



Firefox OS



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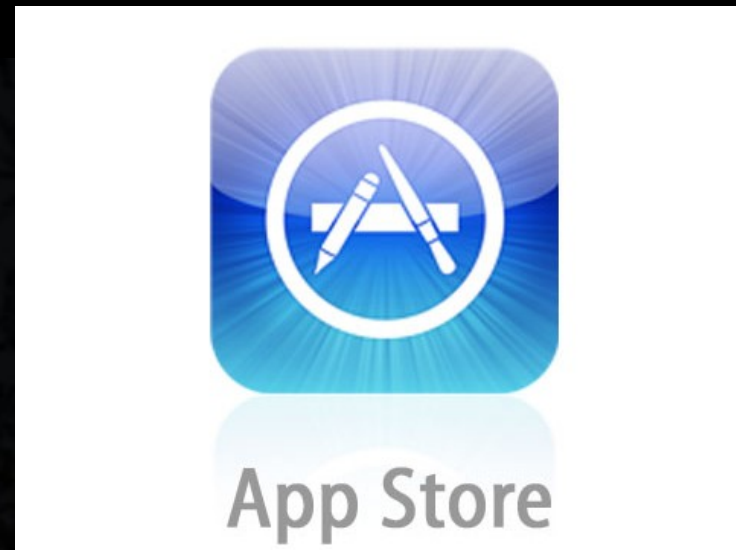
Firefox OS



- Open source mobile OS (Apache 2.0)
- 14 operators / 28+ countries
- Built by Mozilla + partners + contributors

Why Firefox OS?

- Web under threat from parallel content universes
- Walled gardens and gatekeepers
- Duopoly (Monopoly?)
- The web *is* the platform



Firefox OS Architecture

The diagram illustrates the Firefox OS architecture as a stack of four layers. From top to bottom, the layers are: Gaia (blue), Gecko (orange), Gonk (grey), and Mobile device (dark red). Each layer is represented by a horizontal bar with its name centered inside.

Gaia

Gecko

Gonk

Mobile device

Architecture

- **Gaia:** Application Layer (HTML + JS + CSS)
- **Gecko:** Web Platform Layer (Communication, Data Mgmt, Hardware access and other APIs)
- **Gonk:** Infrastructure (Linux kernel, OSS/OEM libs, drivers + firmware)

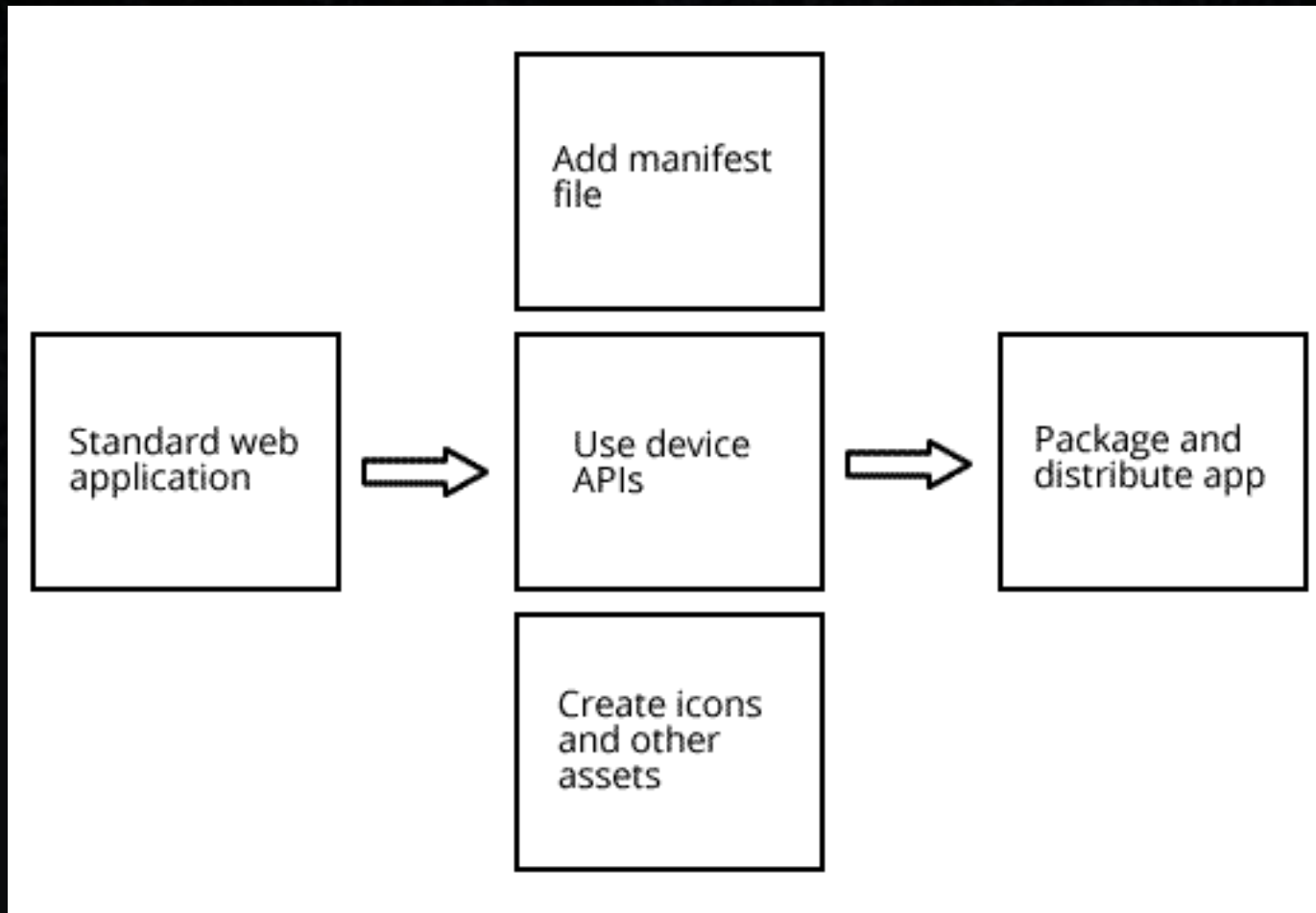
State of Play

- v1 – 1.4 Shipped, handsets available in markets in Europe, Latin America, Asia
- V2.0 Shipping
- V2.1 Locked, testing and certification
- V2.2 WIP
- V3 Planning underway

Features: Quick Tour

- Dialer, SMS etc. Dual SIM support
- Camera, Gallery
- Bluetooth, NFC
- FM Radio
- And much more...

