Tizen SDK and Web App Development

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LinuxCon Europe 2012

Agenda

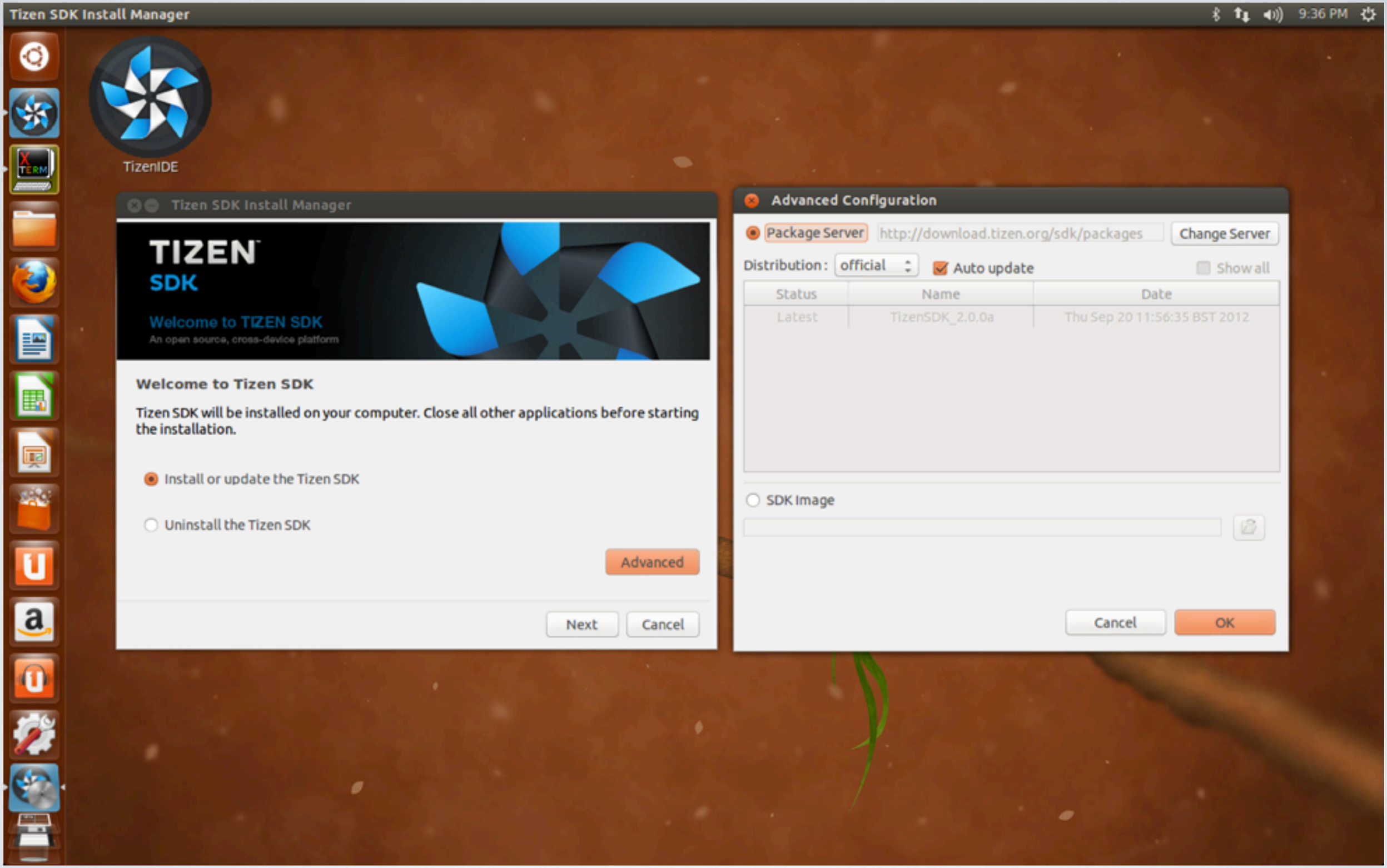
- Tizen 2.0 alpha SDK
- Web app development

Tizen 2.0 alpha SDK

- IDE - Eclipse based
- Emulator - qemu based
- Web based (Chrome) simulator
- UI Builder
- Event Injector
- Remote inspector /Firebug
- Documentation & Sample code

Installing SDK

- The SDK supports Windows and Ubuntu
- The SDK Mac version is coming soon
- Installation Manager supports the snapshot-based or SDK image-based installation
- Pay attention to prerequisites, specially on Ubuntu (JDK, JRE, qemu, VTx support etc.)


Tizen SDK Install Manager
9:36 PM
TizenIDE
Tizen SDK Install Manager
TIZEN
SDK
Welcome to TIZEN SDK
An open source, cross-device platform
Welcome to Tizen SDK
Tizen SDK will be installed on your computer. Close all other applications before starting the installation.
Install or update the Tizen SDK
Uninstall the Tizen SDK
Advanced
Next
Cancel
Advanced Configuration
Package Server
http://download.tizen.org/sdk/packages
Change Server
Distribution :
official
Auto update
Show all
Status
Name
Date
Latest
TizenSDK_2.0.0a
Thu Sep 20 11:56:35 BST 2012
SDK Image
Cancel
OK

Install JDK on Ubuntu

- Tizen IDE is based on Oracle Java v7, **not** OpenJDK
- Oracle doesn't allow re-distribution of Java packages, so...

- oab-java6 a good script for installing oracle-jdk, oracle-jre on Ubuntu
- still need some tweaks to install the latest JDK-7u9 with oab-java6☞

☞: https://github.com/flexiondotorg/oab-java6

Running IDE on Ubuntu

- Install *libwebkitgtk-1.0-0*, if you get error such as☞:

```
Exception in thread "main" org.eclipse.swt.SWTError: No more
handles [Unknown Mozilla path (MOZILLA_FIVE_HOME not set)]
```

- Install *Ajax Tool Framework (ATF)* if Event Injector is not shown☞

☞: http://tronprog.blogspot.co.uk/2012/05/eclipse-internal-web-browser-in-kubuntu.html

