



MAKING APPS  
FOR THE BIG SCREEN



**HI!**



# HTML5 TEST

The screenshot shows a web browser window with the URL `html5test.com`. The page header includes the HTML5 Test logo and the text "how well does your browser support html5?". Navigation tabs include "your browser" (selected), "other browsers", "compare", "news", "device lab", and "about the test".

The main content area displays the score: "YOUR BROWSER SCORES **400** OUT OF 555 POINTS". To the right is a "JavaScript Diagrams" section with a tree diagram and a link "Click here for GoJS".

Below the score, it states "You are using Safari 9.0.1 on OS X El Capitan 10.11" and "Correct? ✓ ✕".

The footer contains four buttons: "Save results" (blue), "Compare to..." (green), "Share" (orange), and "Donate" (yellow).

browser compatibility tester



A horizontal bar at the top of the image contains several colored squares: grey, white, yellow, cyan, magenta, red, and blue.

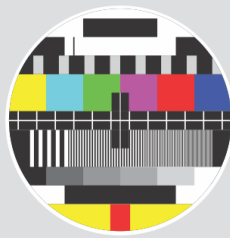
THIS ISN'T  
A TALK ABOUT  
PHONEGAP



THIS ISN'T  
A TALK ABOUT  
PHONES







A horizontal bar at the top of the page is divided into several colored segments: grey, light grey, yellow, cyan, green, magenta, red, and blue.

PLATFORMS





androidtv

**SONY**



Google TV™



Opera

androidtv



**Panasonic**<sup>®</sup>

**VIERA**



**Firefox OS**



webOS

androidtv

**TIZEN**<sup>™</sup> 

 Firefox OS

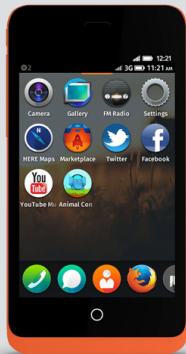
webOS



ANDROID



TIZEN



Firefox OS



webOS

androidtv

**TIZEN**<sup>™</sup>

 Firefox OS

webOS

 XBOX ONE

WiiU

 PS4<sup>™</sup>

 Opera TV

 amazon fireTV



A horizontal bar at the top of the page is divided into several colored segments: grey, light grey, yellow, cyan, green, magenta, red, blue, and grey.

TOOLS

androidtv



APACHE  
**CORDOVA**™



**Native HTML5 apps**



Firefox OS

**Native HTML5 apps**



webOS

**Native HTML5 apps**



 Universal Windows Platform

A horizontal bar at the top of the page, divided into several colored segments: grey, yellow, cyan, green, magenta, red, and blue.

Wii U

Nintendo  
Web Framework



**Third party**





**Native HTML5 apps**

amazon fireTV

Native HTML5 apps



APACHE  
**CORDOVA™**



BUT WHAT  
ABOUT...



GAME OVER





**D I F F E R E N C E S**



1

cpu's and memory



Out of Memory. App is closed.



10 foot design



20 inch

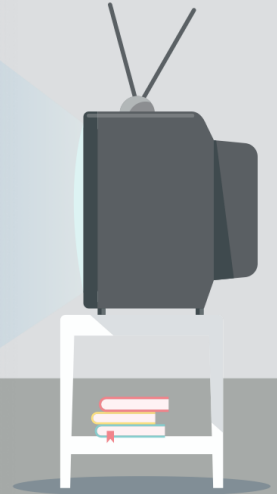




20 inch




10 foot






“Make fonts and graphics on the site larger to account for viewing distance. People sit proportionally farther from a TV than from a computer monitor of the same size.”


