

INSTALLABLE WEB APPS

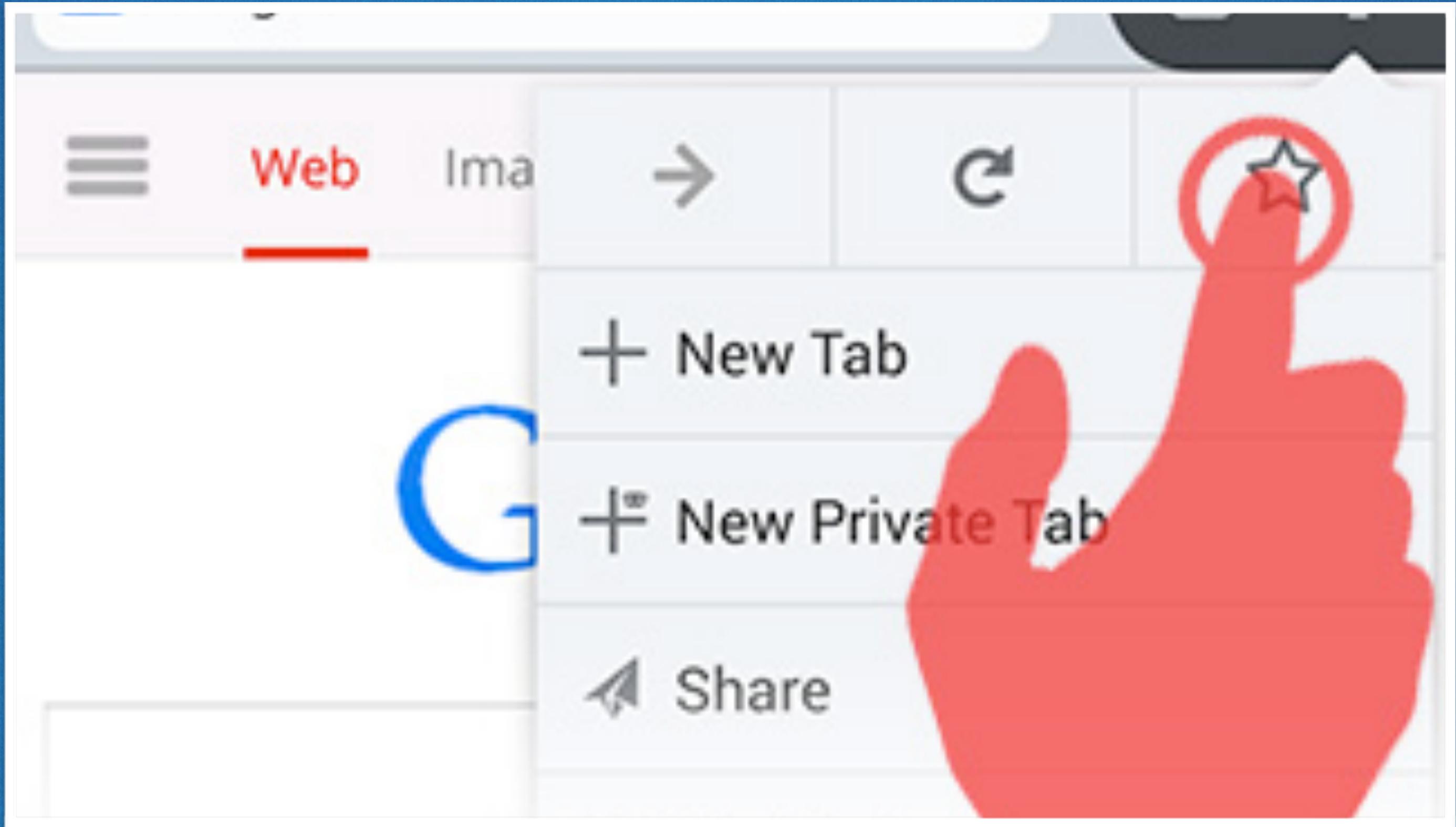


Alex Lakatos, Over The Air, September 2015

WHY INSTALLABLE WEB APPS?



