

## Agenda

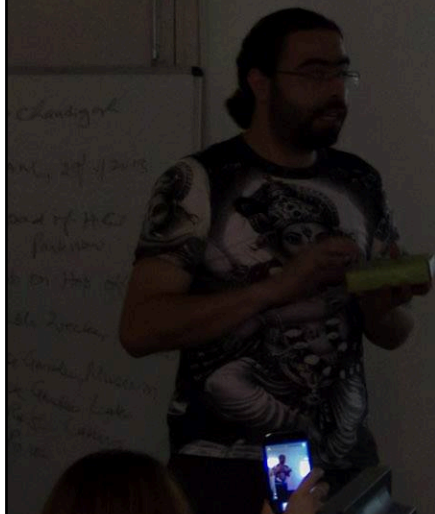
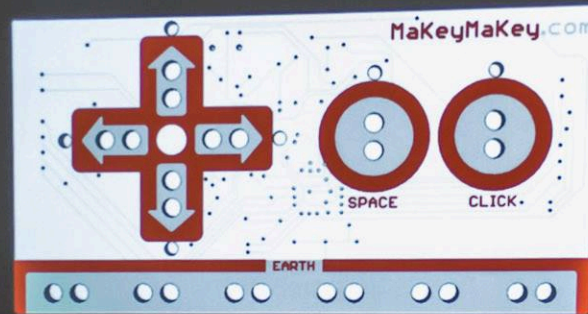
- What is MakeyMakey?
- Interacting with Makey Makey & real objects
- Scripting with AS3 (ActionScript 3)
- Scripting with JavaScript (jQuery)
- Q & A





# What is Makey Makey?

An electronic board that turn everyday objects into touchpads. [View video](#)

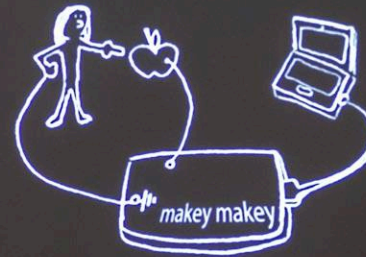






## How Does it Work?

When you touch the apple, you make a connection, and MaKey MaKey sends the computer a keyboard message. The computer just thinks MaKey MaKey is a regular keyboard (or mouse).

























Experiment: "slapping counter"

9

































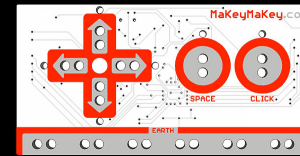








# Interacting with the MakeyMakey board



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Chandigarh, India. May 28 / 2013



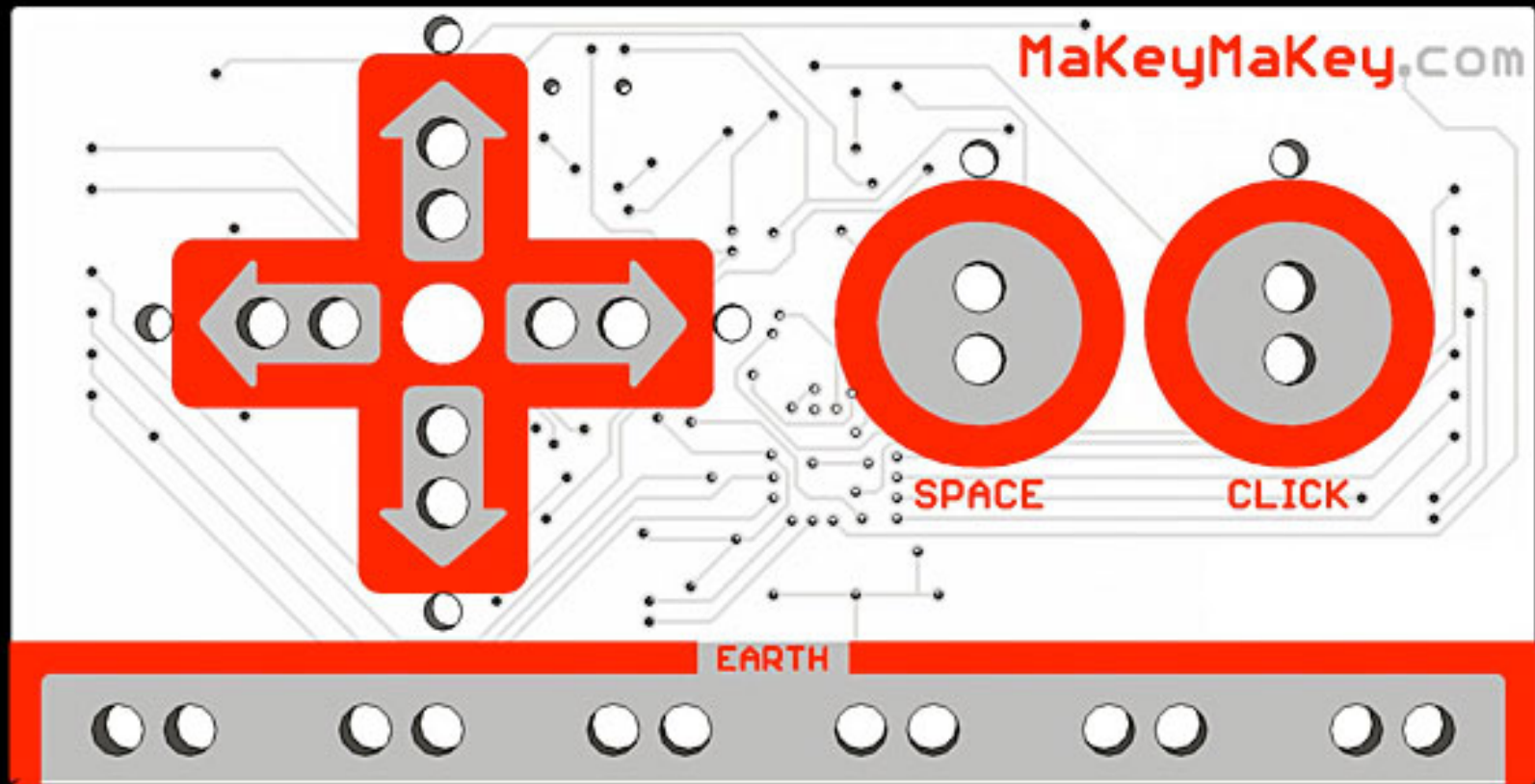
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- What is MakeyMakey?
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# What is Makey Makey?