http://wiki.eclipse.org/ATF/Installing

Tizen 2.0 alpha new features

Tizen 2.0 alpha new features

Enhanced HTML5

WebKit2 WRT

multi-process

screen orientation APIs

video subtitles

video caption

keygen details

battery status

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Better IDE & SDK

smart installer

snapshot-based installation

enhanced openGL ES

UI Builder

WebGL accelerated emulator

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Web UI FW

content selection

shortcut scroll widget

context menu

auto-divider

expandable list

virtual list

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virtual list

More Device APIs

download APIs

notification APIs

power control

Web apps on Tizen

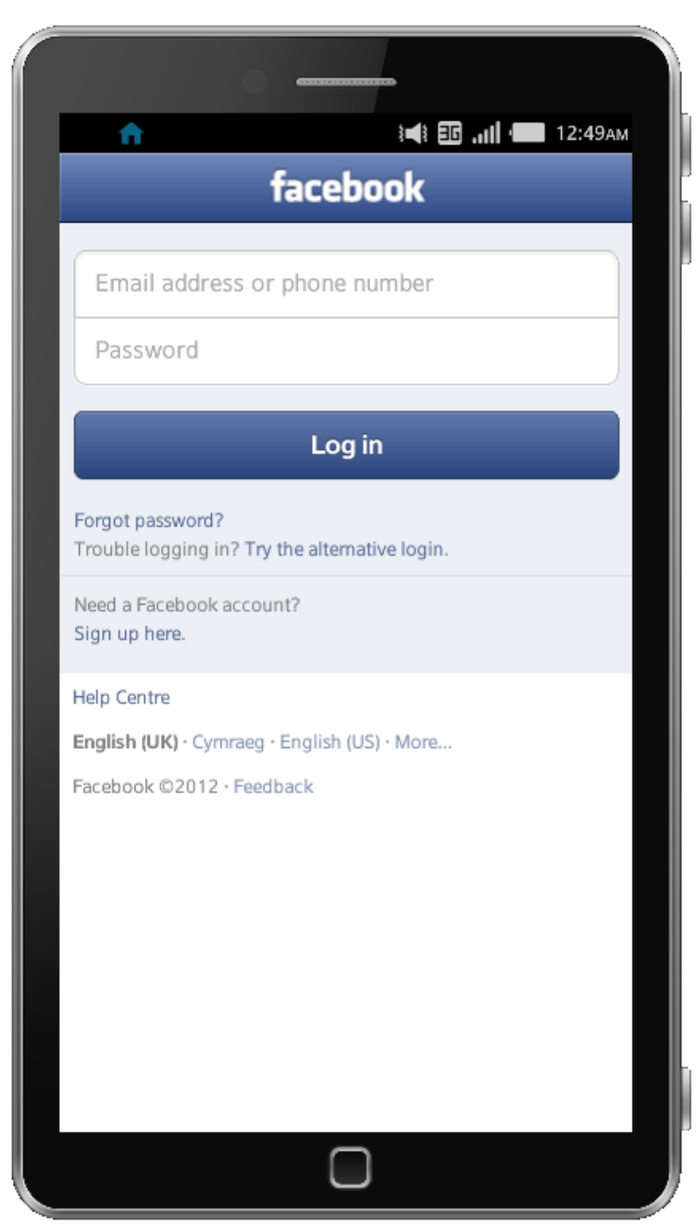
Web Apps

	Mobile site	Hosted app	Packaged app
UI	web page	generic UI	generic/native
Store	search engine	app stores	app stores
Pros	no need to install low memory footprint	only add a manifest file low maintenance/memory footprint	offline launching access to device s APIs
Cons	security risk limited features	require a server	maintenance

Mobile Web

```
<?xml version="1.0" encoding="UTF-8"?>

<widget xmlns="http://www.w3.org/ns/widgets"
xmlns:tizen="http://tizen.org/ns/widgets" version="2.0 Beta"
viewmodes="fullscreen" id="http://yourdomain/FacebookApp">
<icon src="icon.png"/>
<content src="http://m.facebook.com"/>
<name>FacebookApp</name>
<access origin = "*"/>
</widget>
```

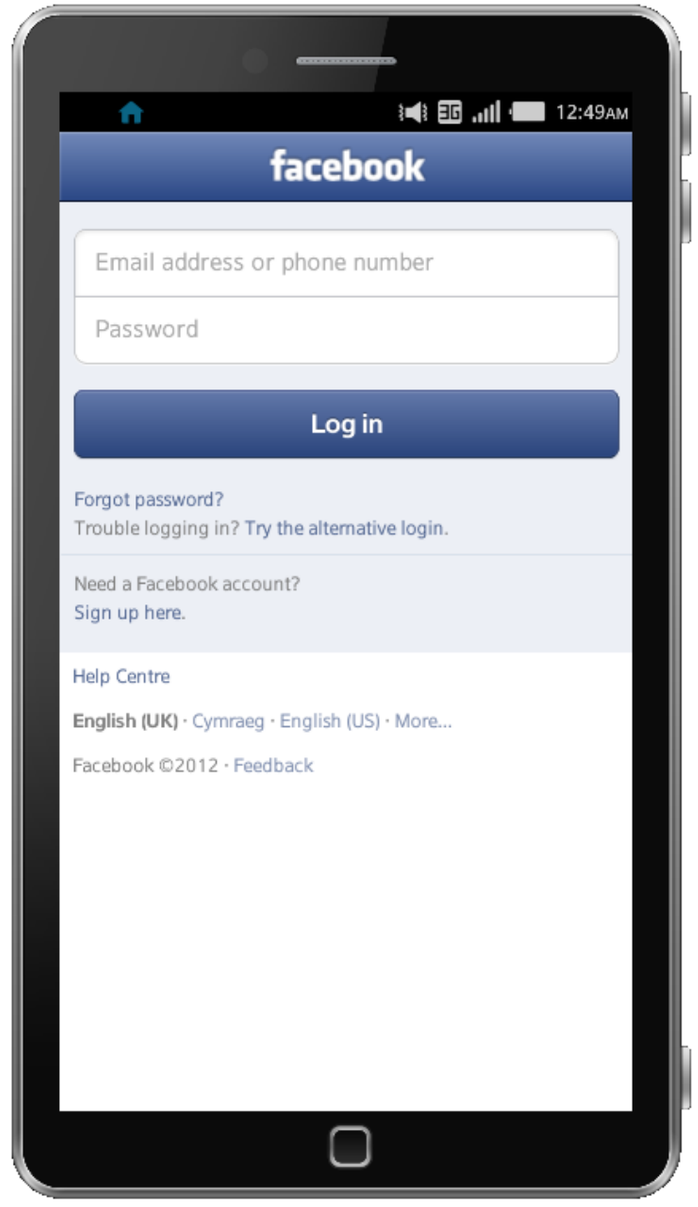


Mobile Web

EASY

```
<?xml version="1.0" encoding="UTF-8"?>

<widget xmlns="http://www.w3.org/ns/widgets"
xmlns:tizen="http://tizen.org/ns/widgets" version="2.0 Beta"
viewmodes="fullscreen" id="http://yourdomain/FacebookApp">
<icon src="icon.png"/>
<content src="http://m.facebook.com"/>
<name>FacebookApp</name>
<access origin = "*"/>
</widget>
```



Other Web Apps

	webOS	WebWorks	Tizen
Core	enyo.kind, enyo.Animator, enyo.Signals,	Core API	tizen, Application, SystemInfo, Notification, HTML5, CSS3
AJAX	enyo.Aync, xhr, json, cookie	jQuery.get, XMLHttpRquest	jQuery.get
Touch events	Touch, ScrollMath, ScrollStrategy, Scoller	jQuery touch events	jQuery touch events, Tizen events
UI	onyx	CSS	jQueryMobile, Tizen Web UI

Other Web Apps

CODE REWRITE

	webOS	WebWorks	Tizen
Core	enyo.kind, enyo.Animator, enyo.Signals,	Core API	tizen, Application, SystemInfo, Notification, HTML5, CSS3
AJAX	enyo.Aync, xhr, json, cookie	jQuery.get, XMLHttpRquest	jQuery.get
Touch events	Touch, ScrollMath, ScrollStrategy, Scoller	jQuery touch events	jQuery touch events, Tizen events
UI	onyx	CSS	jQueryMobile, Tizen Web UI

HTML5

Test	Symb 1	Symb 2	Symb 3	S40	iOS 2.2	iOS 3.1	iOS 4.2	And 1.0	And 1.6	And 2	And 3	Dolfin	BB 6	BB PB	Phantom	Palm 2.0	Palm 2.1	Bolt 1.5	Ozone 0.9	Obigo 10	WeTab
:first-child 111 points	static				static	yes		yes				yes				yes		yes			

Static
The browser doesn't correctly update the styles of the original element when another element is placed before it.

rows[] 110 points	incorrect				yes			yes				yes				yes		yes			

```
x.rows
```

A nodeList with all rows of table `x`.

Incorrect
The browser keeps to the source code order, where the `<tfoot>` is the second row.

+ selector 108 points	static				static	yes		static	yes			yes				yes		yes			

Static
The browser doesn't correctly update the styles of the original element when another element is placed before it.

getElementsByClassName() 102 points	no				yes			yes				yes				yes		yes			

```
document.getElementsByClassName('test')
document.getElementsByClassName('test test2')
```

The first expression returns a nodeList with all elements that have a `class` value that contains "test". The second one returns a nodeList will all elements that have a `class` value that contains both "test" and "test2" (in any order).

