



WELCOME

TO THE REAL WORLD

I HAVE NO IDEA



WHAT I'M DOING

**THE MOMENT WHEN
YOUR CODE WORKS**

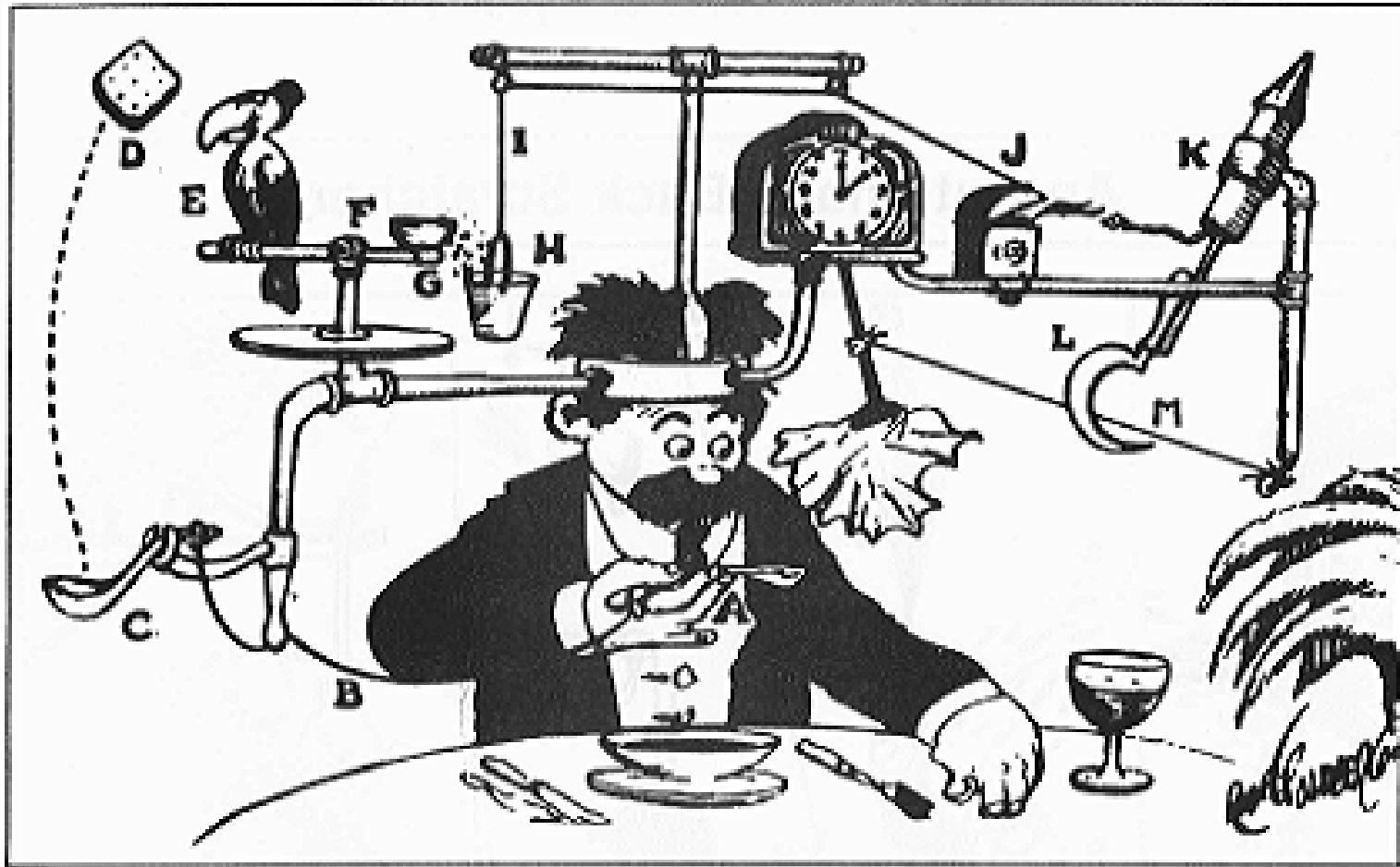


FUCK YEAH

RUBE GOLDBERG

Rube Goldberg was an american cartoonist from the 20th century and he draws / invents a type of machine that is deliberately over-engineered to perform a simple task in a complicated fashion, generally including a chain reaction.