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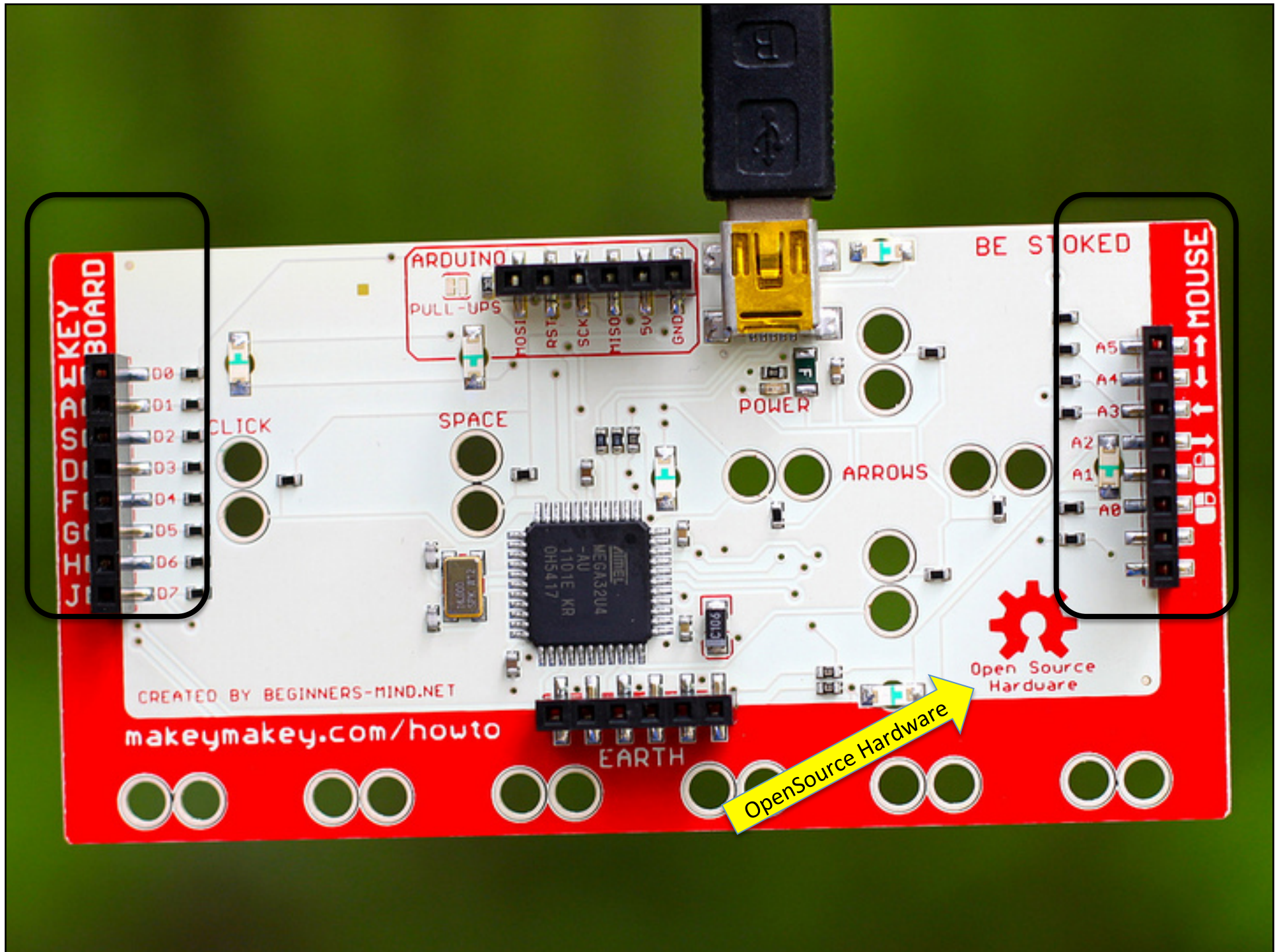


# How Does it Work?

When you touch the apple, you make a connection, and MaKey MaKey sends the computer a keyboard message. The computer just thinks MaKey MaKey is a regular keyboard (or mouse).