BRIDGE THE GAP

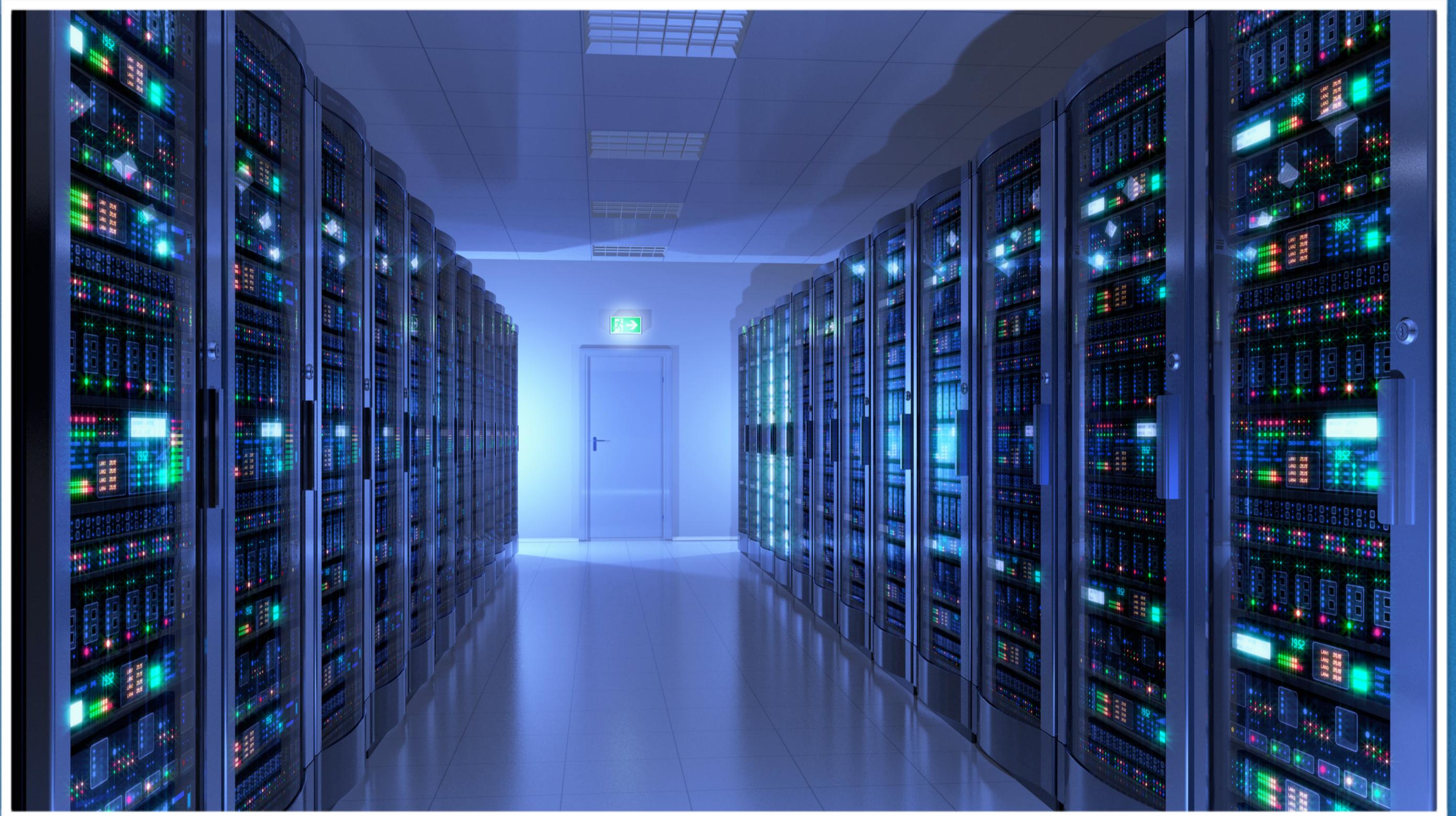


BOOKMARKING != INSTALLING

IS THERE ANY ADVANTAGE?

Guns Don't Kill People.
Lag Kills People.

NO UPDATE DISTRIBUTION LAG



NO UPDATE DISTRIBUTION LAG

May 2015

Mobile App Marketing Insights:

