

CMSC 117: Introduction to Computing: Interactive Systems

Assignment 2: Game I

Due by Class (1:30pm) October 01, 2012

The next assignment asks you to modify a simple bouncing-ball *game*. Your modifications should improve the game in some sense. After your changes, the game might be more fun to play, or you might do something with the game (e.g. provoke empathy or play a prank).

You should make five changes to the provided sketch:

- make a change in terms of the static appearance of the game;
- make a change in terms of the dynamic unfolding of the game;
- make a change in terms of the interaction with the user;
- at the beginning of your code, include a comment with your name, date, email, and a reflection on your modification. You should reflect on the what/why/how of your changes.

Learning Objectives

- Modify an existing program.
- Reflect on a minimalistic game.
- Practice with user interaction in processing.

Deliverable

Submit an electronic copy of your sketch via moodle: either a zip file of your Processing sketch named **game1_NAME.zip** or submit the URL of your sketch to moodle on the forum. If you use sketchpad.cc please begin by cloning the ball bouncing sketch here:

<http://bard117f12.sketchpad.cc/sp/pad/view/ro.6MxmGbusJHibDc/rev.2>

```

/*
 * Skeleton of a ball bouncing /game/.
 *
 * Keith O'Hara <kohara@bard.edu>
 * Sep 2012
 */
float paddle_x;
float paddle_step;
float paddle_size = 15;

float ball_x, ball_y;
float ball_x_step, ball_y_step;
float ball_r = 5;

void setup() {
    size(500, 200);
    smooth();

    paddle_x = width/2;
    paddle_step = 0;

    ball_x = random(0, width);
    ball_y = random(0, height/2);
    ball_x_step = random(-3, 3);
    ball_y_step = random(1, 3);
}

void draw() {
    background(196);

    // move paddle
    paddle_x = paddle_x + paddle_step;

    // draw paddle
    stroke(24);
    fill(64);
    rect(paddle_x, height-paddle_size, paddle_size*3, paddle_size);

    // is the ball hitting the right or left wall?
    if (ball_x - ball_r < 0 || ball_x + ball_r > width) {
        ball_x_step = -ball_x_step;
    }

    // is the ball hitting the top or bottom wall?
    if (ball_y - ball_r < 0 || ball_y + ball_r > height) {
        ball_y_step = -ball_y_step;
    }

    // move ball by ball_x_step and ball_y_step
    ball_x = ball_x + ball_x_step;
    ball_y = ball_y + ball_y_step;

    //draw ball
    noStroke();
    fill(196, 0, 0);
    ellipse(ball_x, ball_y, ball_r*2, ball_r*2);
}

void keyPressed() {
    if (keyCode == LEFT) {
        paddle_step = -3;
    }
    else if (keyCode == RIGHT) {
        paddle_step = 3;
    }
}

void keyReleased() {
    paddle_step = 0;
}

```