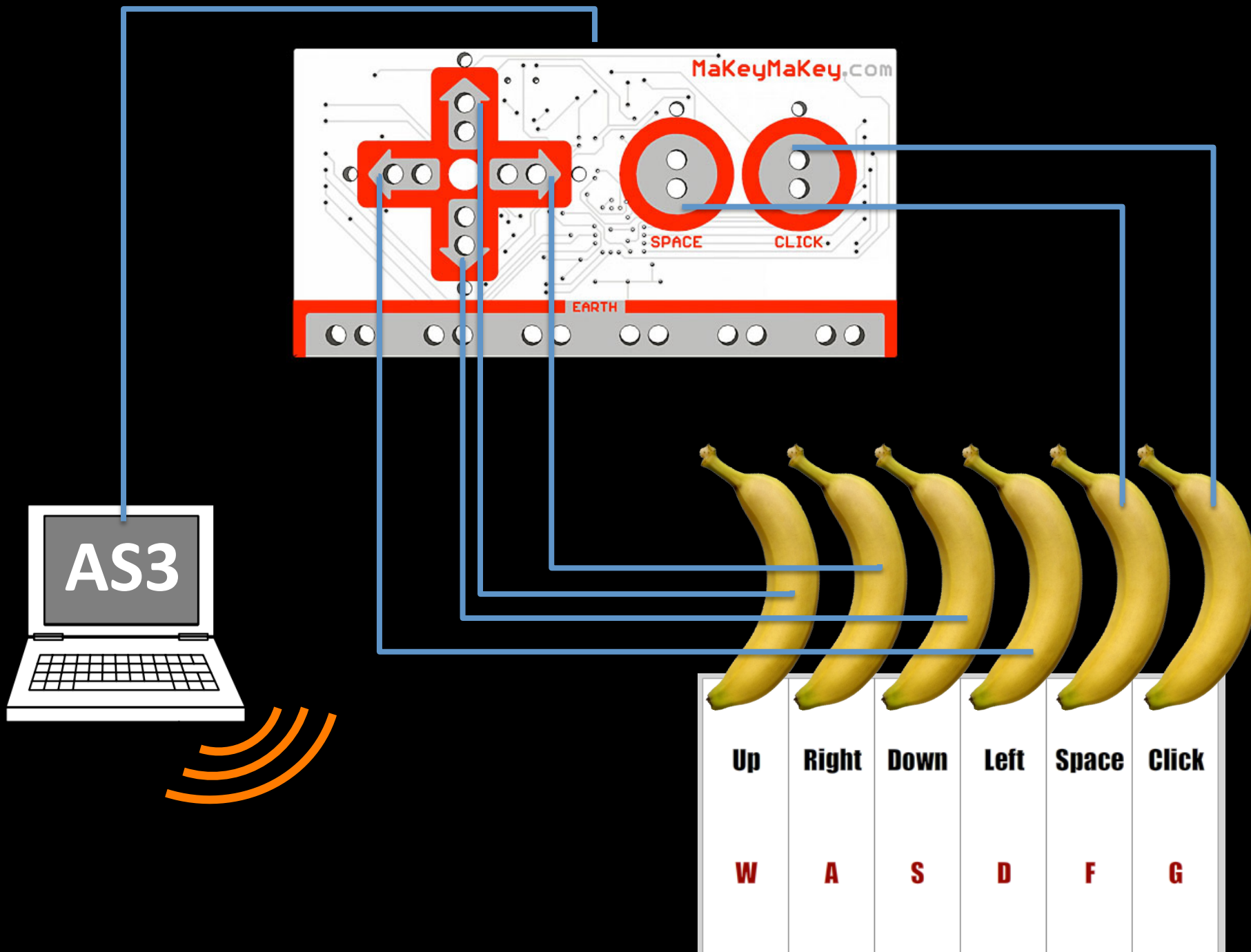


# Interacting with Makey Makey & real objects

Live demo



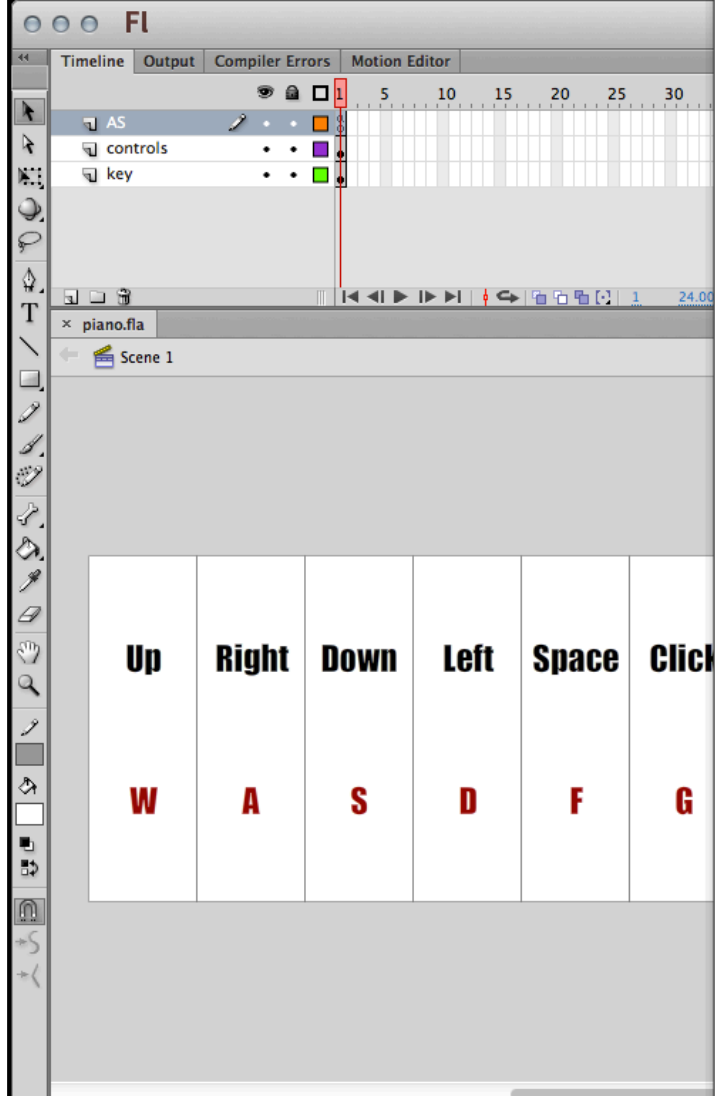






# Scripting with AS3 (ActionScript 3)

Live demo



```

1  import flash.display.Stage;
2  import flash.events.Event;
3  import flash.events.MouseEvent;
4
5  var UpSound:Sound = new up_snd();
6  var RightSound:Sound = new right_snd();
7  var DownSound:Sound = new down_snd();
8  var LeftSound:Sound = new left_snd();
9  var SpaceSound:Sound = new space_snd();
10 var ClickSound:Sound = new click_snd();
11 var generalSoundChannel:SoundChannel = new SoundChannel();
12
13
14 function MyKeyDown(e:KeyboardEvent):void
15 {
16     generalSoundChannel.stop();
17     switch (e.keyCode)
18     {
19         case Keyboard.UP:
20         case Keyboard.W :
21             generalSoundChannel = UpSound.play();
22             up_mc.gotoAndStop(2);
23             break;
24         case Keyboard.RIGHT:
25         case Keyboard.A :
26             generalSoundChannel = RightSound.play();
27             right_mc.gotoAndStop(2);
28             break;
29         case Keyboard.DOWN:
30         case Keyboard.S :
31             generalSoundChannel = DownSound.play();
32             down_mc.gotoAndStop(2);
33             break;
34         case Keyboard.LEFT:
35         case Keyboard.D :
36             generalSoundChannel = LeftSound.play();
37             left_mc.gotoAndStop(2);
38             break;
39         case Keyboard.SPACE:
40         case Keyboard.F :
41             generalSoundChannel = SpaceSound.play();
42             space_mc.gotoAndStop(2);
43             break;
44         case Keyboard.G :