– **Internet Explorer for Xbox One Developer Guide**



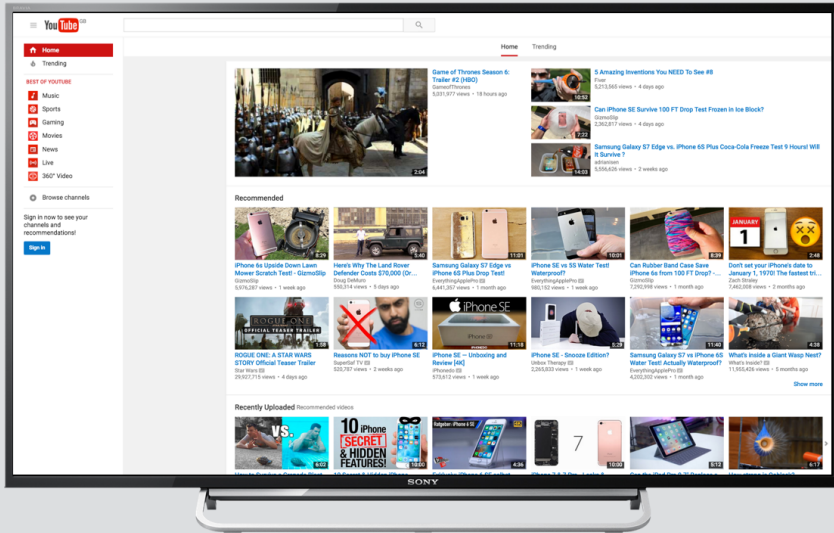
**Make your text  
and images two to  
three times bigger**

A horizontal bar at the top of the slide is divided into several colored segments: grey, yellow, cyan, green, magenta, red, and blue.

**Make your text  
and images two to  
three times bigger**

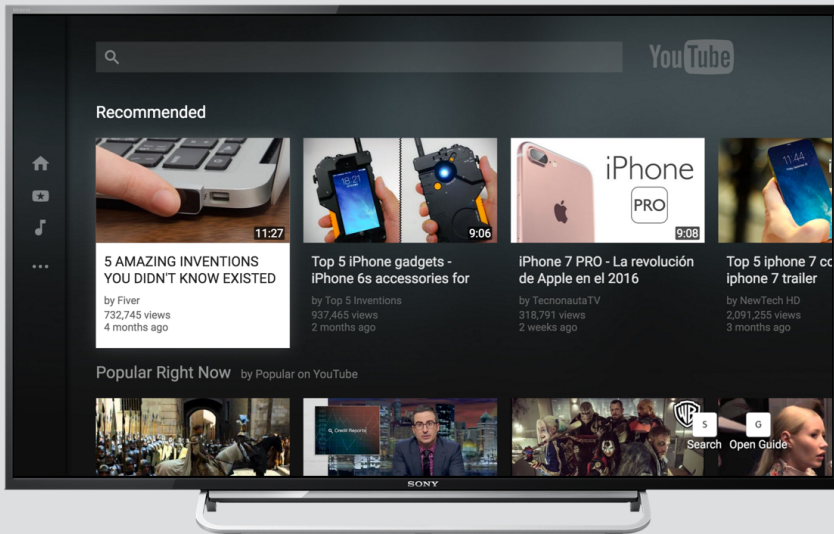


**Make your text  
and images two to  
three times bigger**



youtube





youtube



# Multiple viewports



**720p**  
1280 × 720



**1080p**  
1920 × 1080



**4K**  
3840 × 2160

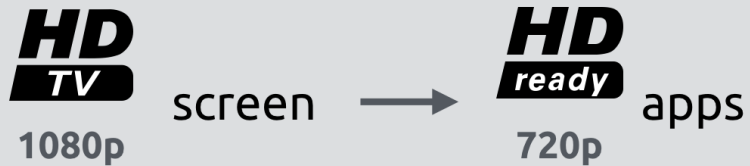
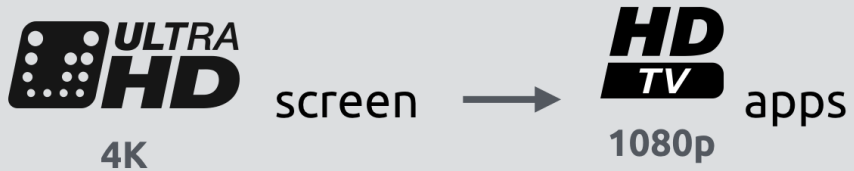
A horizontal bar at the top of the slide is divided into several colored segments: grey, yellow, cyan, green, magenta, red, and blue.

**device pixels != device pixels**

**(of course not)**



**the app is rendered in a lower resolution  
which is upscaled to the resolution of the screen**





4K

screen



1080p

screen



1080p

apps



A horizontal bar at the top of the page is divided into several colored segments: grey, light grey, yellow, cyan, green, magenta, red, and blue.

