

1 Lab 6

Goals

The goals for this lab are:

1. Practice using vectors to control the location of shapes in your scene
2. Practice writing an interactive program
3. Practice using an implicit equation to ‘detect’ where the mouse is relative to shapes you define
4. Practice using a parametric equation for the circle to control the location of shapes in your scene

Modality

This is a pair-programming lab - please form teams of two people and trade off typing in commands and giving instructions to they-who-are-typing.

Details

Tasks: Design a face - it must have eyes with distinct eyeballs and a nose that is circular. Then write code to make your face interact with the mouse. Specifically, the eyeballs must ‘follow’ the mouse when it is clicked and dragged around the screen. In addition, you must design an animation event to be triggered when the user clicks in the nose. Specifically, the eyeballs must roll around in the eyes. Do this by using a parametric equation of a circle to control the location of the eyeballs within the eyes.

Your 'sketch' must:

- Be a face with eyes complete with eyeballs and a circular nose.
- Use vectors to control the location of the eyeballs, specifically the eyeballs must follow the location of the mouse (when clicked and dragged).
- Use the implicit equation to detect when the mouse is clicked inside the nose
- Trigger an animation event when the nose is clicked, which moves the eyeballs in a circle within the eyeballs (use a parametric equation of a circle).

Demo:

In order to receive credit for this lab, you and your partner must demo your sketch to your instructor along with handing in the image and sketch via handin. Ask your instructor for details.

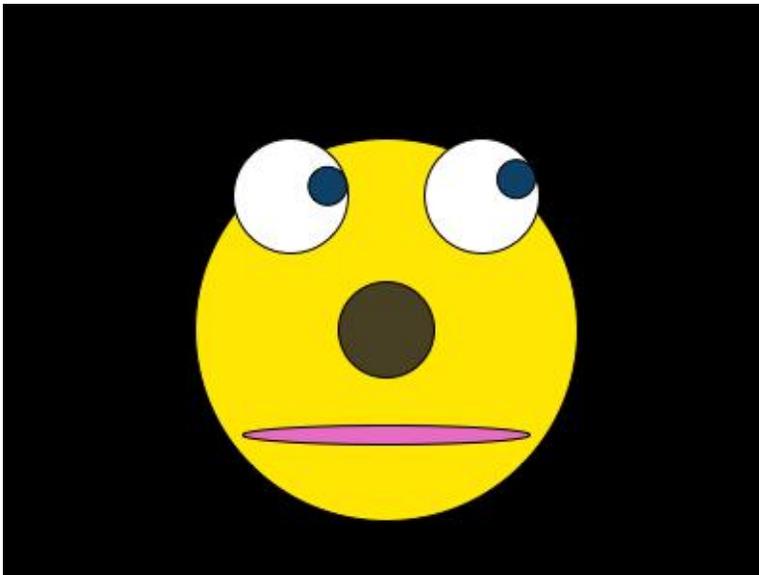


Figure 1: Example face.

2 Resources

some useful commands:

```
PVector v1;  
v1.normalize();  
v1.mult(10);  
void mouseDragged() {}
```