
commercial infrared depth sensor by Microsoft

A touch-table or tablet
touch-based interface

touch happens　　touch position　　is touched

Webcam
camera that creates images

Speed detector
detect the speed of cars, bikes, or pedestrians

Piezo sensors
small sensors that can detect pressure or vibration

Swing
a 'smart' swing that can detect when it is swinging, and how fast

speed　　is swinging　　changes direction

Microphone
audio input

Laser-beam switch
fire a laser and detect whether the beam is disturbed

is disturbed

Shadows
a camera is watching shadows

calculated shadow borders

Spinnable wheel
a wheel or axle that can tell how fast it is being spun

speed　　is spinning　　changes direction

Potentiometer
a sensor that can detect rotation

Generate random particles
Generate particles from a point

point　　direction　　velocity

Get particle data
Generate particles from a point
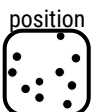
position　　direction　　velocity

Satellite location
Where is this sensor in the world?

Accelerometer
Where is this sensor in the world?

accelerationX　　accelerationY　　accelerationZ

Conductive touchable object
an object that can sense touch

touch happens　　is touched

Conductive fabric switch
*fabric that can sense when it is touched*

touch happens　　is touched

Stock market data
Current value of the stock market

Microbe tracking
Watching microbes move under a microscope

Button
some button

touch happens   is touched

Face tracking
facial recognition

face detected   face shape   mood detection

Switch
some switch

close happens   is closed

Music
MP3s, OGGs, and WAVs

Text
Books, poetry, newspapers, or other writing

Neurosky MindWave
consumer-grade EEG (electroencephalogram) headset

alpha waves   gamma waves   beta waves   delta waves   theta waves

Laser pointers
detected via camera

Time
a value that always ticks forward

Leap Motion
commercial hand-tracking camera

joint positions   hand model

sound sensor
detect ambient noise, wind, or someone blowing

tweet subscription
detect when someone tweets with this hashtag

distance sensor
detect distance from the sensor to a hard object

keyboard
make text or key-events

key pressed

midi keyboard
a piano-like keyboard that creates notes (sometimes note-intensity)

note pressed

mouse

pointer position   left mouse button   right mouse button   mouse being held

random number generator

Generative text
A Tracery grammar generates text on request

Stipplegen
Generate stippled points based on a depth map

Calculate paths over time

Stamp shapes along a path

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held by a person

scraped from social media

from a particular user

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public domain content

from a historically or politically significant source

who doesn't know they're controlling it

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a crowd of strangers

the user is not actually a person, but something like a tree branch or a wave

the user must use the control with an unusual body part

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two competitors

romantic partners

a family

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the artist themself

hidden in a public space

a giant version you can stand on

attached to something in nature	attached to an animal	who is a different species than the viewer
Modify sound *Change speed, volume, or pitch*	**Play sound while true** *Play or don't play this sound, depending on whether in that state*	**Play sound on event** *Play a sound whenever an event occurs*
get graph nodes *given a graph, look at just the edge nodes*	**Voronoi diagram** *calculate a Voronoi diagram from these points*	**Delaunay diagram** *calculate a Delaunay diagram from these points*
get brightness *calculate the brightness for each pixel*	**procedurally-generated flower** *use values to parametrically generate a model of a flower (or other 3D shape)*	**sine curve** *given a value, return the sine [-1, 1] of that value*
distribute points *distribute a number of points inside a shape*	**detect gestures** *detect a user gesture from the graph-model of their body*	**turn points into particles** *add velocity and other values to points to turn them into particles*
apply forces to particles *simulate the particles moving in a field of forces*	**text to shapes** *turn this text into outlined shapes*	**calculate gravity** *calculate the attractive (or repulsive) force based on proximity to points*
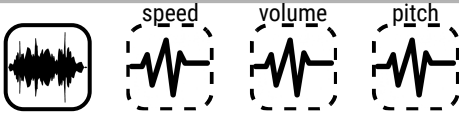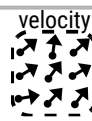
Labels on icons:
- Modify sound: speed, volume, pitch
- Voronoi diagram: region edges, regions
- distribute points: density
- detect gestures: body model
- turn points into particles: velocity, color, mass
- calculate gravity: masses, strength

Perlin noise

scale   # of octaves

Directional bleed

Directionally blur the pixels, based on the direction of the vector field at that point

Cellular automata (graph)

Change values in the graph, depending on the values of the neighboring nodes

Cellular automata (grid)

Change values in the grid, depending on the values of the neighboring nodes

get social media from a location

search for tweets from some location

get social media from some keyword

search for tweets containing a word

sentiment analysis

Analyse how positive or negative text is

Image clipping

clip an image using shapes

Image regionizing

calculate the regions in an image

Switch images

Switch which image is showing based on an event

State begins or ends

Detect when a state begins or ends

Detect center of mass

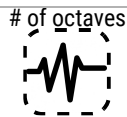*calculate the center and size of shapes*

construct a location from coordinates

longitude   latitude

draw polygons

draw polygons to an image

draw points with image colors

draw points as colored by the closest image pixel

draw particle trails

draw the trails that the particles leave behind

vibration motor

frequency

Vibrate a motor to shake sand, water, or people

Speaker

Amplify a sound

render 3D *render a 3D scene to an image*	**render to stereographic VR** *render a 3D scene to an stereographic image*	**get weather at a location**
project image on a screen *or onto fog, water, or plaster heads*	**draw text to a buffer**	**move a servo motor** *Set a servo motor to move to a certain rotation*
spin a motor *Spin a motor at a given speed*	**LED** *Light an led at a certain value*	**RGB LED** *Light an led with red, green, and blue values*
LED panel *Light an led panel according to the colors in an image*	**Fire!** *Control the amount of propane (and colorant) of a fire effect*	**Fan** *Control a fan that blows wind*
LED cube *Light a cube of LEDs according to a field or a set of voxels*	**Ruben's Tube** *Vibrate a tube of propane, causing fire to change intensity along the length*	**Light-changing glass** *Glass that changes from clear to opaque*
...on a piece of fashion	**...on architecture**	**...on a moving vehicle**

...where no humans can see it	...on someone's body	...very, very, very small
...a whole cloud of these outputs	...very very large	...in a public space
...someplace illegal		