Test	Symb 1	Symb 2	Symb 3	S40	iOS 2.2	iOS 3.1	iOS 4.2	And 1.0	And 1.6	And 2	And 3	Dolfin	BB 6	BB PB	Phantom	Palm 2.0	Palm 2.1	Bolt 1.5	Ozone 0.9	Obigo 10	WeTab
querySelectorAll() 102 points **weight 2**	no				yes			yes				yes				yes		yes			

```
document.querySelectorAll('.testClass')
document.querySelectorAll('.testClass + p')
```

Returns a nodeList with all elements that have a `class` value that contains "testClass"; or a nodeList with all paragraphs directly following such an element.

Essentially, this method allows you to use CSS syntax to retrieve elements.

:nth-of-type()	no				yes			yes				yes				yes		yes			

HTML5

GOOD LUCK

Test	Symb 1	Symb 2	Symb 3	S40	iOS 2.2	iOS 3.1	iOS 4.2	And 1	And 1.6	And 2	And 3	Dolfin	BB 6	BB PB	Phantom	Palm 2.0	Palm 2.1	Bolt 1.5	Ozone 0.9	Obigo 10	WeTab
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rows[] 110 points	incorrect				yes			yes			yes		yes			yes		yes			

```
x.rows
```

A nodeList with all rows of table x.

Incorrect
The browser keeps to the source code order, where the `<tfoot>` is the second row.

+ selector 108 points	static				static	yes		static	yes		yes		yes			yes		yes			

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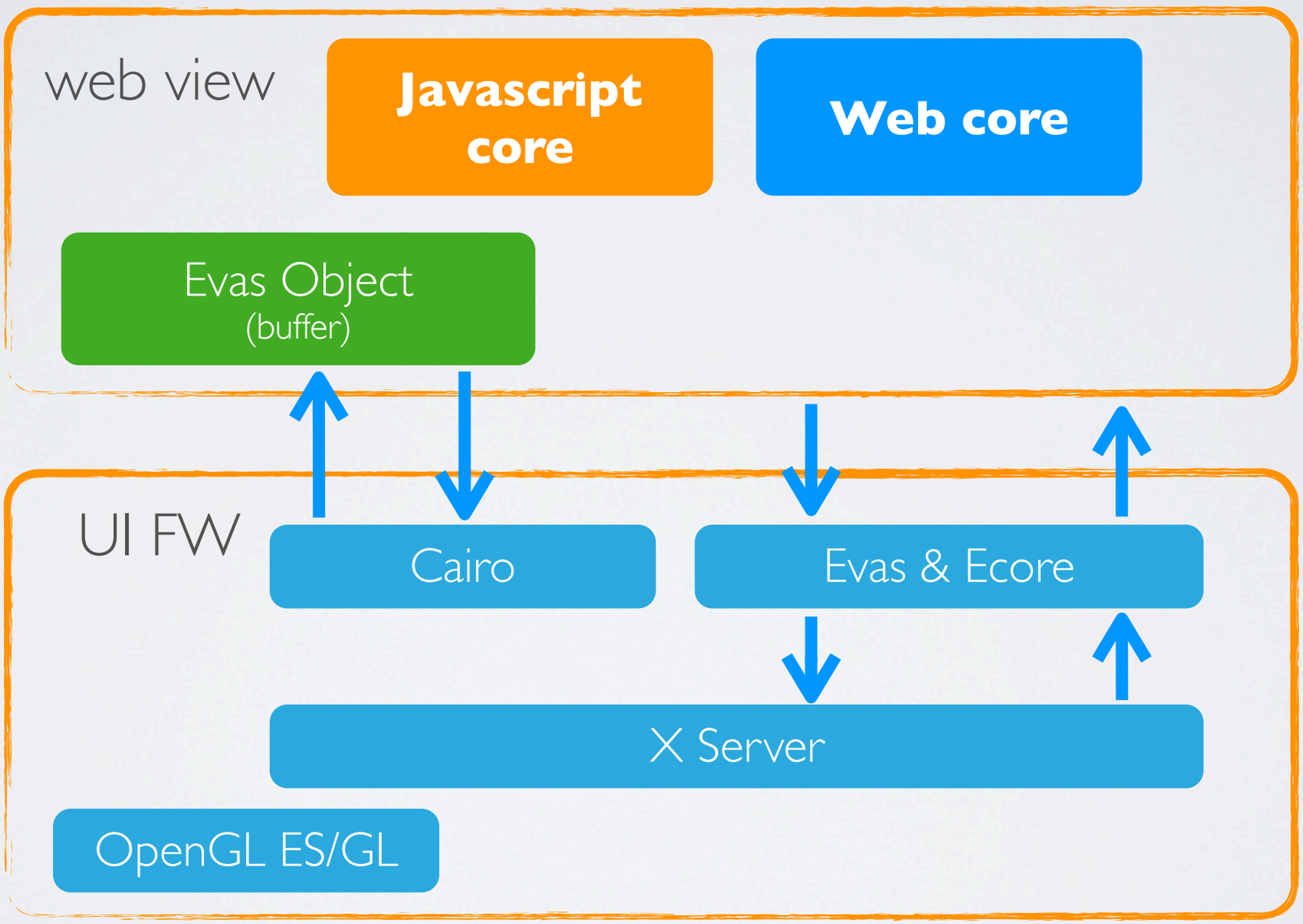
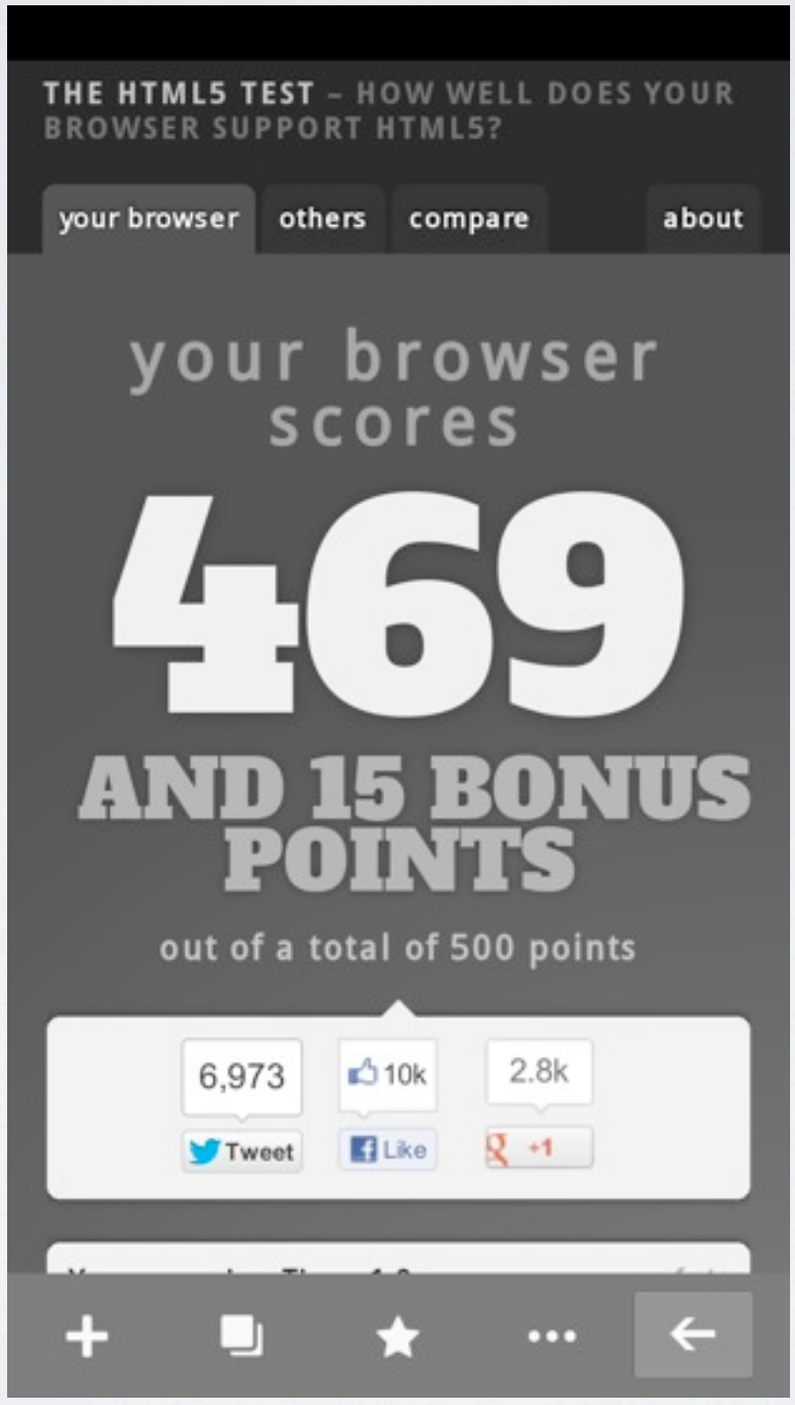
:nth-of-type()	no				yes			yes			yes		yes			yes		yes			