How Consumers Really Find and Use Your Apps

LESS STORAGE SPACE



LESS STORAGE SPACE



IS IT A BIRD? IS IT A PLANE?
IT'S... SUPERBREAK

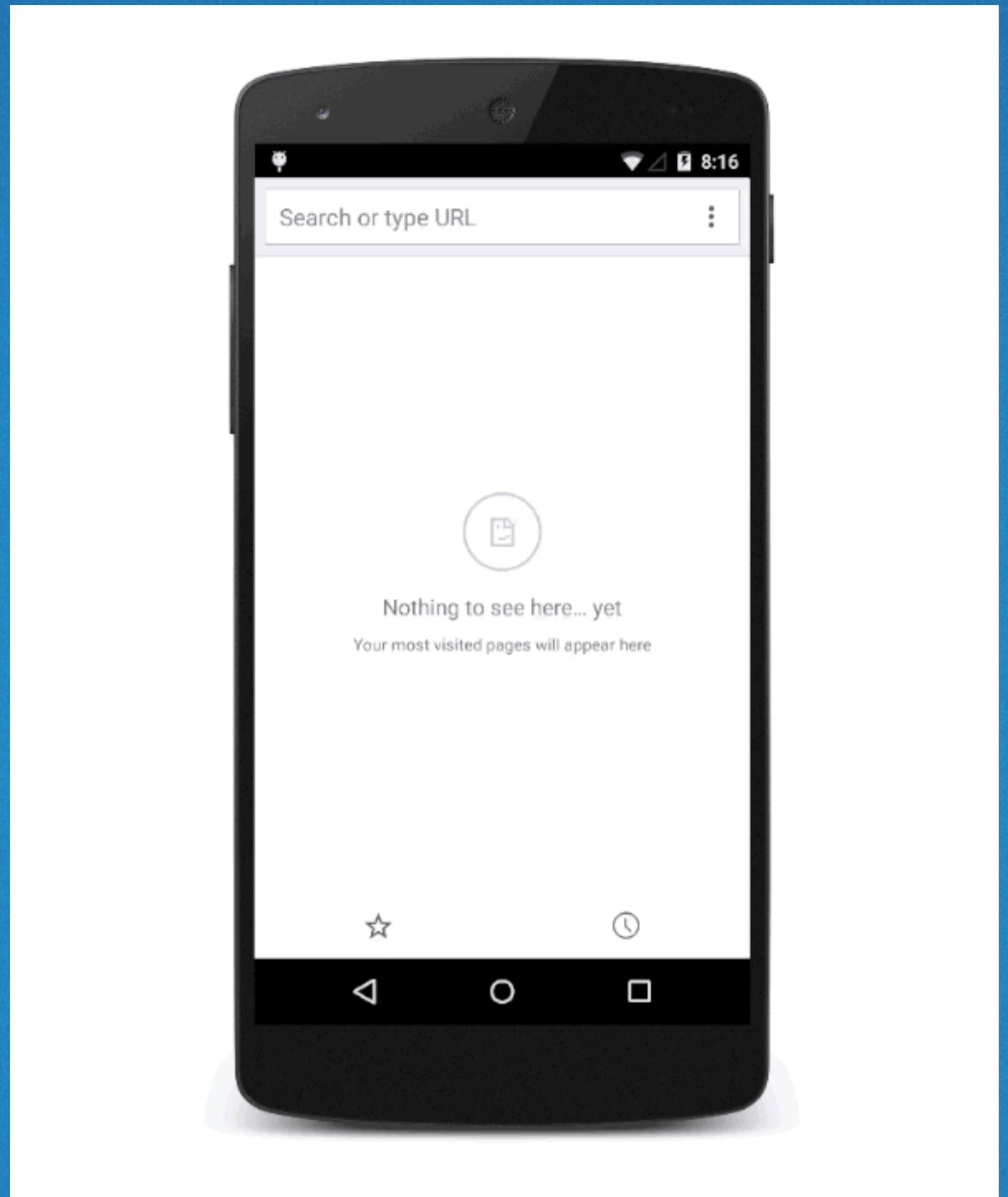
LESS STORAGE SPACE



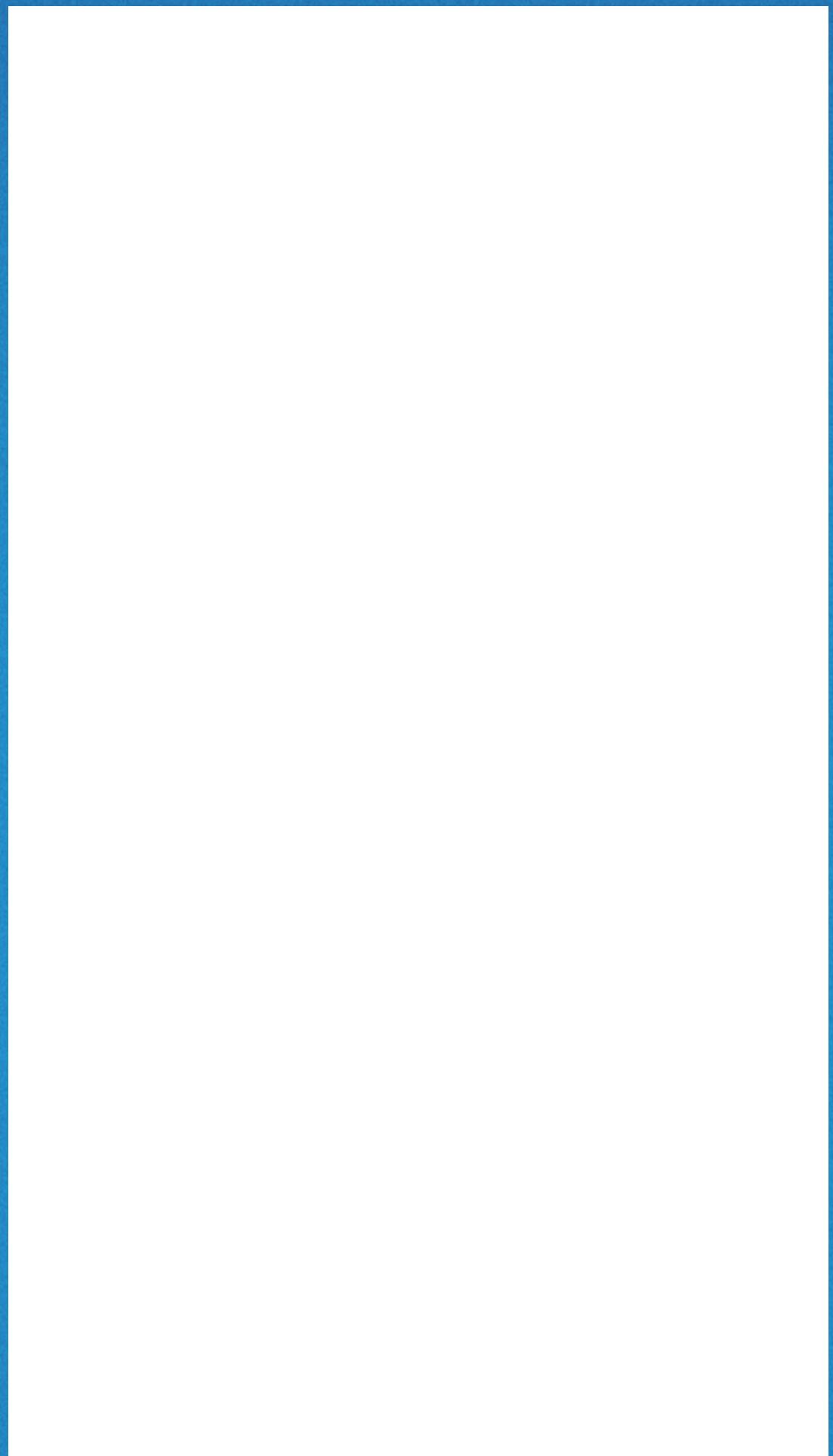
ICON + MANIFEST + META

FORM FACTORS

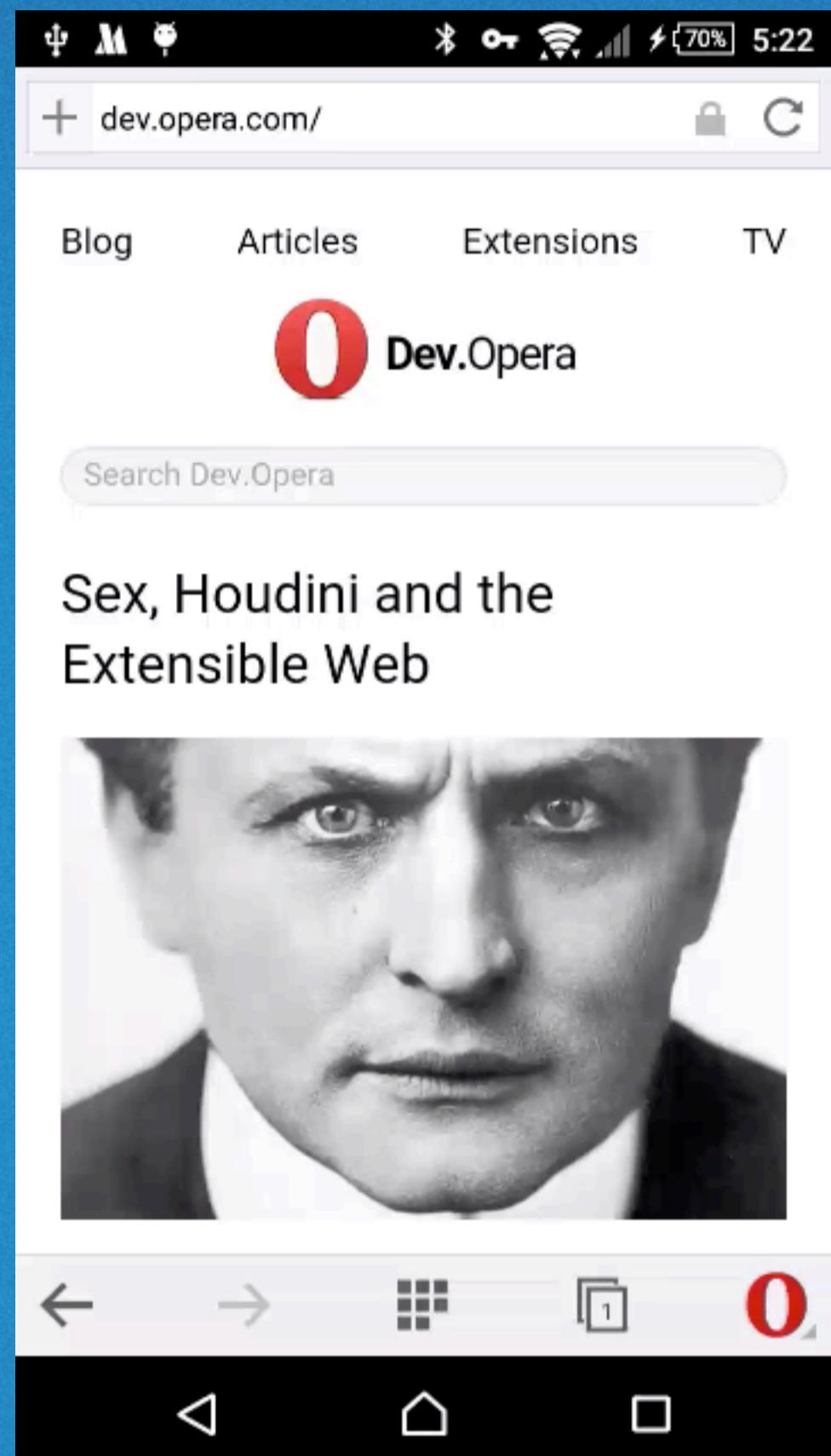
- Responsive
- Connectivity independent
- App-like-interactions
- Fresh
- Safe
- Discoverable
- Re-engageable
- Installable
- Linkable