```

AS : 1

Line 12 of 96, Col 1



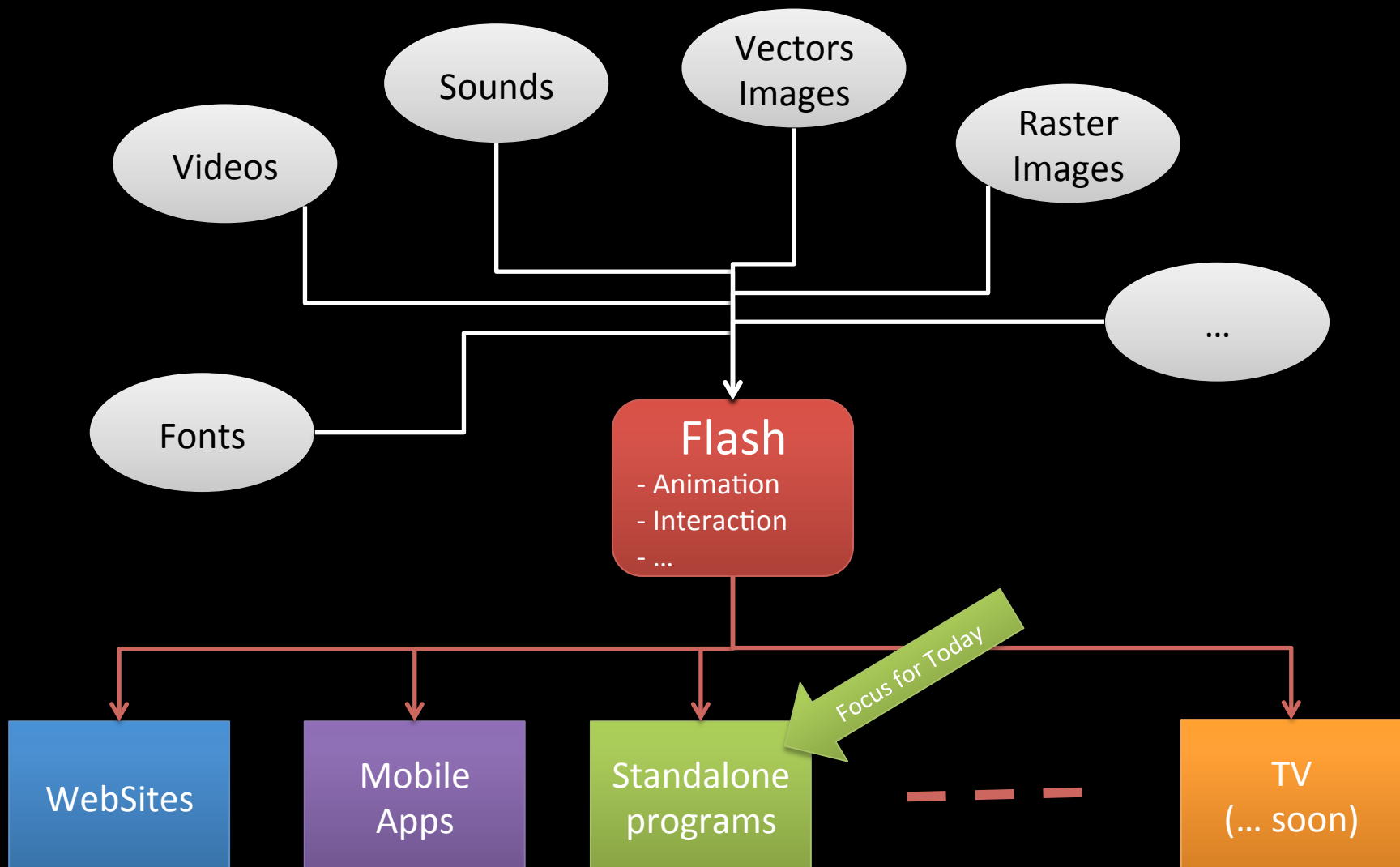
Q: what is Flash for me?

A: like a blender



Q: what is Flash for me?