Self-Operating Napkin



An Automatic Back Scratcher



CHAIN REACTION MACHINES

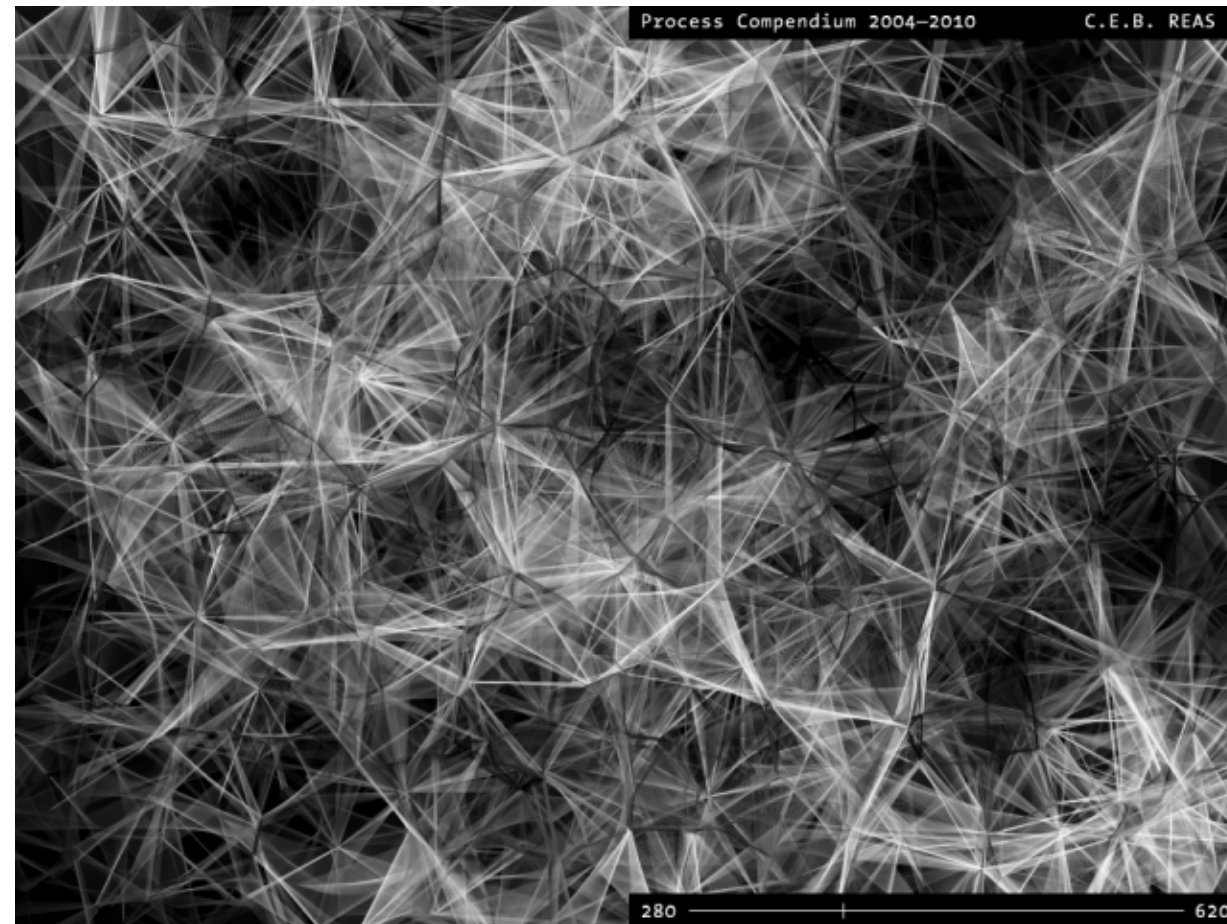
- Rube Goldberg Machine in movies: <https://www.youtube.com/watch?v=23Hzq8BG2YE>
- Fischli and Weiss, The way things go: <https://www.youtube.com/watch?v=GXrRC3pfLnE>
- Marbles and Magnets: <https://www.youtube.com/watch?v=QQ9gs-5lRKc>
- Useless machine: <https://www.youtube.com/watch?v=apVR5Htz0K4>

PROCESSING

Processing an open source programming language built for the electronic arts, new media art, and visual design communities with the purpose of teaching the fundamentals of computer programming in a visual context