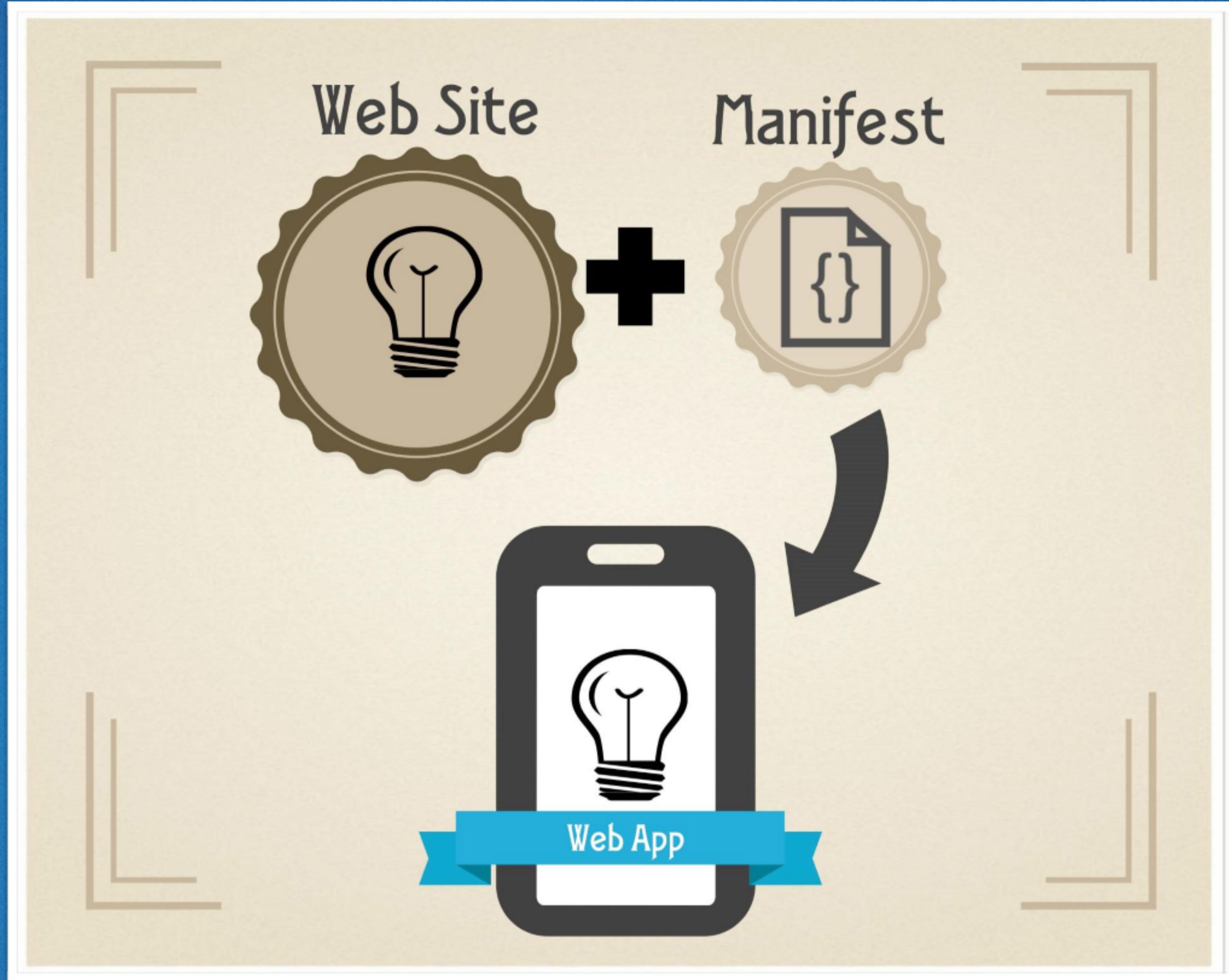
ACTION! - CHROME



ACTION! - SAFARI



ACTION! - OPERA



ICON > MANIFEST < META

```
1  {
2      "name": "My App",
3      "description": "My elevator pitch goes here",
4      "launch_path": "/index.html",
5      "icons": {
6          "512": "/img/icon-512.png",
7          "128": "/img/icon-128.png"
8      },
9      "developer": {
10         "name": "Your name or organization",
11         "url": "http://your-homepage-here.org"
12     },
13     "default_locale": "en"
14 }
```

MANIFEST

MANDATORY

- *name*
- *description*
- *icons*

```
1  {
2    "name": "My App",
3    "description": "My
4    "launch_path": "/i
5    "icons": {
6      "512": "/img/ico
7      "128": "/img/ico
8    },
9    "developer": {
10      "name": "Your na
11      "url": "http://y
12    },
13    "default_locale": "
14 }
```

```
"icons": {  
    "128": "/img/icon-1.png",  
    "512": "/img/icon-2.jpg"  
}
```

ICONS - FIREFOX

```
{  
  "icons": [  
    {  
      "src": "icon/lowres",  
      "sizes": "64x64",  
      "type": "image/webp"  
    },  
    {  
      "src": "icon/hd_small",  
      "sizes": "64x64"  
    },  
    {  
      "src": "icon/hd_hi",  
      "sizes": "128x128",  
      "density": 2  
    }  
  ]  
}
```

ICONS
-
OPERA

DISPLAY MODES

- `fullscreen` – the app will take all the screen; hardware keys and the status bar will not be shown.
Note, this is not the same as HTML5 `fullscreen` mode.
- `standalone` – no browser UI is shown, but the hardware keys and status bar will be displayed.
- `browser` – the app will be shown with normal browser UI, ie. as a normal website. Note that custom orientations are not yet supported in this mode.