Making Apps



API Permissions

Mozilla Corporation (US) | <https://developer.mozilla.org/en-US/docs/WebAPI> Search

Communication APIs

- Network Information API**
Provides basic information about the current network connection, such as connection speed.
- Bluetooth**
The WebBluetooth API provides low-level access to the device's Bluetooth hardware.
- Mobile Connection API**
Exposes information about the device's cellular connectivity, such as signal strength, operator information, and so forth.
- Network Stats API**
Monitors data usage and exposes this data to privileged applications.
- TCP Socket API**
Provides low-level sockets and SSL support.
- Telephony**
Lets apps place and answer phone calls and use the built-in telephony user interface.
- WebSMS**
Lets apps send and receive SMS text messages, as well as to access and manage the messages stored on the device.
- WiFi Information API**
A privileged API which provides information about signal strength, the name of the current network, available WiFi networks, and so forth.

Data management APIs

- FileHandle API**
Provides support for writable files with locking support.
- IndexedDB**
Client-side storage of structured data with support for high-performance searches.
- Contacts API**
Provides access to the user's contacts database, with support for adding, reading, and modifying contact information.
- Device Storage API**
Allows apps to create, read, and change files stored in a central location on the device, such as the "pictures" folder on modern desktop platforms or the photo storage on mobile devices.
- Settings API**
Lets apps examine and change system-wide configuration options that are permanently stored on the device.

Other APIs

- Alarm API**
Lets apps schedule notifications. Also provides support for automatically launching an app at a specific time.
- Simple Push API**
Lets the platform send notification messages to specific applications.
- Web Notifications**

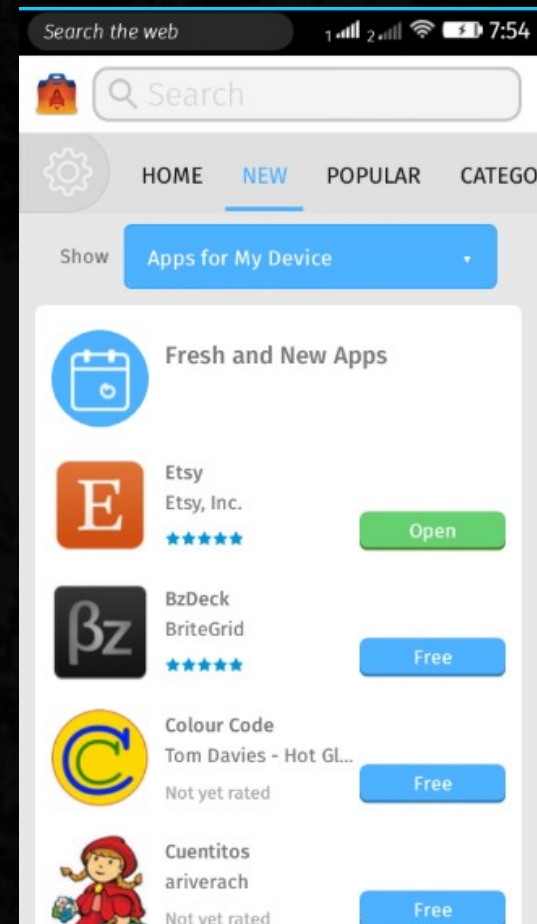
Common, Privileged, Certified

Dev Tools

The screenshot displays the Firefox DevTools interface. The top navigation bar includes tabs for Inspector, Console, Debugger, Style Editor, Performance, Network, and Scratchpad. The Inspector panel is active, showing the DOM tree for the page. The selected element is a `div` with the ID `windows` and class `app`. The DOM tree shows a hierarchy starting from `html` to `body`, then `theme-settings`, `screen`, and finally `windows`. The `windows` element contains a `before` pseudo-element and several `appWindow` elements, each with various attributes like `class`, `render`, `transition-state`, and `data-manifest-name`. The CSS Rules panel on the right shows the styles for the selected element. It includes a `system.css:241` rule for the `#windows` selector, which sets `position: absolute`, `left: 0px`, `width: 100%`, `top: 0px`, `height: 100%`, `max-height: 100%`, `border: 0px none`, and `overflow: hidden`. Below this, there is a `system.css:1` rule for the `*` selector, setting `-moz-user-select: none`. The `Inherited from body` section shows the `.theme-settings` rule from `gaia-theme.css:116`, which defines a complex set of color variables and background styles. The `Inherited from html` section shows the `:root` rule from `gaia-theme.css:6`, which defines a set of color variables.

Marketplace

- Curated, packaged apps
- Open & Non-proprietary
- Monetization options



Resources

- How to do everything:
https://developer.mozilla.org/Firefox_OS
- Get the code:
<https://github.com/mozilla-b2g/>
- File a bug: <https://bugzilla.mozilla.org/>
- Good first bug?
<http://www.joshmatthews.net/bugsayoy/?b2g=1>

Thank You!