A: like a blender

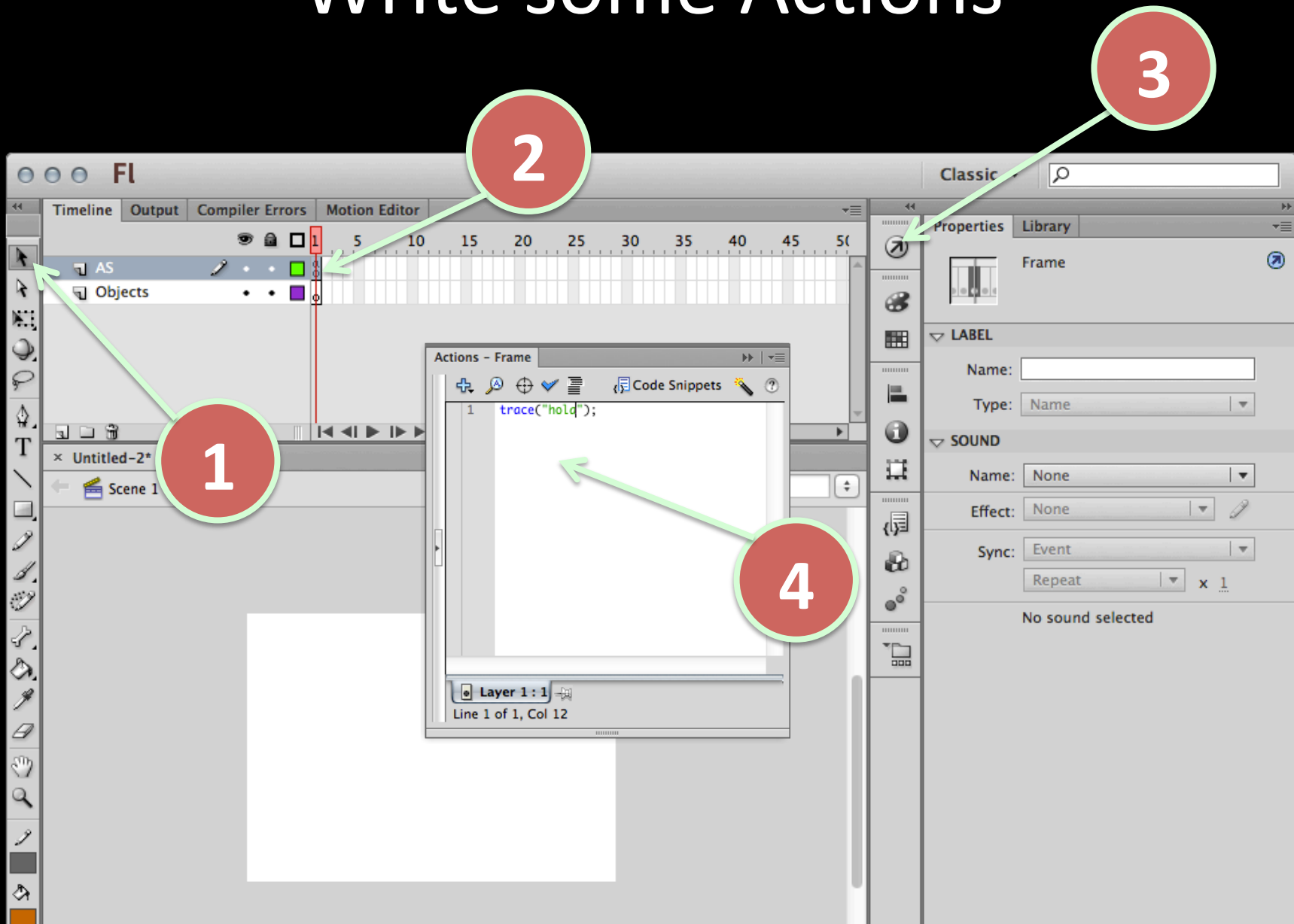




# Objects in Flash (media)

- Native Objects
  - Movie Clip
  - Button
  - ~~Graphic~~
- Library
  - Images
  - Videos
  - Sounds
  - Shapes
  - Fonts
  - Movie Clips
  - Buttons
  - Graphics
  - Components

# Write some Actions





# Event Listener en ActionScript

- **MouseEvent**

- CLICK
- DOUBLE\_CLICK
- MOUSE\_DOWN
- MOUSE\_MOVE
- MOUSE\_OUT
- MOUSE\_OVER
- MOUSE\_UP
- MOUSE\_WHEEL
- ROLL\_OUT
- ROLL\_OVER

- **KeyboardEvent**

- KEY\_DOWN
- KEY\_UP

# Scripting with AS3: MouseEvent

```
function mousePressed(event:MouseEvent):void
{
    trace("The button has been pressed");
    button_btn.rotation = button_btn.rotation + 2;
}

button_btn.addEventListener(MouseEvent.CLICK, mousePressed);
```



# Scripting with AS3: KeyboardEvent

```
Function someKeyDown(e:KeyboardEvent):void
{
    switch (e.keyCode)
    {
        case Keyboard.SPACE :
            trace("SPACE pressed");
            break;
        case Keyboard.LEFT :
            trace("LEFT pressed");
            break;
        case Keyboard.RIGHT :
            trace("RIGHT pressed");
            break;
    }
}
stage.addEventListener(KeyboardEvent.KEY_DOWN, someKeyDown);
```