Created in 2001 by Casey Reas and Benjamin Fry

Digital world



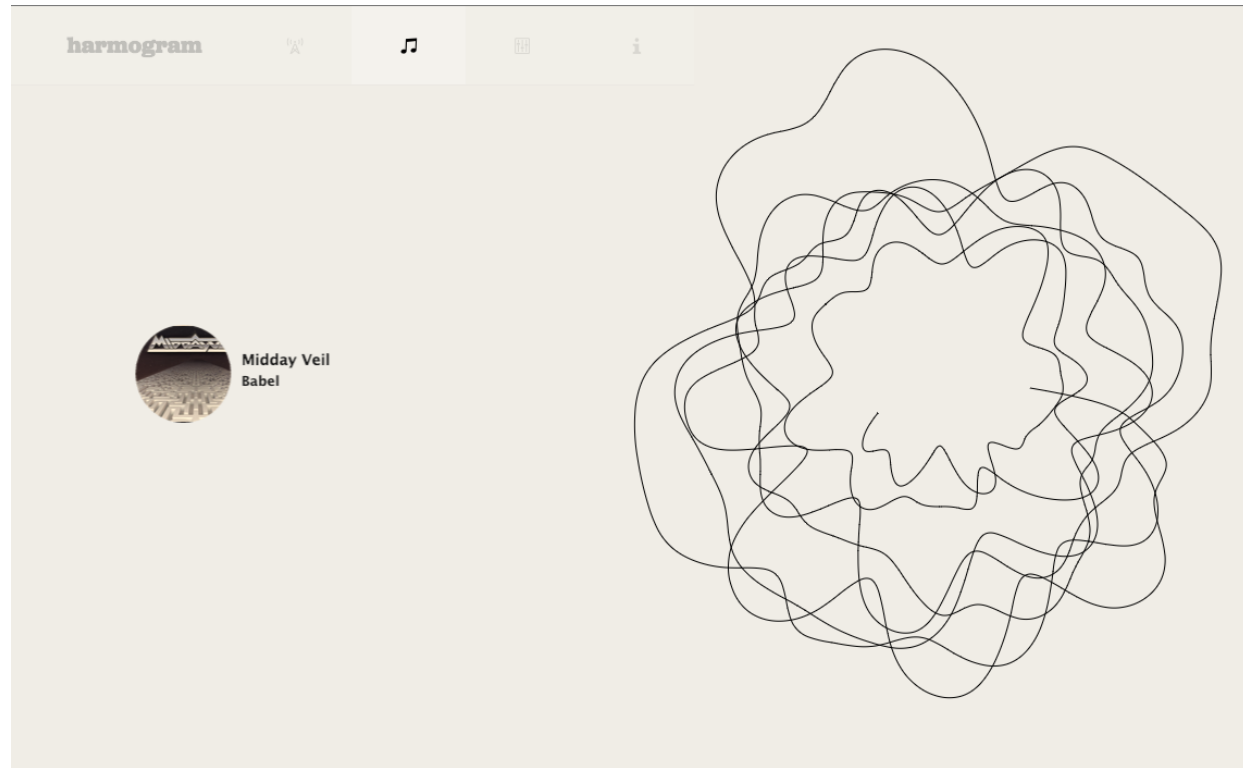
Casey Reas



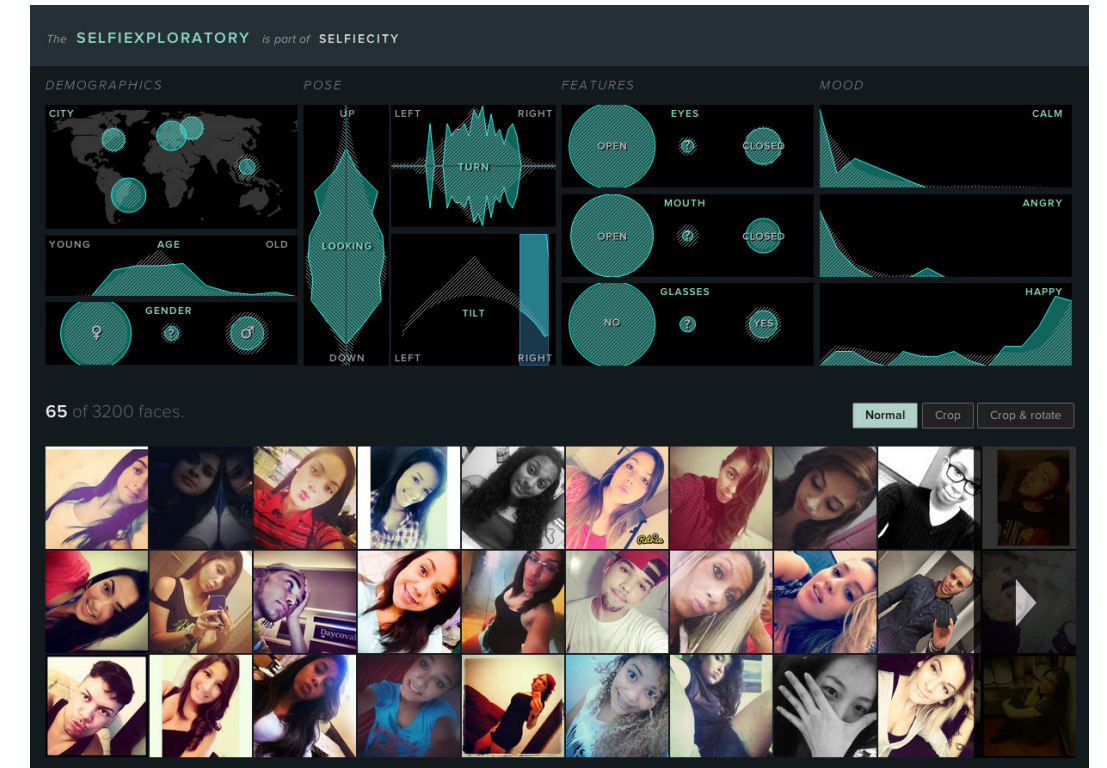
Ben Fry

JAVASCRIPT/JQUERY

Javascript is an Open source web dynamic programming language. It use everywhere on the web for interactivity. JQuery is a library for javascript, designed to simplify it. We can use it, to make interactive, creative and generative works.
Digital world