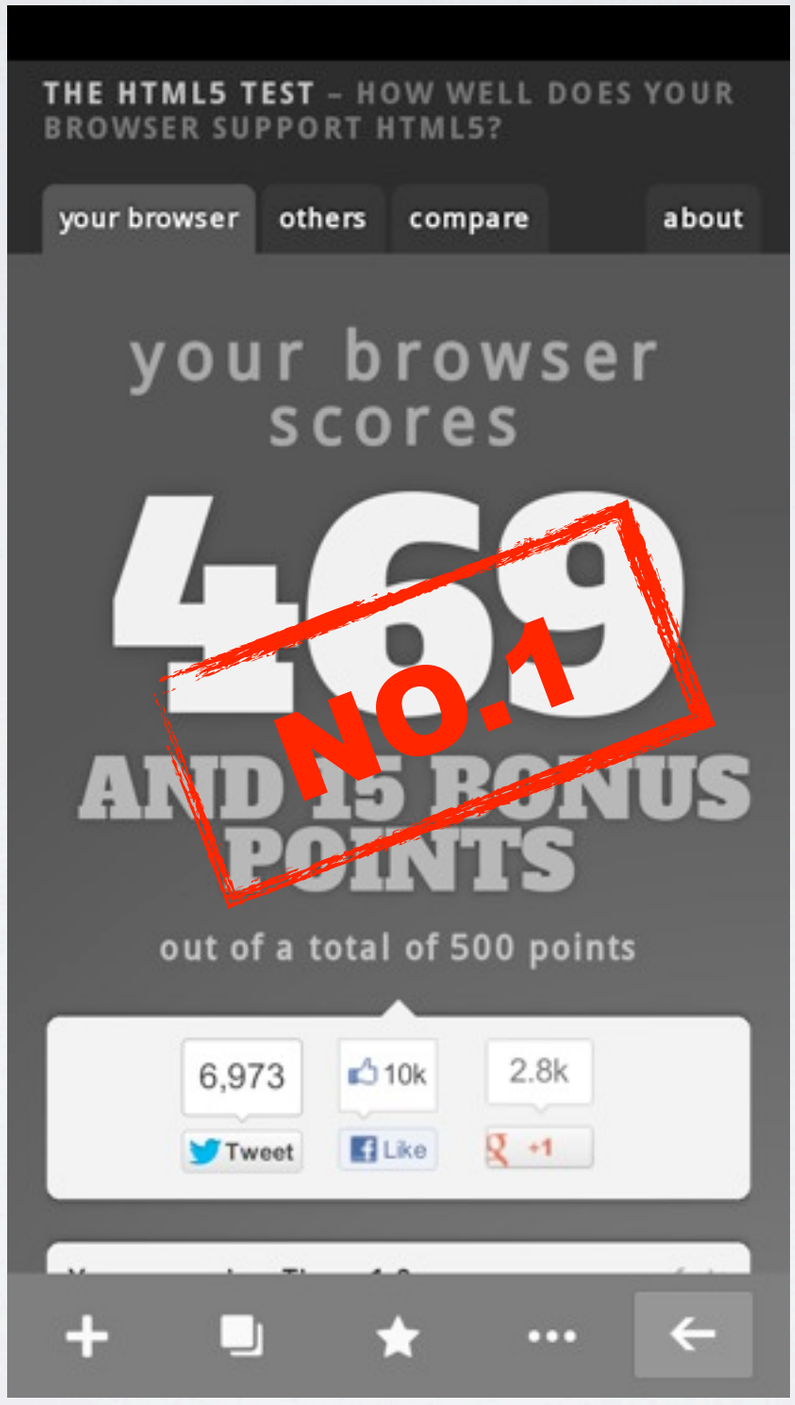
Webkit-efl Rendering Flow



HTML5 compatibility test



HTML5 compatibility test



Tizen Device API

Tizen Device API

Alarm

System Info

LBS

Bluetooth

Filesystem

Media Content

Application

Call

NFC

Geocoder

Calendar

Messaging

Contact

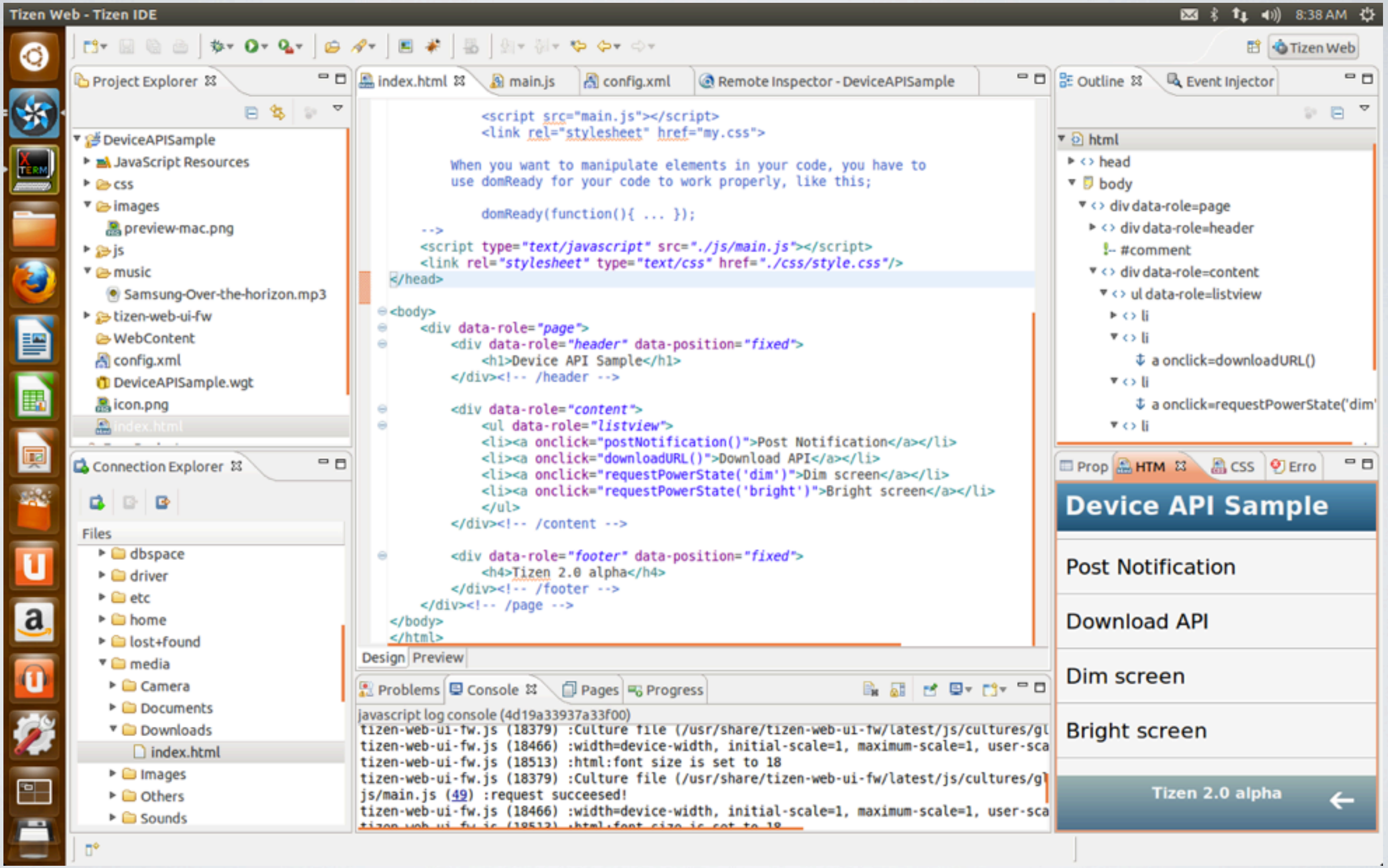
Power

Download

Time

Notification

Demo

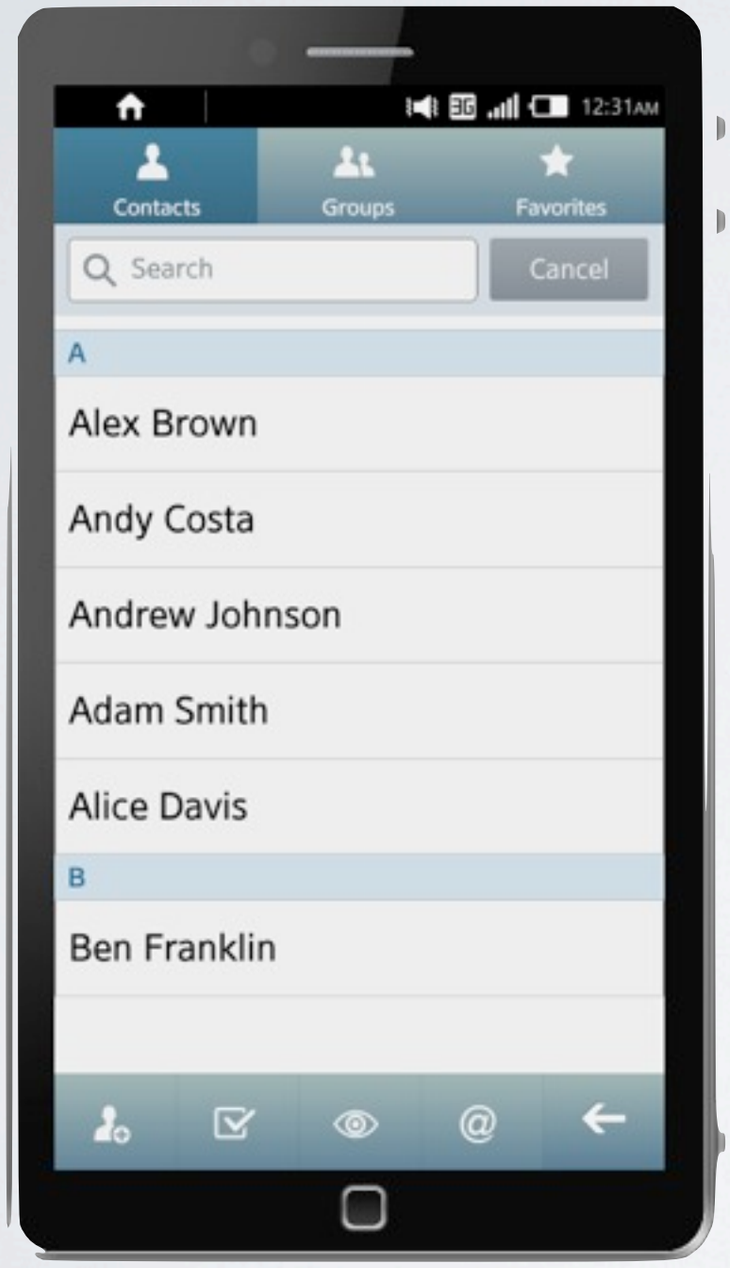

Tizen Web - Tizen IDE
8:38 AM
Tizen Web
Project Explorer
DeviceAPISample
JavaScript Resources
css
images
preview-mac.png
js
music
Samsung-Over-the-horizon.mp3
tizen-web-ui-fw
WebContent
config.xml
DeviceAPISample.wgt
icon.png
index.html
Connection Explorer
Files
dbspace
driver
etc
home
lost+found
media
Camera
Documents
Downloads
index.html
Images
Others
Sounds
index.html
main.js
config.xml
Remote Inspector - DeviceAPISample
<script src="main.js"></script>
<link rel="stylesheet" href="my.css">
When you want to manipulate elements in your code, you have to
use domReady for your code to work properly, like this;
domReady(function(){ ... });
-->
<script type="text/javascript" src="./js/main.js"></script>
<link rel="stylesheet" type="text/css" href="./css/style.css"/>
</head>
<body>
<div data-role="page">