**responsive design**



# 1

## use percentages for positioning

```
.left { width: 60%; }
```

```
.right { left: 60%; width: 40%; }
```



## base the fontsize on the viewport

```
document.body.style.fontSize =  
  ((window.innerWidth / 1920) * 300) + '%';
```



**or maybe use viewport units** – with polyfill

```
body { font-size: 3vw; }  
.left { width: 60vw; height: 100vh; }  
.right { width: 40vw; height: 100vh; }
```



# Safe margins

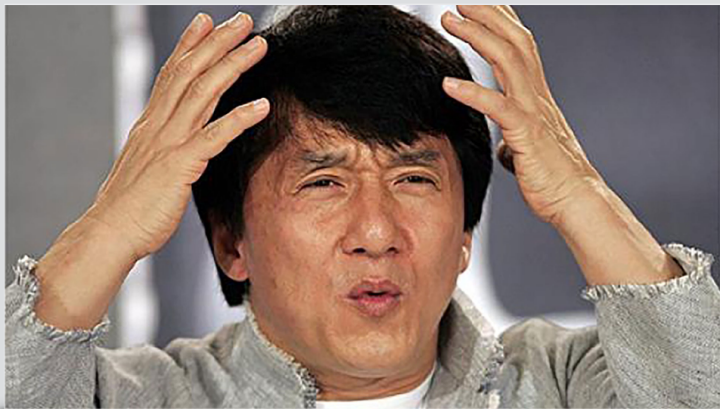


**due to historical reasons televisions will  
not show the borders of the image**

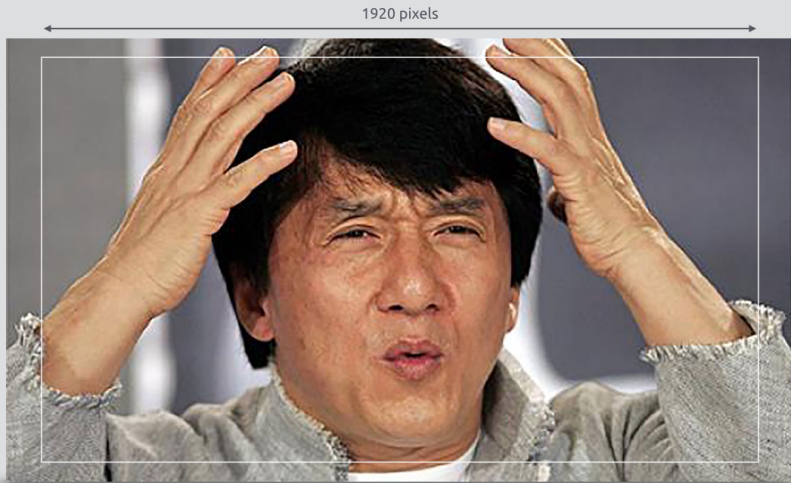
A horizontal bar at the top of the page containing several colored segments: grey, light grey, yellow, cyan, green, magenta, red, and blue.

**overscan**

1920 pixels



**the television enlarges all images  
from the hdmi input by 5%**

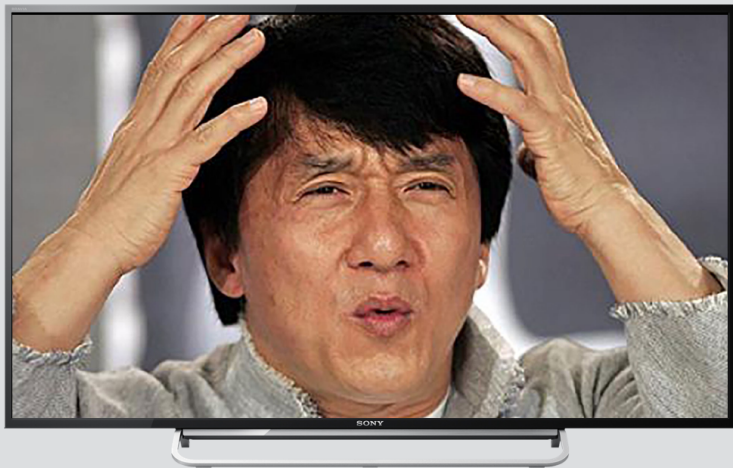


**the television enlarges all images  
from the hdmi input by 5%**






**the image is then cropped to  
1920 by 1080 pixels**



**the image is then cropped to  
1920 by 1080 pixels**

A horizontal bar at the top of the slide containing several colored squares: grey, light grey, yellow, cyan, green, magenta, red, and blue.