PaperJs
<http://www.harmogram.com/>



Lev Manovitch
<http://selfiecity.net/>

p5js

p5.js is a JavaScript library that starts with the original goal of Processing, to make coding accessible for artists, designers, educators, and beginners, and reinterprets this for today's web.

<https://p5js.org/>

Examples

<https://nithi-p.github.io/finalproject/>

<https://emojibooth.biz/>

<http://fun.the816.com/neobrush/>

ARDUINO

Open source prototyping platform to built interactive electronic objects.

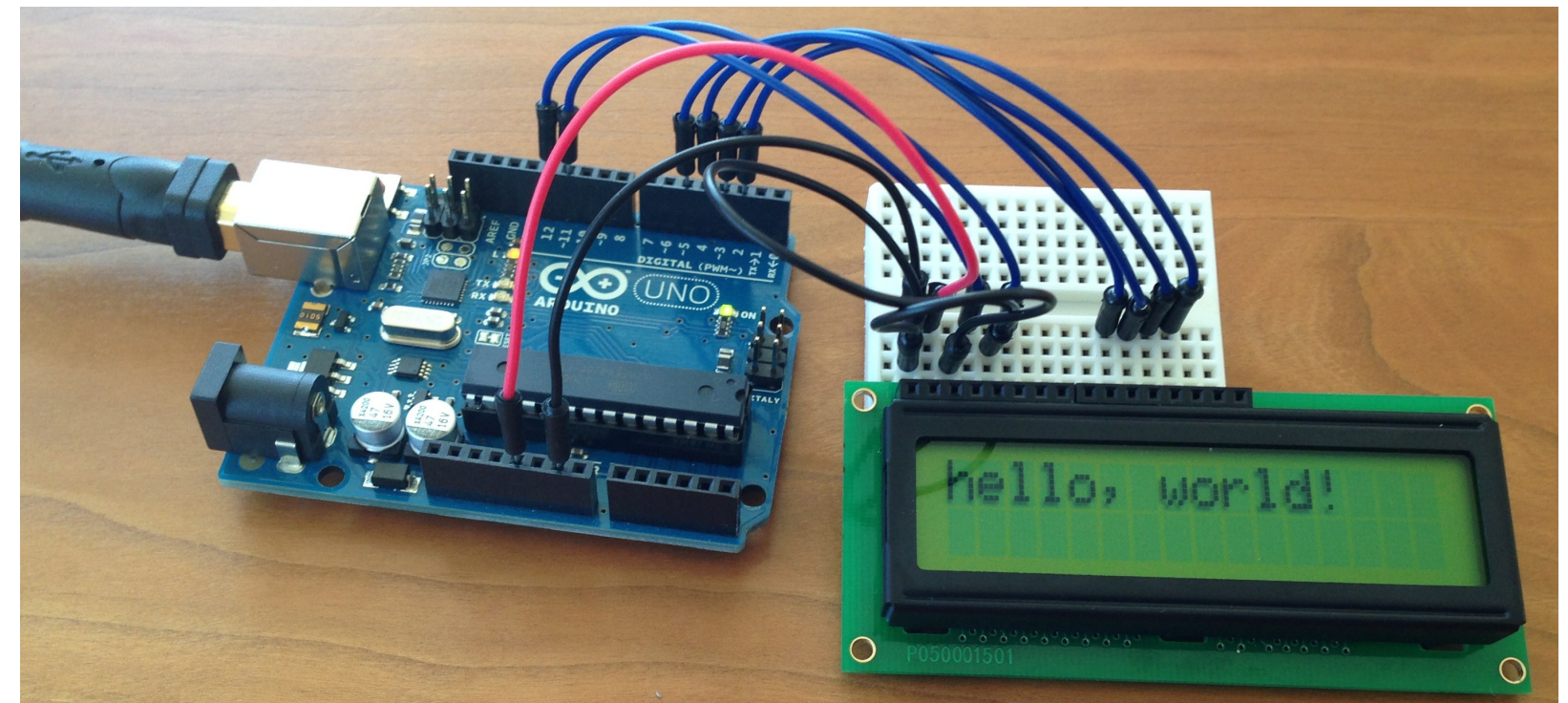
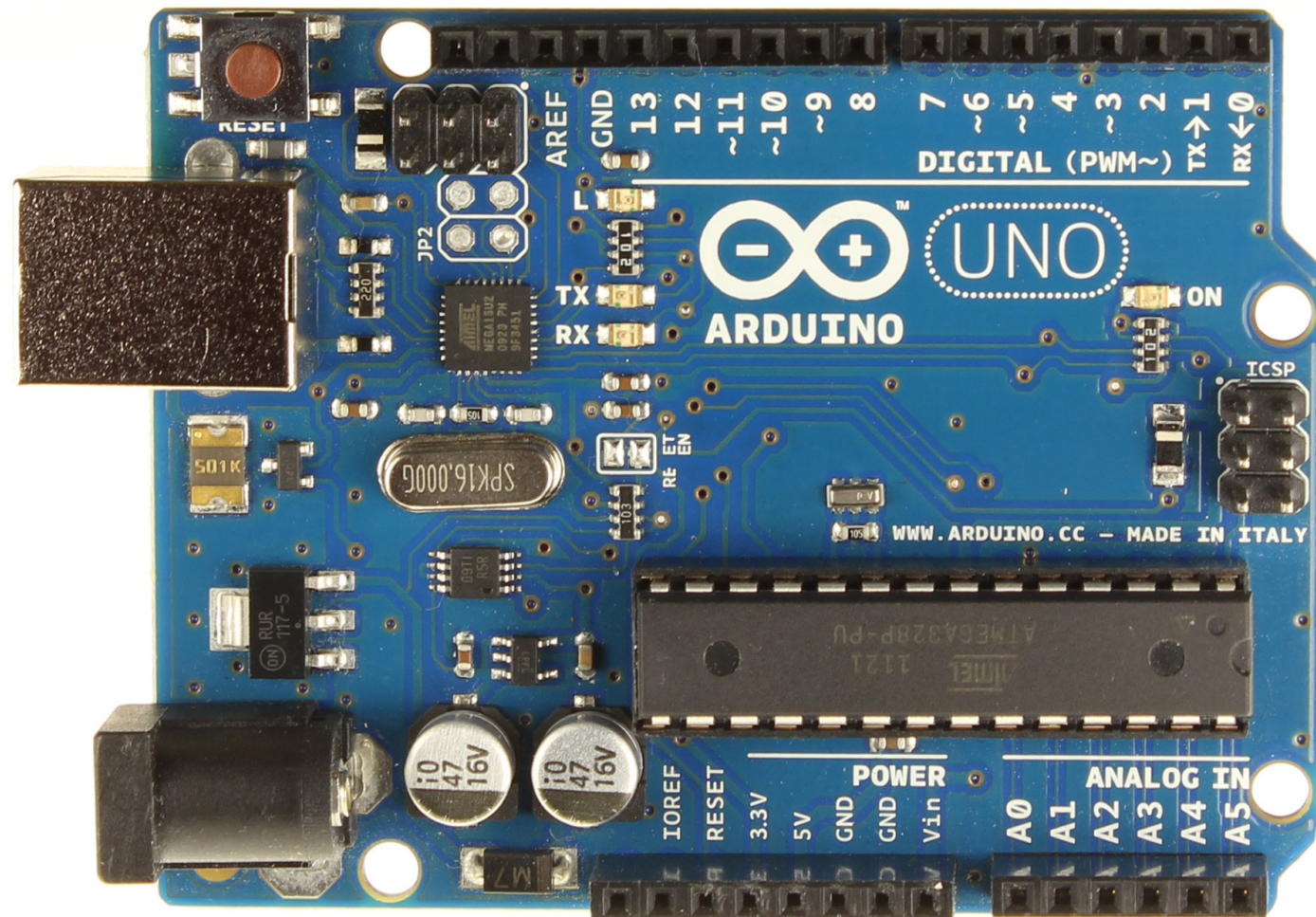
Can be connected with processing and p5js.

Physical world.

