

# How to Build an HTML5 Game in Half Day with help of processing.js

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# What's new about HTML5?

- semantic tags: `<nav>`, `<footer>`, `<section>` ...
- multimedia: `<video>`, `<audio>`
- 2D drawing: `<canvas>`

# <canvas>

HTML:

```
<canvas id="example" width="200" height="200"></canvas>
```

JS:

```
var example = document.getElementById('example');  
var context = example.getContext('2d');  
context.fillStyle = "rgb(255,0,0)";  
context.fillRect(30, 30, 50, 50);
```

# processing.js

- a port of Processing programming language to Javascript
- a thin wrapper of 2D js drawing operations on <canvas>

API doc: <http://processingjs.org/reference>

# let's build an HTML5 game

- HTML5 clone of a classic game I built during a weekend
- play at <http://nuwa.madk.org/game/floor.html>

# let's build an HTML5 game – code structure

- some global variables
- `setup()`
- `draw()`

# let's build an HTML5 game – logic

- OO
- `class Person`
- `class Block`

## let's build an HTML5 game – inside draw()

```
void draw() {  
    background(#223322); // clear screen  
    // update and redraw every block  
    for (byte i = blks.length-1; i >= 0; i--) {  
        blks[i].move();  
        if (blks[i].outofscreen()) {  
            blks[i] = new Block(random(width), height, blk_speed);  
            p.level += 1;  
        }  
        blks[i].render();  
    }  
    p.move(); p.update_mode(); p.render(); // update person  
}
```



# let's build an HTML5 game – inside class Person

methods:

- `Person(float x, float y, float vx, float vy, byte on_blk)`
- `boolean x_on_blk(byte i)`
- `boolean person_on_blk(byte i)`
- `void update_mode()`
- `void step_into_air()`
- `void land_on_blk(byte i)`
- `void move()`
- `void render()`

# let's build an HTML5 game – inside class Block

methods:

- `Block(float x, float y, float vy, byte type)`
- `void decrease_timer()`
- `boolean outofscreen()`
- `void move()`
- `void render()`

# Summary

- think of a game idea (what to build)
- build
- get better artwork
- spread the world

# Source code

source code at

<http://nuwa.madk.org/game/floor.pjs>