<div data-role="header" data-position="fixed">
<h1>Device API Sample</h1>
</div><!-- /header -->
<div data-role="content">
<ul data-role="listview">
Post Notification
Download API
Dim screen
Bright screen

</div><!-- /content -->
<div data-role="footer" data-position="fixed">
<h4>Tizen 2.0 alpha</h4>
</div><!-- /footer -->
</div><!-- /page -->
</body>
</html>
Design
Preview
Problems
Console
Pages
Progress
javascript log console (4d19a33937a33f00)
tizen-web-ui-fw.js (18379) :Culture file (/usr/share/tizen-web-ui-fw/latest/js/cultures/gl
tizen-web-ui-fw.js (18466) :width=device-width, initial-scale=1, maximum-scale=1, user-sca
tizen-web-ui-fw.js (18513) :html:font size is set to 18
tizen-web-ui-fw.js (18379) :Culture file (/usr/share/tizen-web-ui-fw/latest/js/cultures/gl
js/main.js (49) :request succeesed!
tizen-web-ui-fw.js (18466) :width=device-width, initial-scale=1, maximum-scale=1, user-sca
Outline
Event Injector
html
head
body
div data-role=page
div data-role=header
#comment
div data-role=content
ul data-role=listview
li
li
a onclick=downloadURL()
li
a onclick=requestPowerState('dim'
li
Prop
HTM
CSS
Erro
Device API Sample
Post Notification
Download API
Dim screen
Bright screen
Tizen 2.0 alpha