Examples

Drawing Robots experimentation: <http://www.boitenoire.io/>

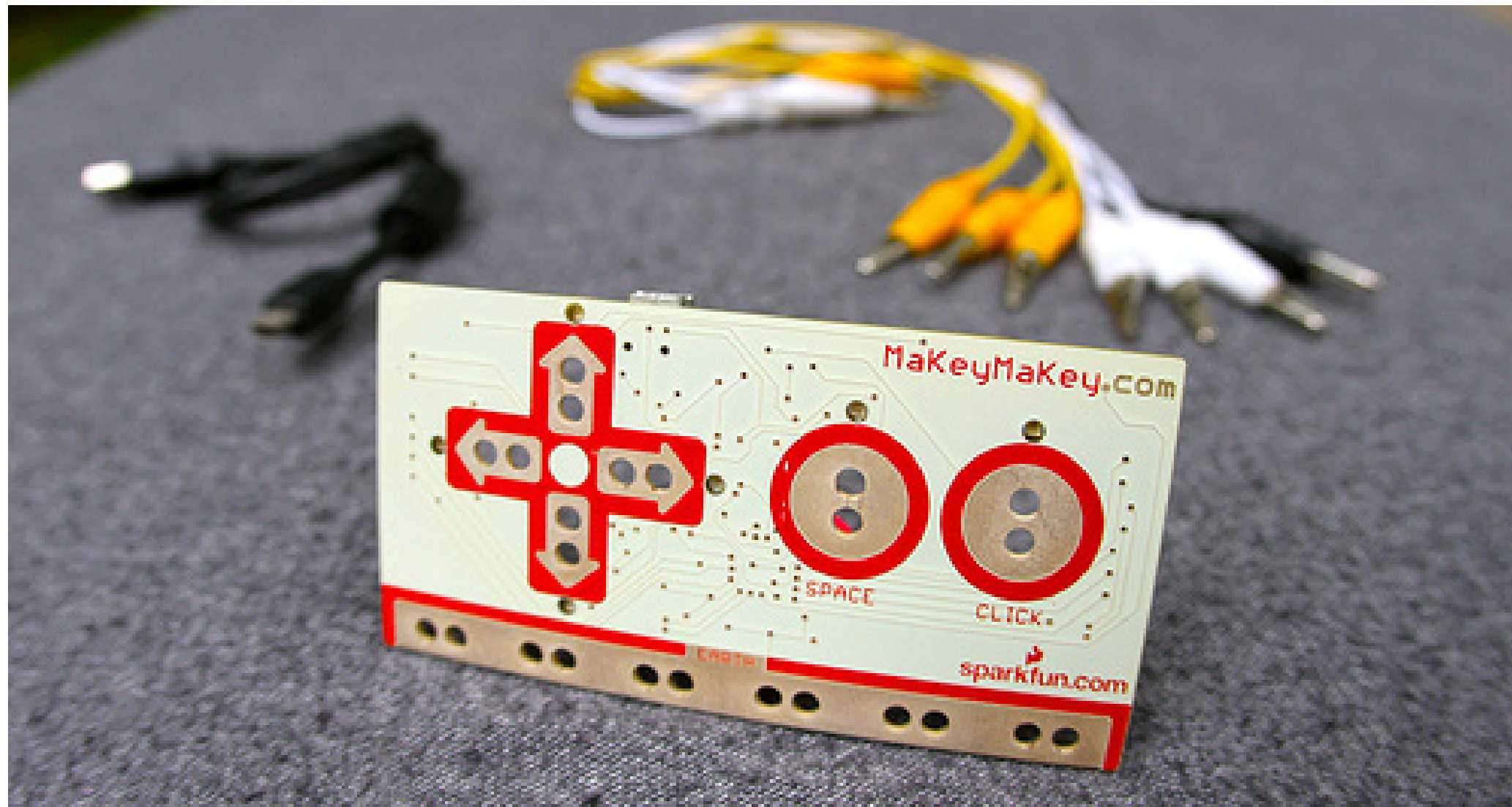
DadaMachines: <https://www.youtube.com/watch?v=uXSP6EcjKXM>



MAKEY MAKEY

The Makey Makey is a card that transforms an electric signal into a key press. Turn everyday objects into touchpads and combine them with the internet.
Physical world.

<https://www.youtube.com/watch?v=rfQqh7iCc0U>



PROGRAM

A program, is a sequence of instructions, written to perform a specified task on a computer.

PANCAKE RECIPE

INGREDIENTS:

2 2/3 cups sifted flour
6 tsp baking powder
1 cup of sugar
1 tsp. salt
4 eggs, beaten
2 cups of milk
4 tbs. cooking oil

DIRECTIONS

In a large bowl, whisk dry ingredients together.
In a separate smaller bowl, mix together to eggs, milk and oil.
Add the wet ingredients to the dry ingredients and stir just until moistened.
Don't over mix, the batter will be lumpy.
Bake on your griddle or stove top until golden brown on both sides.