The `minimal-ui` mode is not supported; it falls back to `browser` as the spec requires.

```
1 "fullscreen": "true"
```

```
1 "chrome": { "navigation": true }
```

SERVING IT

- same origin policy
- Content-Type:
 - application/x-web-app-manifest+json;
- SSL
- UTF-8

```
1 AddType application/x-web-app-manifest+json .webapp
```

```
<?php  
// Serving the manifest file 'manifest.webapp' with the appropriate h  
header('Content-type: application/x-web-app-manifest+json');  
readfile('manifest.webapp');  
?>
```

```
1 <mime-mapping>  
2   <extension>webapp</extension>  
3   <mime-type>application/x-web-app-manifest+json</mime-type>  
4 </mime-mapping>
```

SERVING IT

Going Mobile

A photograph showing five young women standing in a row, each looking down at a mobile phone. They are outdoors, possibly at a beach or poolside, as suggested by the bright sunlight and casual summer clothing. The woman in the foreground is wearing a light green tank top and denim shorts, holding a white phone. The woman next to her is wearing a striped shirt and holding a pink phone. The third woman from the left is wearing a grey top and white shorts, holding a purple phone. The fourth woman is partially visible, wearing a red top and denim shorts, holding a black phone. The woman on the far right has purple hair and is also looking at her phone. The background is blurred, showing more people and what might be a lifeguard stand.

Building for Mobile



NO SDK?



Firefox WebIDE: Readability

Readable

Readability

css/ connect.css index.css share.css icons/ 128.png 256.png js/ connect.js index.js oauth.js

```
1 body {  
2   background-color: #990000;  
3   color: #FDFDFD;  
4   text-align: center;  
5   font-family: "Sentinel SSm A";  
6 }  
7  
8 h1 {  
9   margin: 60px 0 100px;  
10 }  
11  
12 h1 > * {  
13   display: block;  
14 }  
15  
16 h1 > small {  
17   font-size: 2rem;  
18   font-weight: normal;  
19 }
```

Inspector Console Debugger Style Editor Profiler Network Scratchpad

html > body > button#loginButton

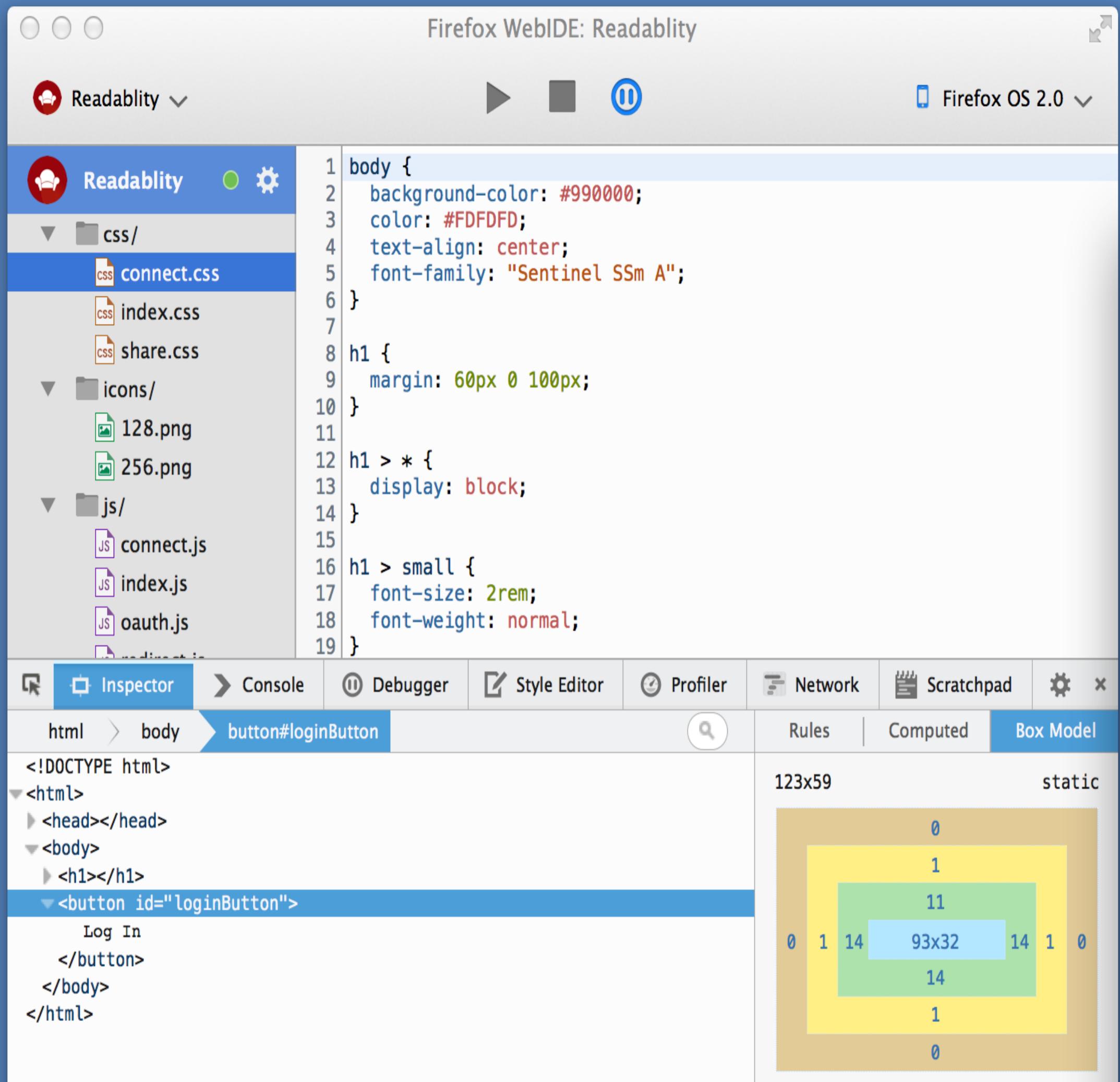
```
<!DOCTYPE html>  
<html>  
  <head></head>  
  <body>  
    <h1></h1>  
    <button id="loginButton">  
      Log In  
    </button>  
  </body>  
</html>
```

Rules Computed Box Model

123x59 static

0 1 14 93x32 14 1 0

11 14 1







Store

Mac

iPod

iPhone

iPad

iTunes

Support

Search





HOME

NEW

POPULAR

CATEGORIES ▾

Halloween Games

Zombies everywhere.