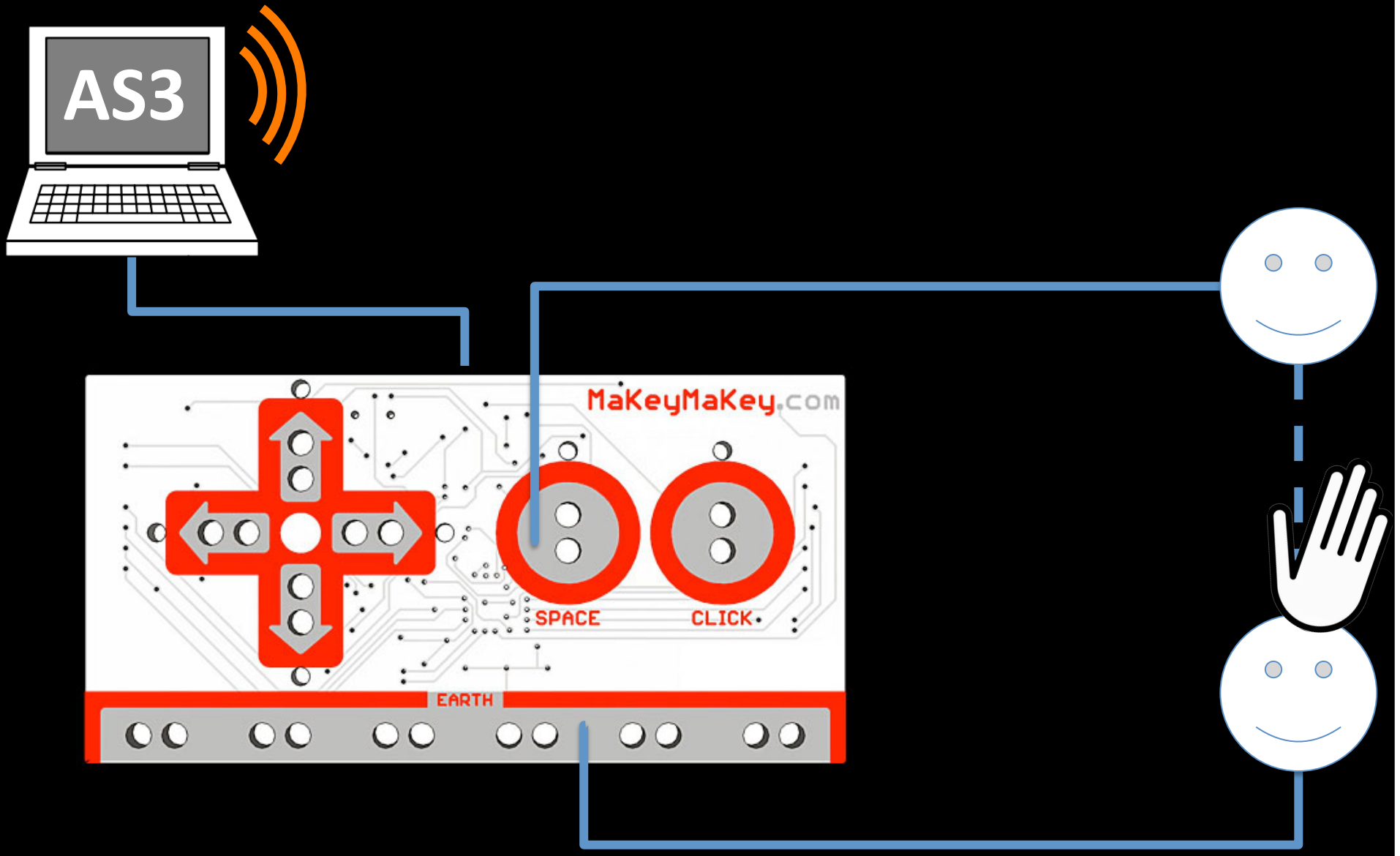
# Experiment: “slapping counter”