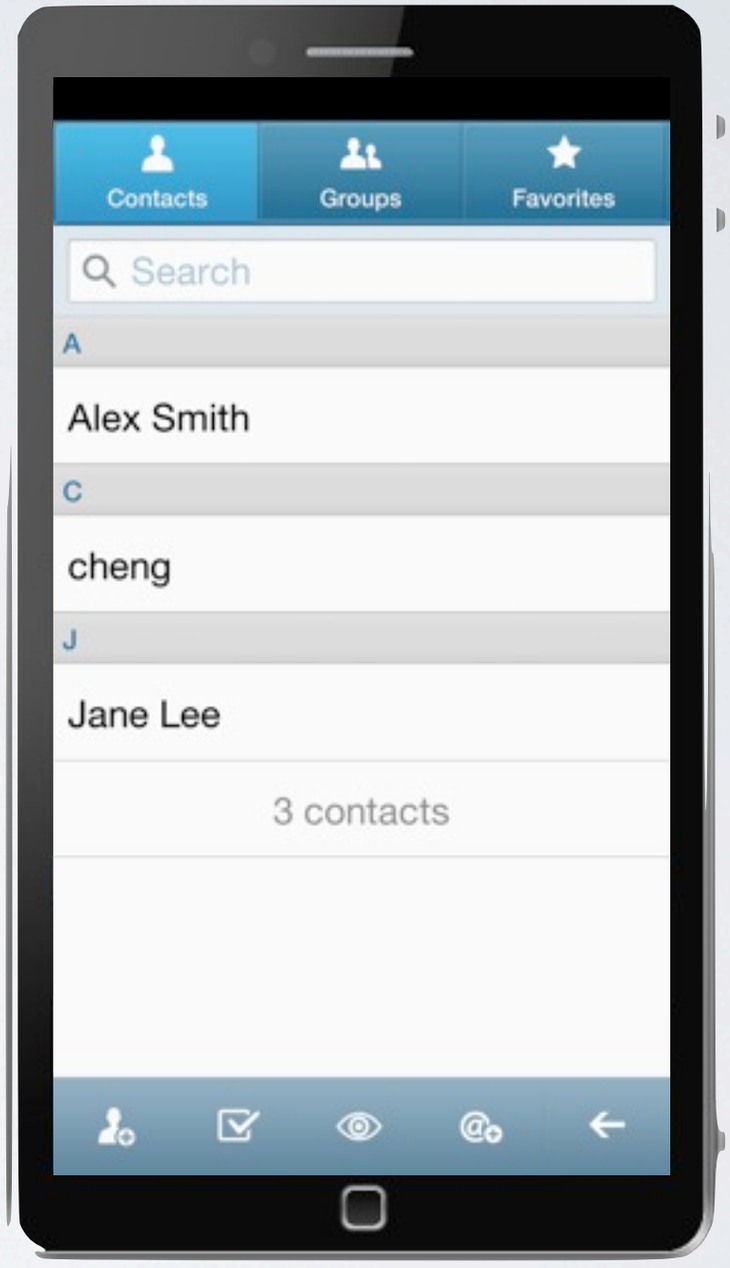
Build your UI

- Tizen web UI framework
- jQuery Mobile
- CSS3 animation

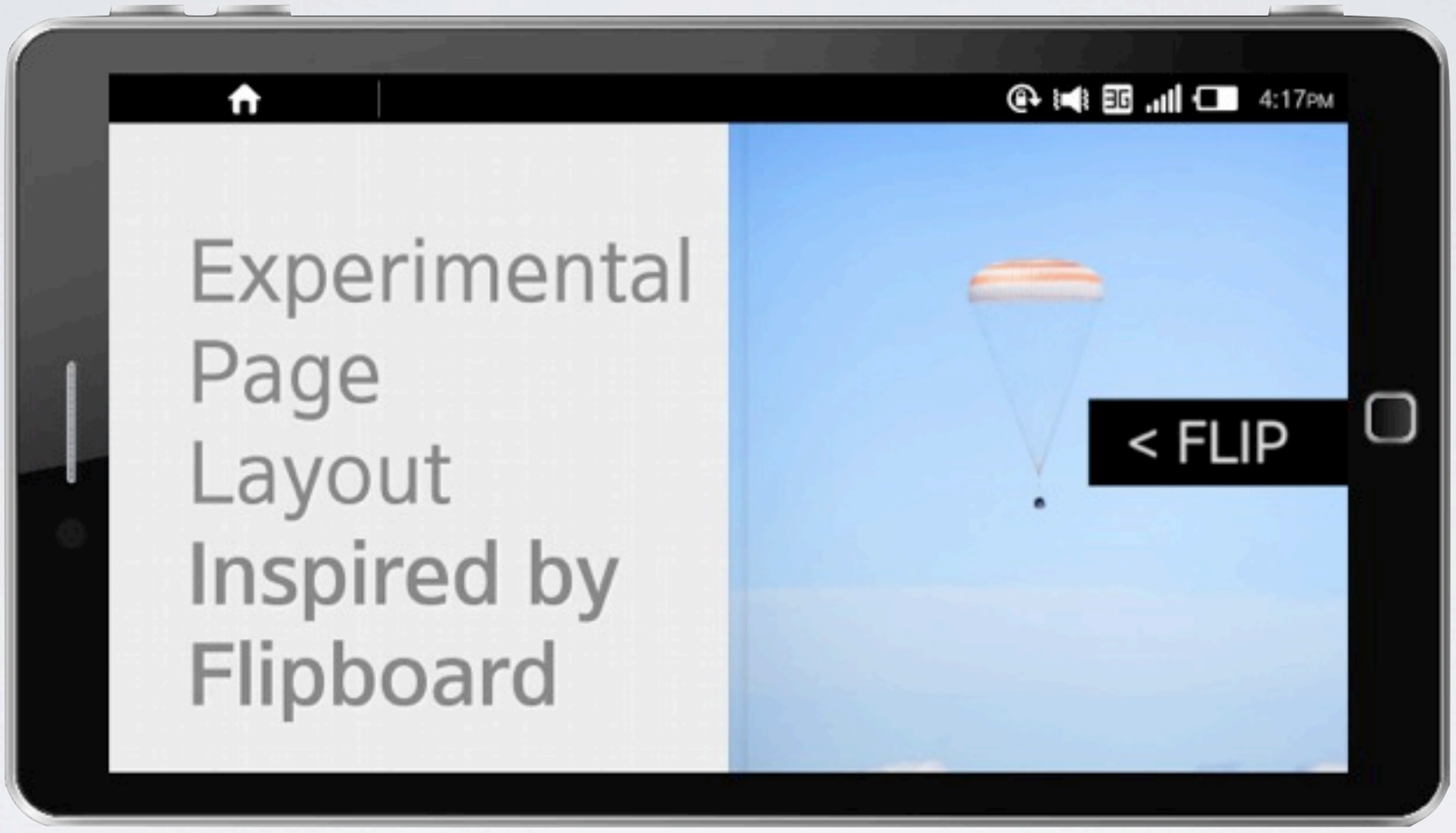
Tizen Web UI vs Native



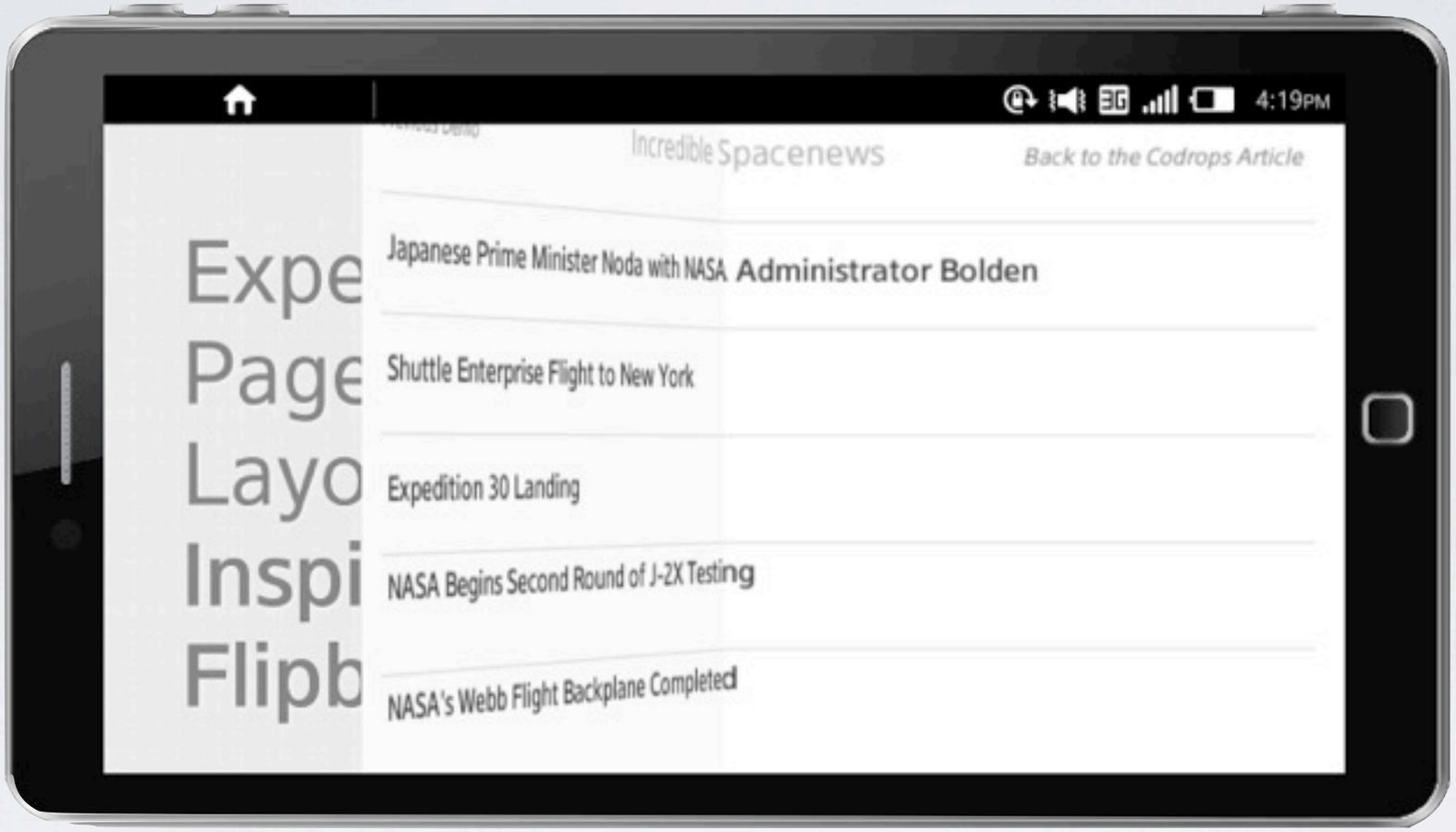
VS.