Children's Apps

Games, education, creative expression, and more—these apps are ideal for kids.

Getting Around

NearMap

zMaps

MapLink

The Guardian
The Guardian
★★★★★

Free

Get Creative

PhotoFunia
Free

Paint
Free

Guitar-Effects
Free

Great Games

Hextris
Free

Monkeyfast
Free

White Tilez
Free

Nappa adve...
Free

Quadz
Free

Box It
Free

[View all apps](#)

Dailymotion
Dailymotion
★★★★★

Free



● Current



Firefox OS

Some Facts

- 18 smartphones
- 16 operators
- 32 countries
- TV



India

- Intex Cloud FX
 - 2 MP Rear camera
 - Spd 6821 1.0GHz
 - RAM-128MB
 - ROM-256MB
 - Display—3.5" HVGA
 - Dual SIM
 - 1250mAh (Li-ion)
 - Bluetooth/Wi-Fi
- Price?



India

- Intex Cloud FX
 - 2 MP Rear camera
 - Spd 6821 1.0GHz
 - RAM-128MB
 - ROM-256MB
 - Display—3.5" HVGA
 - Dual SIM
 - 1250mAh (Li-ion)
 - Bluetooth/Wi-Fi
- Price 20£



HOW FIREFOX OS CONNECTS HTML5 TO HARDWARE



29 March 2012

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Booting to the Web

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Mozilla believes that the web can displace proprietary, single-vendor stacks for application development. To make open web technologies a better basis for future applications on mobile and desktop alike, we need to keep pushing the envelope of the web to include --- and in places exceed --- the capabilities of the competing stacks in question.

We also need a hill to take, in order to scope and focus our efforts. Recently we saw the [pdf.js](#) project expose small gaps that needed filling in order for "HTML5" to be a superset of PDF. We want to take a bigger step now, and find the gaps that keep web developers from being able to build apps that are --- in every way --- the equals of native apps built for the iPhone, Android, and WP7.

To that end, we started a project we're calling Firefox OS, formerly [Boot to Gecko](#) (B2G), to pursue the goal of building a complete, standalone operating system for the open web. It requires work in a number of areas.

- **New web APIs:** build prototype APIs for exposing device and OS capabilities to content (Telephony, SMS, Camera, USB, Bluetooth, NFC, etc.)
- **Privilege model:** making sure that these new capabilities are safely exposed to pages and applications
- **Booting:** prototype a low-level substrate for mobile devices (phones and tablets)
- **Applications:** choose and port or build apps to prove out and prioritize the power of the system.

We will do this work in the open, we will release the [source](#) in real-time, we will take all successful additions to an appropriate standards group, and we will track changes that come out of that process. We aren't trying to have these native-grade apps just run on Firefox, we're trying to have them run on the web.

This page was last modified on 21 July 2012, at 14:12.

This page has been accessed 22,790 times.

[Privacy policy](#) [About MozillaWiki](#)



https://wiki.mozilla.org/Booting_to_the_Web

**HELP
WANTED**

Apps, Apps, Apps!

```
1  {
2      "name": "My App",
3      "description": "My elevator pitch goes here",
4      "launch_path": "/index.html",
5      "icons": {
6          "512": "/img/icon-512.png",
7          "128": "/img/icon-128.png"
8      },
9      "developer": {
10         "name": "Your name or organization",
11         "url": "http://your-homepage-here.org"
12     },
13     "default_locale": "en"
14 }
```

<https://developer.mozilla.org/en-US/Apps/Build/Manifest>

Web APIs

API	Description	Standardization	Availability	See also
WebTelephony	Allow placing and answering phone calls as well as build in-call UI.	W3C ED (SysApps)	D A B	bug 674726, Security
Vibration API	Control device vibration for things like haptic feedback in games. Not intended to solve things like vibration for notification.	W3C CR (Device APIs)	D A B	bug 679966, Security
WebSMS	Send/receive SMS messages as well as manage messages stored on device.	W3C ED (SysApps)	D A B	bug 674725, Security
Idle API	Get notifications when user is idle.	Needs plan	D A B	bug 715041, Security
Screen Orientation	Get notification when screen orientation changes as well as control which screen orientation a page/app wants.	W3C WD (WebApps)	D A B	bug 720794 bug 740188 bug 673922, Security
	Set system-wide configurations			bug

<https://wiki.mozilla.org/WebAPI>

Web APIs (hosted apps)

- Vibration API
- Screen Orientation
- Geolocation API
- Mouse Lock API
- Open WebApps
- Network Information API
- Battery Status API
- Alarm API
- Push Notifications API
- WebFM API / FMRadio
- WebPayment
- IndexedDB
- Ambient light sensor
- Proximity sensor
- Notification

Battery API

```
1 var battery = navigator.battery || navigator.mozBattery || navigator.webkitBattery;  
2  
3 function updateBatteryStatus() {  
4     console.log("Battery status: " + battery.level * 100 + " %");  
5  
6     if (battery.charging) {  
7         console.log("Battery is charging");  
8     }  
9 }  
10  
11 battery.addEventListener("chargingchange", updateBatteryStatus);  
12 battery.addEventListener("levelchange", updateBatteryStatus);  
13 updateBatteryStatus();
```

Web APIs (privileged apps)

- Device Storage API
- Browser API
- TCP Socket API
- Contacts API
- systemXHR

Contacts API

```
1 // first way: setting the properties directly
2 var person = new mozContact();
3 person.givenName  = ["John"];
4 person.familyName = ["Doe"];
5 person.nickname   = ["No kidding"];
6
7 // second way: using a value object
8 var contactData = {
9   givenName: ["John"],
10  familyName: ["Doe"],
11  nickname: ["No kidding"]
12 };
13
14 var person = new mozContact(contactData); // Firefox OS 1.3 takes a parameter to initialize the object
15 if ("init" in person) {
16   // Firefox OS 1.2 and below uses a "init" method to initialize the object
17   person.init(contactData);
18 }
19
20 // save the new contact
21 var saving = navigator.mozContacts.save(person);
22
23 saving.onsuccess = function() {
24   console.log('new contact saved');
25   // This update the person as it is stored
26   // It includes its internal unique ID
27   // Note that saving.result is null here
28 };
29
30 saving.onerror = function(err) {
31   console.error(err);
32 };
```

Web APIs (certified apps)

- WebTelephony
- WebSMS
- Idle API
- Settings API
- Power Management API
- Mobile Connection API
- WiFi Information API
- WebBluetooth
- Permissions API
- Network Stats API
- Camera API
- Time/Clock API
- Attention screen
- Voicemail

Web Activities to the rescue!

