<u>nesdoug</u>

Sprite BG Collision, Pong

So, I wrote the simplest game possible. Pong with walls. The ball bounces off the walls (and the paddles)

The first thing I did was make everything in NES Screen Tool. Saved the CHR, saved the BG as a RLE .h file. Saved the Paddles as Metatiles.

Then I made a collision MAP. I just did this by hand. I could have used Tiled and saved the map as a .csv, but it was quicker just to type the map out as an array of zeroes and ones. 1 = the ball will collide with the BG. 0 = the ball will pass through it. Each entry represents a 16×16 block on the screen.

Now, I wanted a random start point and direction for the ball, but I needed a way to get a random seed. I decided to have it spin in a while loop, and count how many loops before a button is pressed on Controller 1.

```
while (!pad_poll(0)){
  ++Seedy;
} // Seedy is an int, 2 bytes

set_rand(Seedy);
```

Now rand8() will give us some actually random numbers.

Each frame, the ball's speed are added to the ball's position. First X, then check collisions, then Y, then check collisions. If the change in X caused a collision, then I reverse the X speed. If the change in Y caused a collision, then I reverse the Y speed.
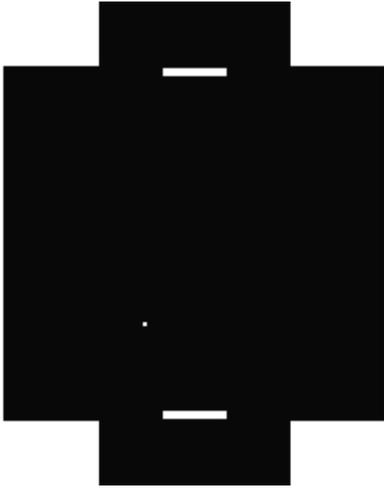
X example…

```
KeepIt = Ball.X;
Ball.X += Ball_X_Speed;
index = (Ball.Y & 0xf0) + (Ball.X >> 4);
if (MAP[index]){
  Ball_X_Speed = 0 - Ball_X_Speed;
  Ball.X = KeepIt;
}
```

If the ball goes past the paddle, I have it pause for 2 seconds. It counts down frames, until the pause variable is zero, then it respawns the ball with new random direction and position.

I didn't add a scoreboard. I just wanted to keep it as simple as possible, to show how sprites can collide with the background. It, of course, isn't really colliding with the background tiles, but rather an array (MAP) that represents the positions of the wall within the room.

Here's the example code.

http://dl.dropboxusercontent.com/s/1a20e1s1pd00ntg/lesson26.zip (http://dl.dropboxusercontent.com/s/1a20e1s1pd00ntg/lesson26.zip)

August 9, 2017August 10, 2017 dougfraker

Create a free website or blog at WordPress.com.