CSS3 animation - Flipboard

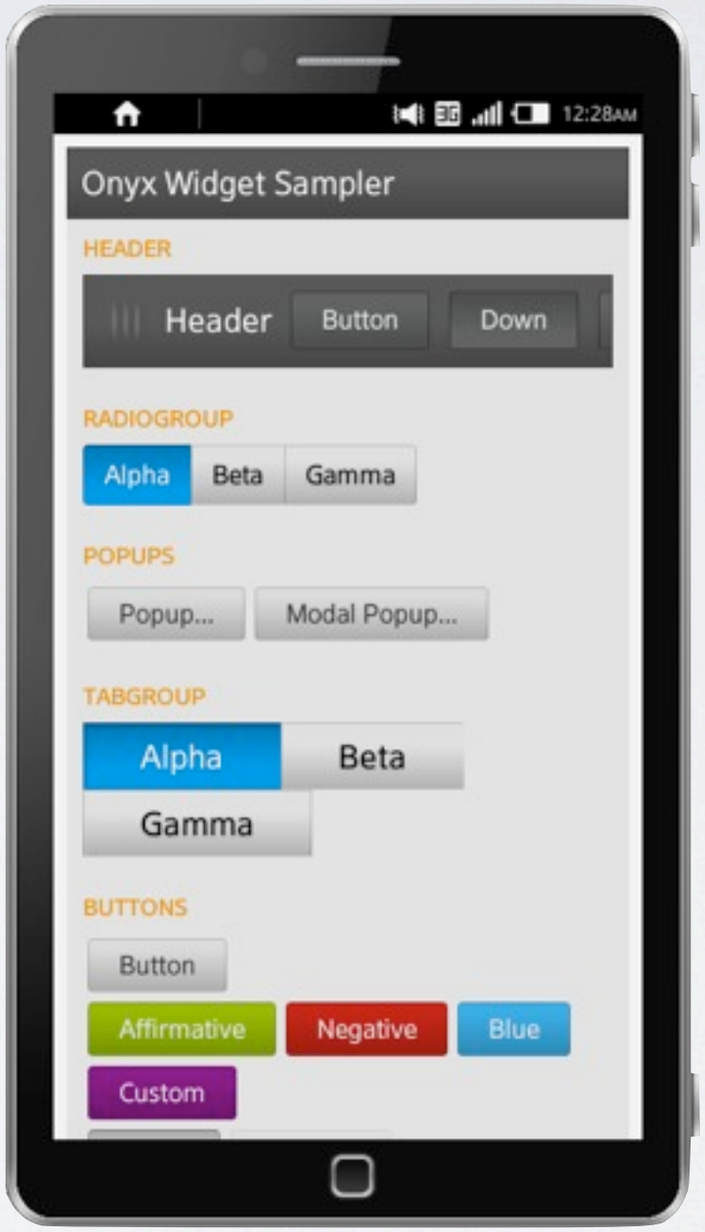


CSS3 animation - Flipboard



Porting web apps

Case study: webOS Onyx



Demo

Tizen Web - EnyoProject/index.html - Tizen IDE

11:18 PM

Tizen Web

Project Explorer

- EnyoProject
  - JavaScript Resources
  - css
  - images
  - js
    - main.js
    - package.js
  - WebContent
  - config.xml
  - EnyoProject.wgt
  - icon.png
  - index.html
- UISample

main.js | index.html | package.js | config.xml

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0, maximum-scale=1.0">
    <meta name="description" content="Tizen basic template generated by Tizen Web IDE"/>

    <title>Tizen Web IDE - Tizen - Tizen basic Application</title>

    <link rel="stylesheet" href="http://enyojs.com/enyo-2.1/enyo.css">
    <script src="http://enyojs.com/enyo-2.1/enyo.js"></script>
    <script src="js/package.js"></script>
    <script src="js/main.js"></script>
</head>