- configure
- costcontrol
- dial
- open
- pick
- record
- save-bookmark
- share
- view
- new, f.e type:
“websms/sms” or
“webcontacts/
contact”

Sending a picture to your app

```
1 var activity = new MozActivity({
2   // Ask for the "pick" activity
3   name: "pick",
4
5   // Provide the data required by the filters of the activity
6   data: {
7     type: "image/jpeg"
8   }
9 });
10
11 activity.onsuccess = function() {
12   var picture = this.result;
13   console.log("A picture has been retrieved");
14 };
15
16 activity.onerror = function() {
17   console.log(this.error);
18 };
```

They work on Android!



Write some code!

Screenshot of the GitHub homepage showing repositories related to Mozilla-B2G.

The top navigation bar includes the GitHub logo, a search bar, and links for Explore, Gist, Blog, and Help. The user profile for AlexLakatos is shown on the right.

Mozilla-B2G (JavaScript, 1,772 stars, 1,997 forks)

gaia (JavaScript, 1,772 stars, 1,997 forks)

Bug 1087038. Gaia is a HTML5-based Phone UI for the Boot 2 Gecko Project. NOTE: For details of what branches are used for what releases, see

Updated 5 hours ago

marionette-socket-host (Python, 0 stars, 2 forks)

Host for marionette-js-runner

Updated 11 hours ago

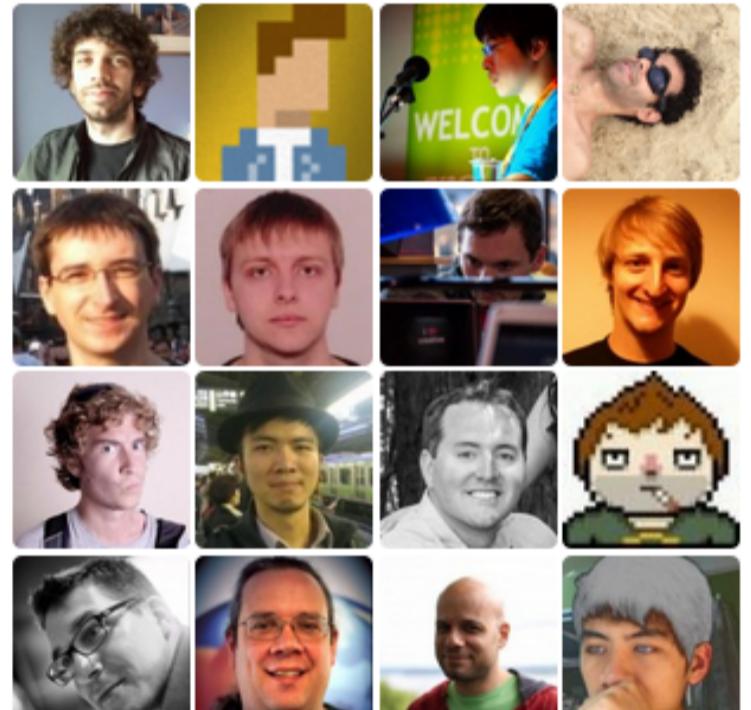
firefoxos-loop-client (JavaScript, 13 stars, 29 forks)

Firefox OS client for the Loop service

Updated 15 hours ago

<https://github.com/mozilla-b2g>

People (46)



Test, test, test!



AVAILABLE TASKS

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mozilla ▾

Contribute to Mozilla QA - One task at a time, One day at a time.

One and Done gives users a wide variety of ways to contribute to Mozilla. You can pick an easy task that only takes a few minutes - or take on a bigger challenge. This includes working on manual testing, automation, bug verification, mobile testing and more. Tasks are from all QA teams - so you can get involved with Automation, Firefox OS, Desktop Firefox, Mozilla websites, Services, or Thunderbird.

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Tasks

[Exploratory Testing for Mozillians](#)

Exploratory Manual UI Testing for Mozillians

[Firefox OS Exploratory Testing](#)

Tell us how it feels to use Firefox OS in your daily life.

[Firefox OS Integrated Browser](#)

