Processing.js Workshop Reference and How-To's

Getting the source code

NOTE: For this workshop it is recommended that you use Firefox.   The web pages that you create will run in any html5 compliant browsers but the way that the security policy is set up in Chrome will not allow you to see the page you make running from a local file uri's requires extra setup.

- http://cathyatseneca.github.com/photoframe/
- Hit the button labeled ZIP at the top of the web page
- Save the file to the desktop and unzip it

Main Sketch

The code for the main sketch is in **PhotoFrame.pde**. You can change most of what you want by modifying the code in this file.

Basic Editing and Tools

- Using Firefox, navigate to the folder you downloaded and open the file index.html
- Using Notepad, navigate to the folder you downloaded and open the file PhotoFrame.pde

As you change the code in PhotoFrame.pde, you can see your changes by saving the file in note bad then hitting the reload button in Firefox

Coordinate System:
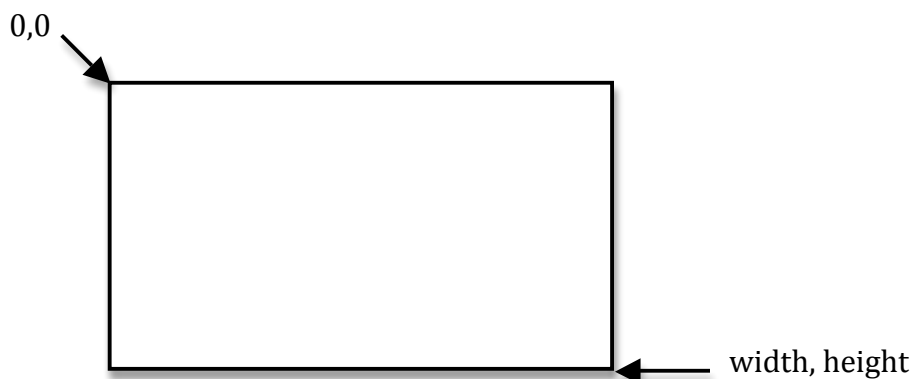
Objects

PolkaDots - circles that move and bounce away when they hit an edge
FireWorks - explosion of dots
Flower - flowers that fall and reappear at the top
Tri - Triangles that move and bounce away when they hit an edge
Poem - text that is drawn line by line

Basic Processing.js Sketch Components

A Processing.js Sketch has 2 functions:

setup(); - this is where you initialize everything

draw() - this describes what happens every frame. the drawing is done in order.
Thus, to draw something on top, draw it last. This is why the picture in the photo
album is drawn at the end

How to Change the Background Color

change the line:

```
background(255,255,255);
```

The 3 numbers are red, green blue values and they range from 0 to 255.

To get white, all 3 colors should be to 255
To get black all 3 colors should be set to 0

Example to change the background to black change the line to:

```
background(0,0,0);
```

For other colors, we mix the intensity of the 3 red, green and blue values. The
concept is similar to mixing paints but do not work the same way . The following
site gives you a list of rgb values of various colors.

http://www.w3schools.com/html/html_colors.asp

How to Change the color of the Circles/Triangles

In the setup function find this code:

```
void setup(){
...
  for(int i=0;i<20;i++){
    dots[i]=new PolkaDot(random(0,width),random(0,height));
    tri[i]=new Tri(random(0,width),random(0,height));
  }
...
}
```

To change the color of the circles or triangles add these lines to the the for loop

circles:
```
  dots[i].setColour(color(red,green,blue,alpha));
```

triangles:
```
  tri[i].setColour(color(red,green,blue,alpha));
```

alpha is a value representing how see through the circle will be. 0 is completely transparent (you will see nothing), and 255 is completely opaque (you will see nothing under it)

For example the following would make all the dots red and semi transparent (they will look pinkish because they are semi-transparent) and all the triangles green

```
  for(int i=0;i<20;i++){
    dots[i]=new PolkaDot(random(0,width),random(0,height));
    tri[i]=new Tri(random(0,width),random(0,height));
    dots[i].setColour(color(255,0,0,100));
    tri[i].setColour(color(0,255,0,100));
  }
```

How to Change the text of the "Poem"

Open the file Poem.pde

You can change the text that is displayed by changing the lines that say:
```
    poem.add("void setup(){");
    poem.add("  album=new Organizer();");
    poem.add("  size(1000,700);");
...
```
Simply modify the text between the "" on each line (erase whatever you don't want need.

How to change the color of the flowers

Find this code in the setup () function:

```
for(int i=0;i<10;i++){
   flowers[i]=new Flower(random(10,width), random(10,height/2));
}
```
add this line to the end of the loop

flowers[i].setColour(color(*red,green,blue,alpha*));

(see previous section for explanation of red, green, blue and alpha)

For example, you can change it to blue flowers by doing:

```
for(int i=0;i<10;i++){
   flowers[i]=new Flower(random(10,width), random(10,height/2));
   flowers[i].setColour(color(0,0,255,100));
}
```

How to change the photos:

The easiest way to change the pictures is to replace the pictures in data folder with what you want and name them photo1 to photo16. Do not miss any numbers though.

The code is setup to expect 16 photos, if you have more photos
Then change the line in Organizer.pde that says:

numPhotos=16; so that the 16 is replaced by the number of pictures in the folder.

Also you will need to add the picture names of the those files to the preload.pde file (anywhere is fine)

How to change the speed of rotation of the flowers or triangles

You can change the speed by calling the setAngularSpeed() function.

For example, this will change the speed to 5 in a clockwise direction.

```
for(int i=0;i<10;i++){
   flowers[i]=new Flower(random(10,width), random(10,height/2));
   flowers[i].setAngularSpeed(5);
}
```

Note, negative values would spin the flower counter clockwise.