<body>
    <script>
        new App({classes: "enyo-unselectable"}).write();
    </script>
</body>
</html>
```

Design | Preview

Outline | Event Injector

- DOCTYPE:html
- html
  - head
    - meta charset=utf-8
    - meta name=viewport
    - meta name=description
    - title
    - link rel=stylesheet
    - script src=http://enyojs.com/enyo-
    - script src=js/package.js
    - script src=js/main.js
  - body
    - script

Prop | HTML | CSS P

Connection Explore

Files

- 4d19a33937a33f00 (device-1)

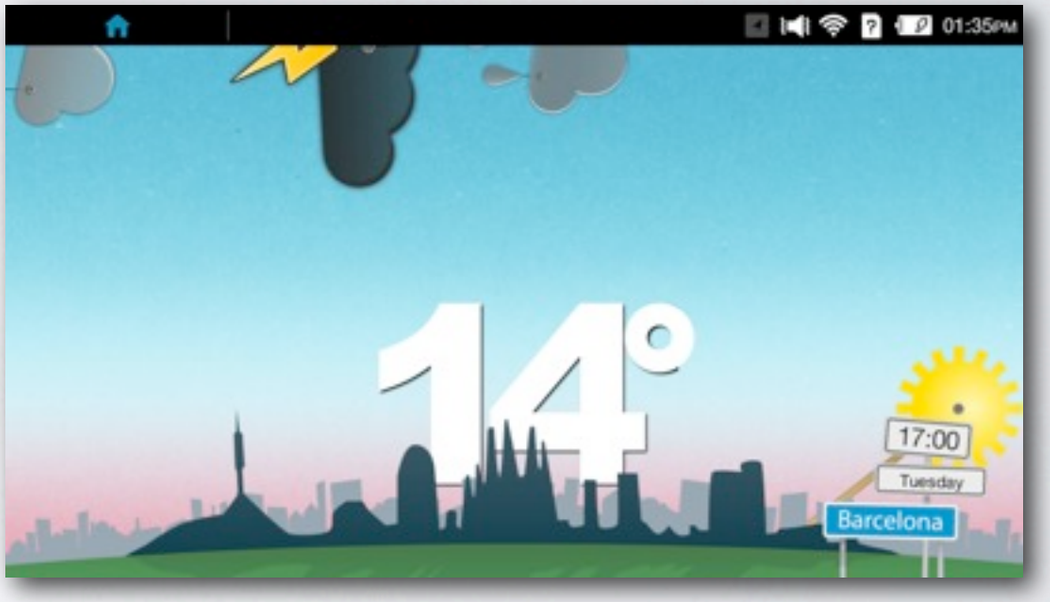
Problems | Console | Pages | Progress

javascript log console (4d19a33937a33f00)

main.js - EnyoProject/js

Case Study: BlackBerry Aura

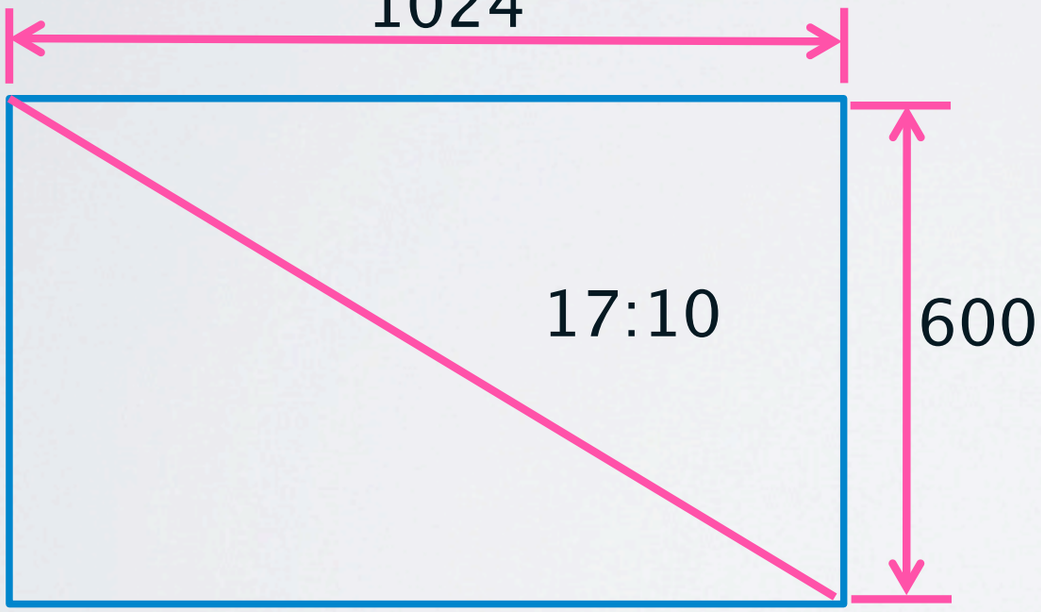
Portrait



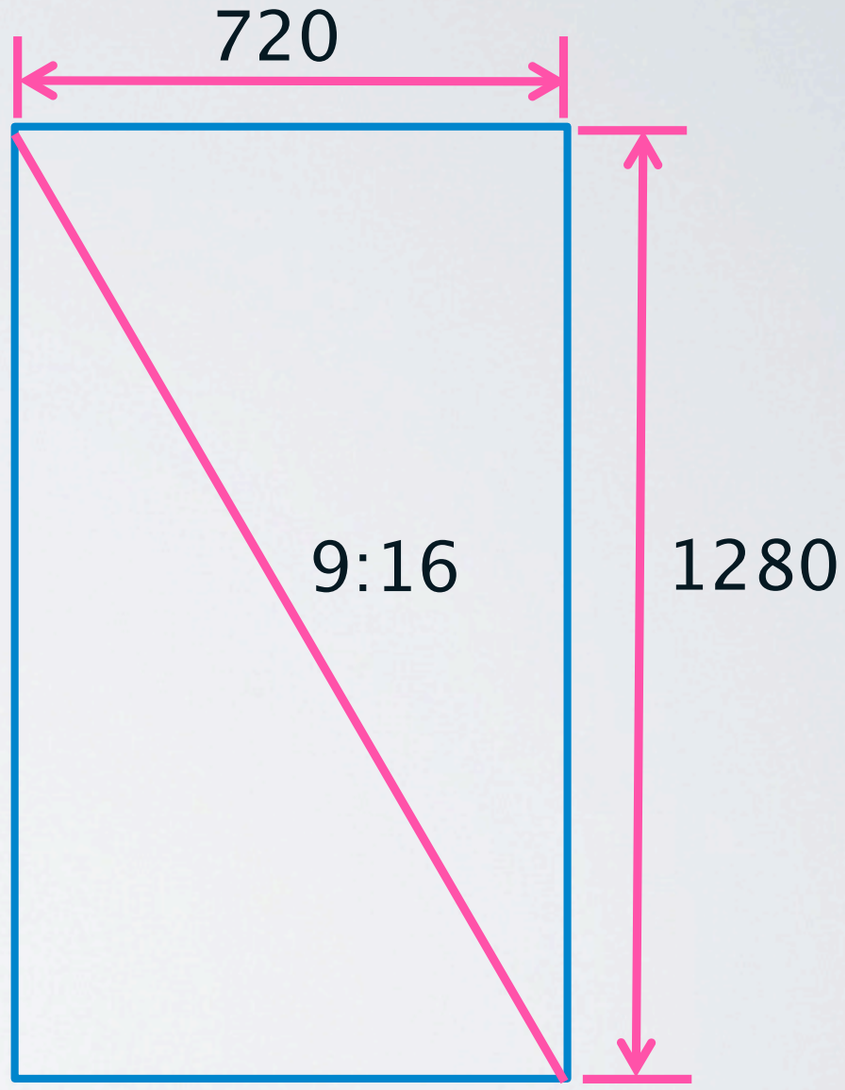
Landscape

After porting

Screen Resolution



Playbook

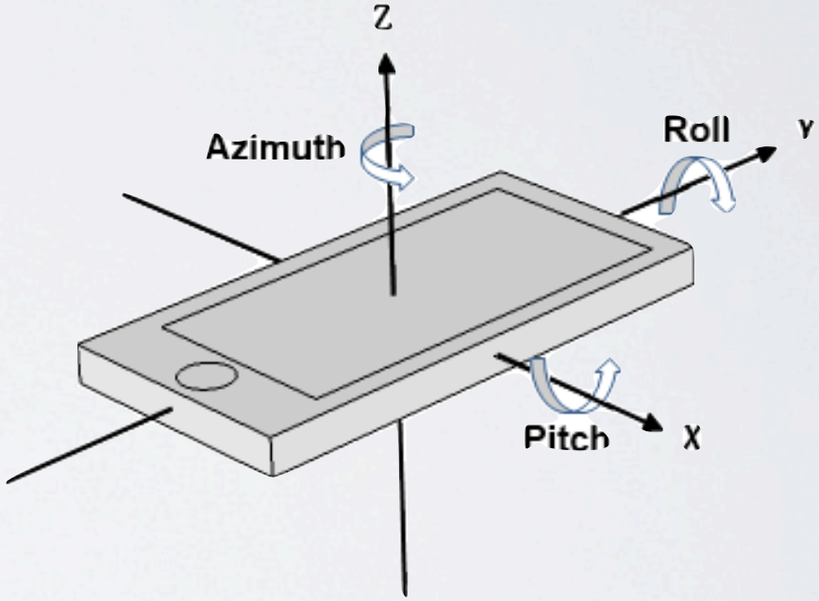


Tizen HD

Device API

```
var acc = new Vector(0,0);
acc.x = event.accelerationIncludingGravity.x;
acc.y = event.accelerationIncludingGravity.y;
var accAngle = Math.atan2(-acc.x, acc.y); //angle between the rope and x axis
```

Playbook



Tizen HD

The last mile - Packaging

thank you

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c.luo@samsung.com