**place important elements in a  
safe zone that is at least 5% from  
the edges of the screen**



# Navigation



# REMOTES WITH TRACKPAD



REMOTES WITH AIRMOUSE



D-PAD




A close-up photograph of a black game controller's D-pad. The D-pad is a cross-shaped button located in the center of the controller. Above it are two analog sticks with textured grips. To the right of the D-pad are several buttons, including a blue 'X' button, a red 'B' button, and a green 'A' button. The controller has a matte black finish. At the top of the image, there is a horizontal bar with a color calibration strip consisting of white, yellow, cyan, magenta, red, and blue segments. A black rectangular box with the text 'D-PAD' in white, pixelated font is overlaid on the D-pad.

D-PAD



A horizontal bar at the top of the page is divided into several colored segments: grey, light grey, yellow, cyan, green, magenta, red, and blue.

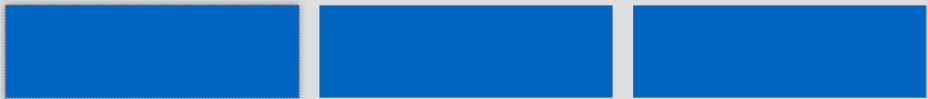
# **spatial navigation**

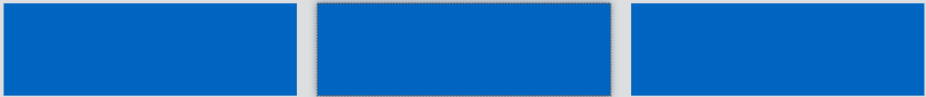


**automatic or  
provide your own**



**make sure your  
buttons are focusable**

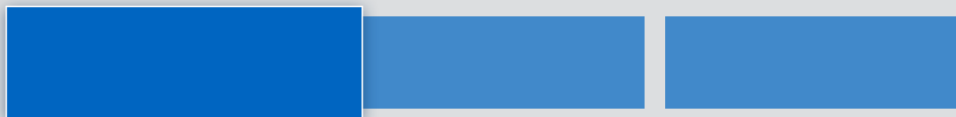




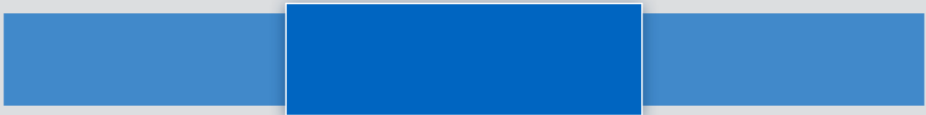




**provide a clear focus state**











**“standard” events**

# 1


## keyboard events

```
window.addEventListener("keypress", function(e) {  
    e.preventDefault(); // no navigation  
    ...  
});
```



## gamepad api

```
var gamepads = navigator.getGamepads();  
for (var i = 0; i < gamepads.length; i++) {  
    ...  
}
```



**sometimes you need to use  
platform specific APIs**



## wii u gamepad api

```
window.setInterval(function() {  
    var state = window.wiiu.gamepad.update();  
    ...  
}, 100);
```



DEMO





webOS TV CLI

webOS TV  
Emulator v3.0.0

webOS TV IDE



phonegap

LG webOS TV Emulator 3.0.0 [Running]

# WELCOME TO THE WEBOS TV EMULATOR

Press the (right) Command/Start/Logo key to view the application launcher...



Desktop --- bash --- 118 x 31

Desktop/phonegap

```
p.pgday.eu2016",  
,  
eenheer",  
l",  
8 "title": "PhoneGapDay EU",  
9 "appDescription": "PhoneGapDay EU 2016",  
10 "icon": "icon.png",  
11 "largeIcon": "largeIcon.png",  
12 "iconColor": "#1793b3",  
13 "bgColor": "white"  
14 }  
15
```



DEMO



**1**

**building apps is not difficult**

**2**

**build your app for the 10 foot experience**

**3**

**you need to deal with platform  
specific eccentricities**



THANK YOU!

The image features a complex, multi-colored background. At the top, there are seven vertical bars of equal width in the following order from left to right: yellow-green, cyan, green, magenta, red, and blue. Below these, a horizontal bar spans the width of the image, divided into segments of cyan, dark blue, light gray, and blue. Below that, another horizontal bar is divided into yellow, purple, light gray, and red. The bottom section consists of a white vertical bar on the left, followed by several vertical bars of varying shades of gray and black. A black horizontal bar is positioned across the middle of the image, containing the text "PLEASE STAND BY" in white, pixelated, uppercase letters.

PLEASE STAND BY