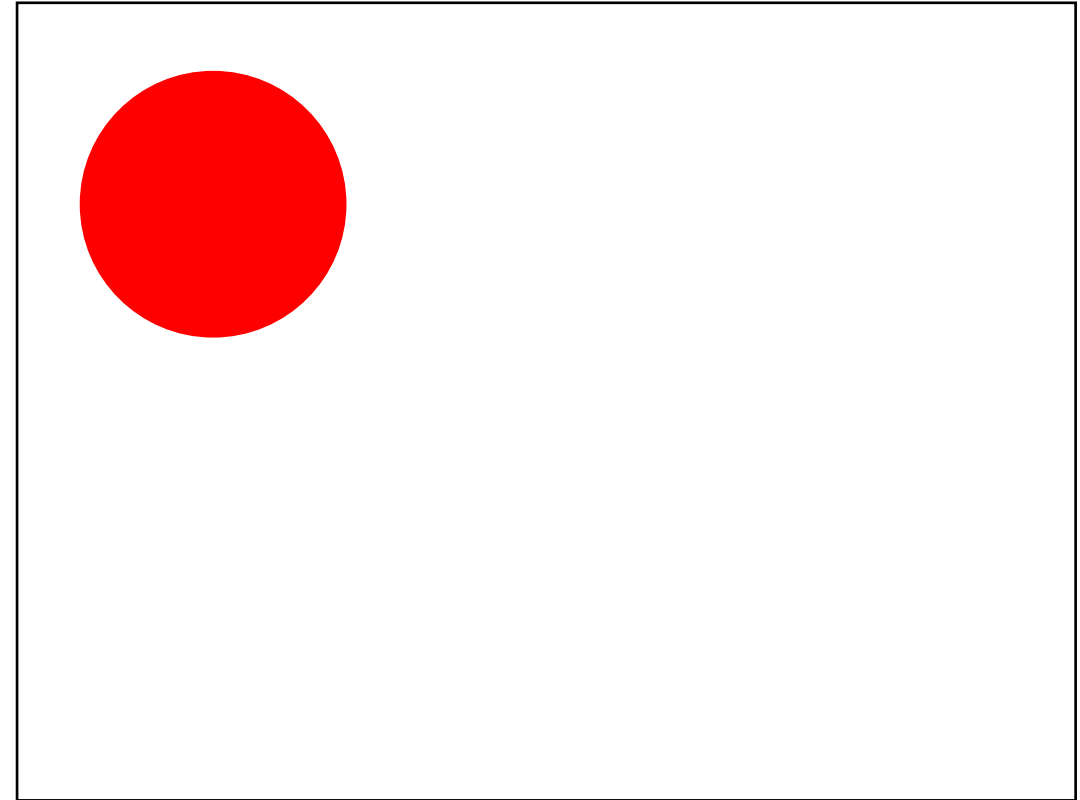


It is like a recipe. It contains a list of ingredients (called variables) and a list of directions (called statements) that tell the computer what to do with the variables.

PROGRAM

Example of a program

- Create a blank space of 300px x 300px
- Draw a circle of 100px of diameter
- Put the circle 20px from the top and 20px from the left
- Color the circle in red

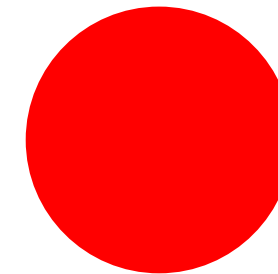


VARIABLES

Variables are like symbols which associate a name (an id) to a value. This value can be any type of data (numeric, text, image, boolean). The name you give to your variable is unique. In dynamic languages, the value of the variable can change during the execution of the program.

```
width = 300px  
height = 300px  
diameter = 100px
```

- Create a blank space of `width` x `height`
- Draw a circle of `diameter` of diameter
- Put the circle 20px from the top and 20px from the left
- Color the circle in red

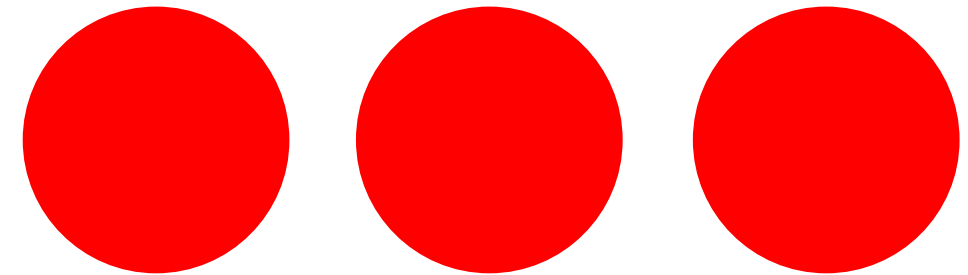


LOOPS

A loop is a sequence of statements which is specified once but which may be carried out several times in succession. The code «inside» the loop is obeyed a specified number of times, or once for each of a collection of items, or until some condition is met, or indefinitely.

```
width = 300px  
height = 300px  
diameter = 100px  
xPosition = 20px  
yPosition = 20px
```

- Create a blank space of `width` x `height`
- Repeat the code below 3 times
 - Draw a circle of `diameter` of diameter
 - Put the circle `xPosition` from the top and `yPosition` from the left
 - Color the circle in red
 - `xPosition = xPosition + diameter + 20px`