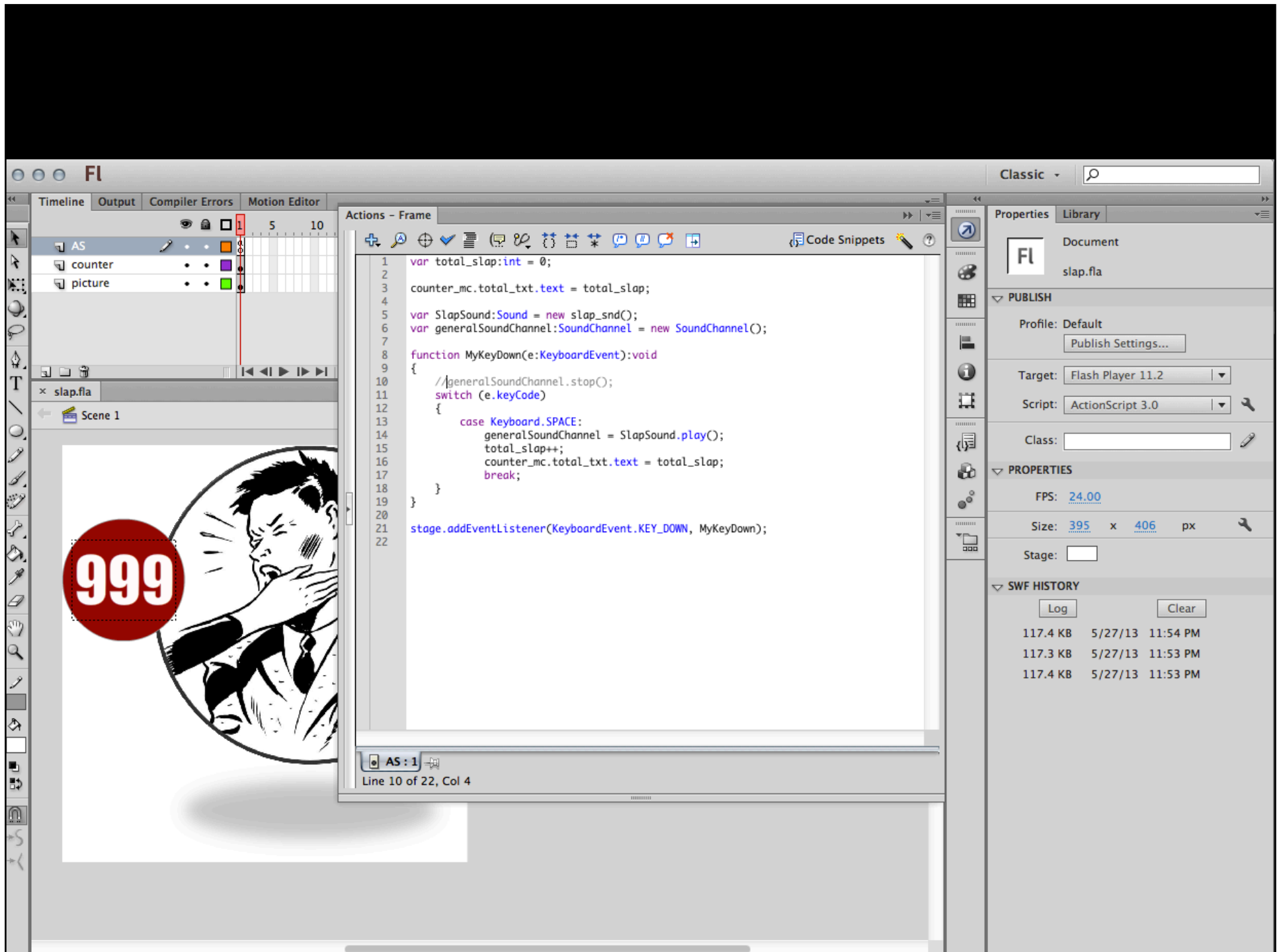
9





# Experiment: “slapping counter”







```
var total_slap:int = 0;
```

```
counter_mc.total_txt.text = total_slap;
```

```
var SlapSound:Sound = new slap_snd();
```

```
var generalSoundChannel:SoundChannel = new SoundChannel();
```

```
function MyKeyDown(e:KeyboardEvent):void
```

```
{
```

```
    switch (e.keyCode)
```

```
    {
```

```
        case Keyboard.SPACE:
```

```
            generalSoundChannel = SlapSound.play();
```

```
            total_slap++;
```

```
            counter_mc.total_txt.text = total_slap;
```

```
            break;
```

```
    }
```

```
}
```

```
stage.addEventListener(KeyboardEvent.KEY_DOWN, MyKeyDown);
```

# Scripting with JavaScript (jQuery)

Live demo





Developer Tools - file:///macintosh%20hd/Users/miguelcarrasc...

Elements Resources Network Sources Timeline Profiles Audits Console

```
<!DOCTYPE html>
<html>
  <head>...</head>
  <body style>
    <div id="box"></div>
  </body>
</html>
```

Computed Style ☒ Show inherited

Styles

```
element.style {
}
```

Matched CSS Rules

```
#box {
  background-image: url(..../images/cdac-
    logo.png);
  background-size: contain;
  width: 282px;
  height: 200px;
  position: absolute;
  float: left;
  left: 100px;
  top: 20px;
}
```

div { user agent stylesheet

```
display: block;
}
```

Metrics

position 20

margin -

border -

padding -

282 x 200

100

Properties

DOM Breakpoints

Event Listeners

keydown

document jquery-1.10.0.min...

handler: function (e){return ty...

isAttribute: false

lineNumber: 5

listenerBody: "function (e){ret...

node: document

sourceName: "file:///macintosh%2...

type: "keydown"

html body div#box

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>MakeyMakey...</title>
5
6 <style type="text/css">
7 body {
8     background-image:url(../images/IMG_2844.jpg);
9 }
10 #box {
11     background-image:url(../images/cdac-logo.png);
12     background-size:contain;
13     /*background-color: #0CF;*/
14     width: 282px;
15     height: 200px;
16     position: absolute;
17     float: left;
18     left: 100px;
19     top:20px;
20 }
21 </style>
22
23 <script src="../js/jquery-1.10.0.min.js"></script>
24 <script...
57 </head>
58
59 <body>
60
61 <div id="box"></div>
62
63 </body>
64 </html>
```

Continue next slide



```
24 <script type='text/javascript'>
25 $(document).ready(function() {
26     var posX = parseInt($("#box").css('left').replace(/^[^-\d\.]/g, ''));
27     var posY = parseInt($("#box").css('top').replace(/^[^-\d\.]/g, ''));
28     console.log('Posicion Inicial :('+posX+', '+posY+')');
29     var offset = 10;
30
31     $(document).keydown(function(e) {
32         console.log(e);
33         console.log(e.keyCode);
34         switch(e.keyCode) {
35             case 37: // left key
36                 posX = posX - offset;
37                 $("#box").css({'left': posX + 'px'});
38                 break;
39             case 39: // right key
40                 posX = posX + offset;
41                 $("#box").css({'left': posX + 'px'});
42                 break;
43             case 38: // up key
44                 posY = posY - offset;
45                 $("#box").css({'top': posY + 'px'});
46                 break;
47             case 40: // down key
48                 posY = posY + offset;
49                 $("#box").css({'top': posY + 'px'});
50                 break;
51         }
52         console.log('Posicion Actual :('+posX+', '+posY+')');
53     });
54
55 });
56 </script>
```

# Homework...



Q & A



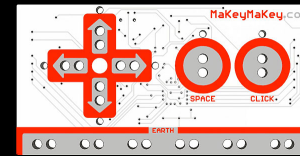
# Example Code

- ActionScript3:
  - Funny piano
  - Slapping counter
- JavaScript:
  - Moving a DIV

Download from here (3 Examples):

<http://visitanyplace.com/india/cdac/makeymakey/code.zip>

# Interacting with the MakeyMakey board



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