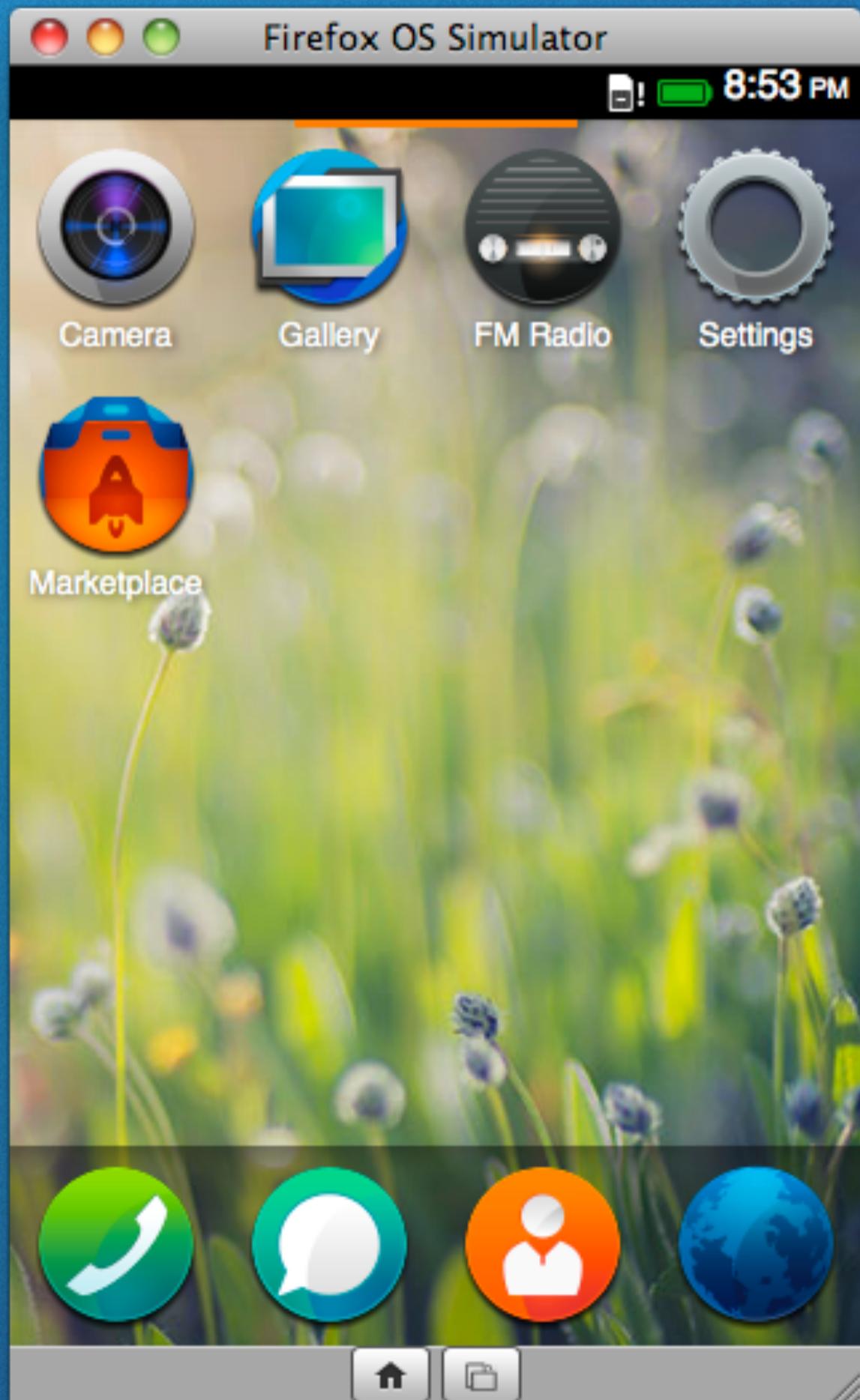
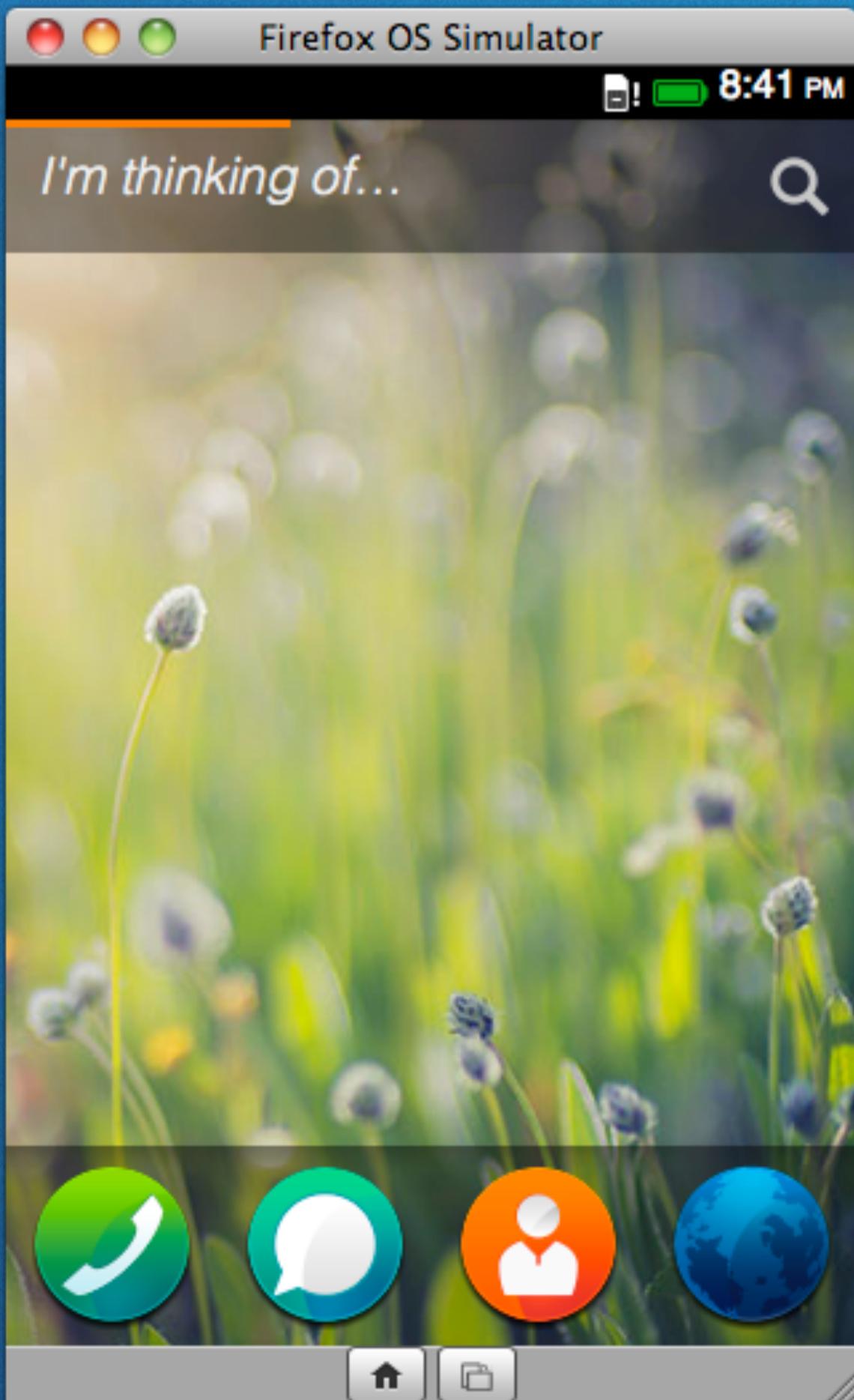
Help us test the complete integration of the browser into Firefox OS

[Firefox OS Rocketbar](#)

Help us test the complete integration of search into Firefox OS

<https://oneanddone.mozilla.org/>

Simulate!



THANKS

Alex Lakatos
MOZILLA REPS
MENTOR
@lakatos88