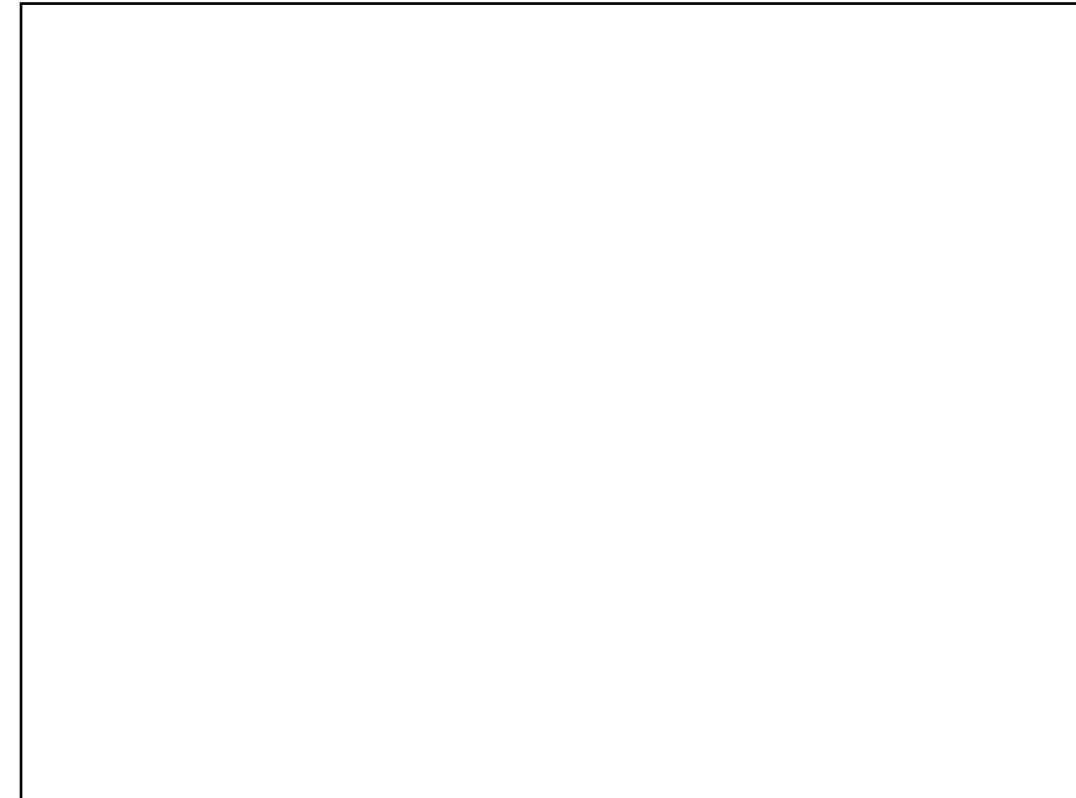


EVENTS

An event is an action detected by the program that may be handled by the program. Typical sources of events include the user (who presses a key on the keyboard, or move the mouse). With events your program become interactive.

```
width = 300px  
height = 300px  
diameter = 100px  
xPosition = 20px  
yPosition = 20px
```

- Create a blank space of `width` x `height`
- If the user click in the blank space, execute the code below (else do nothing)
 - Draw a circle of `diameter` of diameter
 - Put the circle `xPosition` from the top and `yPosition` from the left
 - Color the circle in red

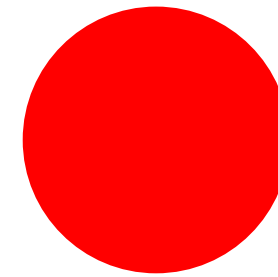


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```
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height = 300px  
diameter = 100px  
xPosition = 20px  
yPosition = 20px
```

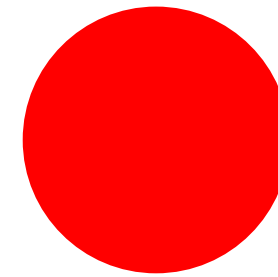
- Create a blank space of `width` x `height`
- If the user click in the blank space, execute the code below (else do nothing)
 - Draw a circle of `diameter` of diameter
 - Put the circle `xPosition` from the top and `yPosition` from the left
 - Color the circle in red



FUNCTIONS

Functions are micro-program into your program / code. It can only be used as a snippet of code that you can re-use everywhere in your program. It can also took an input as parameter and output a result.

```
function createCircle(){  
  width = 300px  
  height = 300px  
  diameter = 100px  
  xPosition = 20px  
  yPosition = 20px  
  
  - Create a blank space of width x height  
  - Draw a circle of diameter of diameter  
  - Put the circle xPosition from the top and  
    yPosition from the left  
  - Color the circle in red  
}  
  
createCircle();  
createCircle();
```



FUNCTIONS

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```
function createCircle(xPosition, yPosition,
diameter){
    width = 300px
    height = 300px

    - Create a blank space of width x height
    - Draw a circle of diameter of diameter
    - Put the circle xPosition from the top and
    yPosition from the left
    - Color the circle in red
}

createCircle(20, 20);
createCircle(140, 20, 50);
```

