



Progressive Web Apps

For dummies



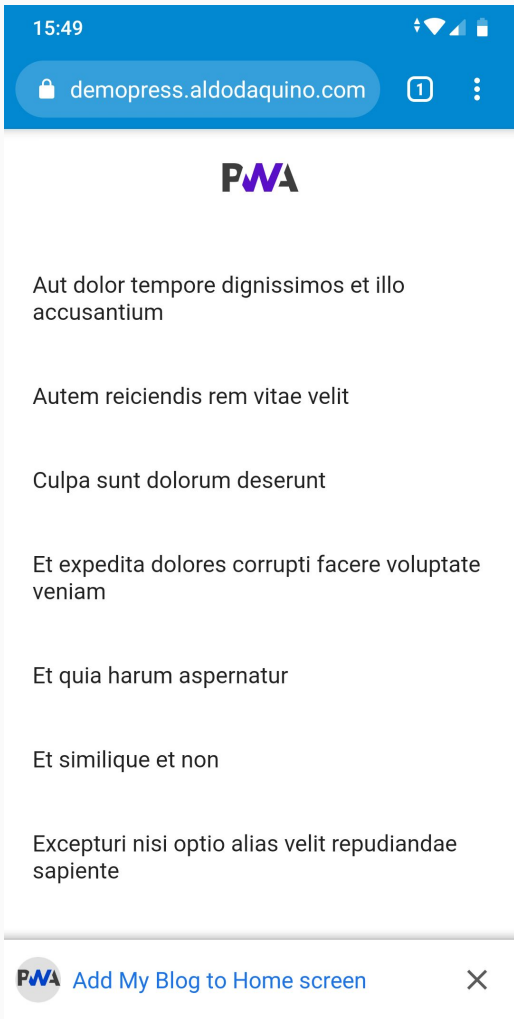
Aldo D'Aquino



/daquinoaldo



GDG DevFest
Pisa 2019



Web

URL

Cross
platform

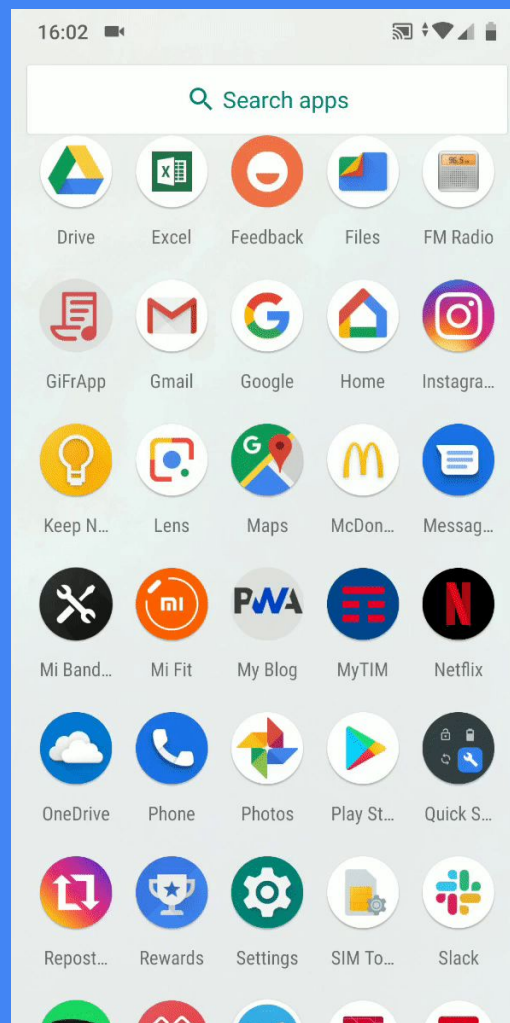
No need for
install

App

Handy

Natural UX
on mobile

Fast &
Offline



Key aspects

Responsive

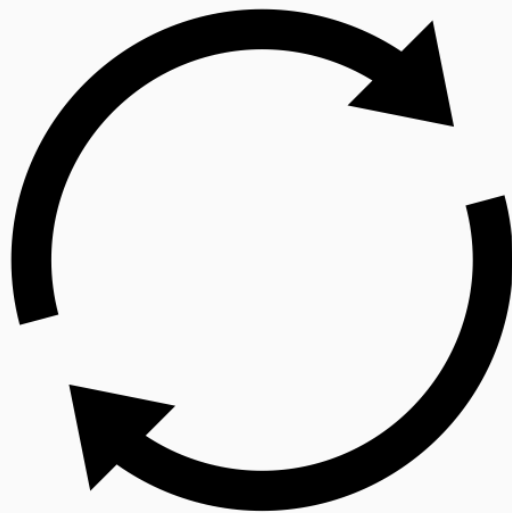


Secure

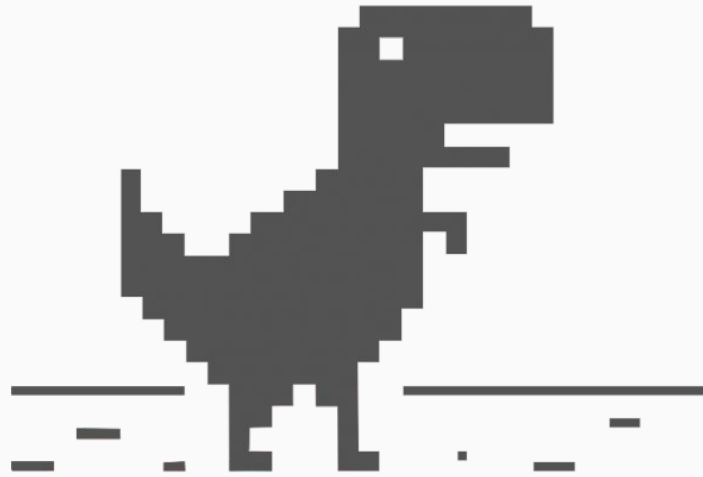


https://

Always fresh



Connectivity independent



Immersive

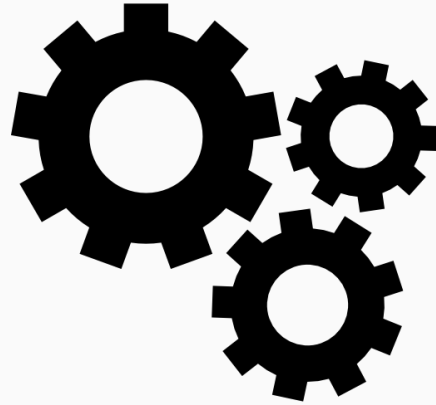


What we need

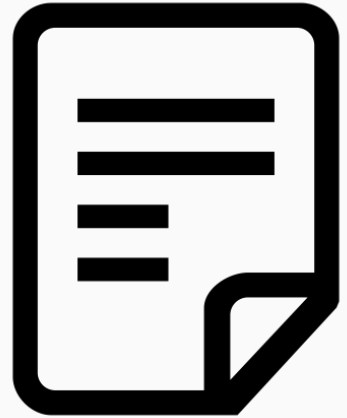
What we need



HTTPS



ServiceWorker.js



Manifest.json

UX first

How to design a great UI



How to design a great UI

1. Be app

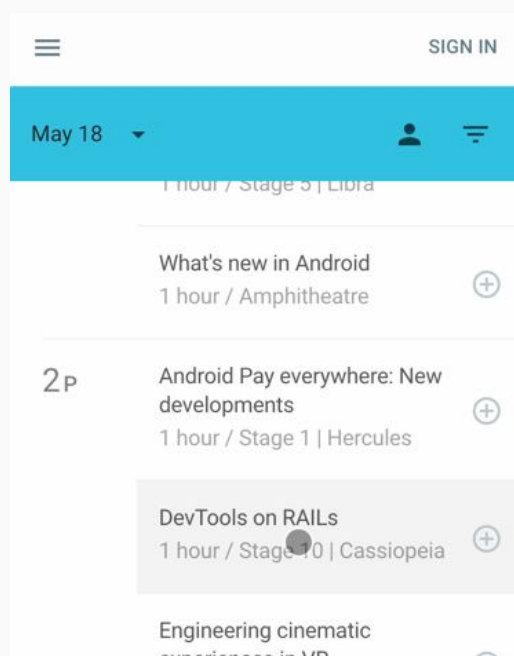
- App-like design
- System fonts
- Non-selectable text in buttons and list items
- Buttons instead of links

2. Fast and fluid transition

- Cache first strategy
- Give a feedback to the user

3. Back arrow should restore the previous scroll position

4. Show taps



How to test

https-localhost + Lighthouse



HTTPS server running on localhost

Run an express server on localhost with HTTP2 and SSL. Serve static files or import as module in your project.

https-localhost is a lightweight tool for serving static content on SSL thanks to locally-trusted development certificates. It works with MacOS, Linux and Windows, on Chrome and Firefox, and requires you no configuration.



Install and use standalone

```
npm i -g https-localhost
```

```
serve ~/myproj
```

- `sudo` may be necessary.
- If a static path is not provided the current directory content will be served.
- You can change the port setting the PORT environmental variable: `PORT=4433 serve ~/myproj`.

How to test



App... how much?

Permissions available through the browser



Availability of web permissions



Offline (ServiceWorker.js)	✓	✓
Background sync	✓	✗
Home installation	✓	~
Share (intent)	✓	✗
Foreground detection	✓	✓

Availability of web permissions



Geolocation	~	~
Accelerometer, Gyroscope, Magnetometer, Orientation	~	~
Bluetooth	~	X
USB	✓	X
Payments	~	~

Availability of web permissions



Browser storage	✓	✓
File access	✓	✓
Network type and speed	✓	✗
Online status	✓	✓
Vibration	✓	✗

Availability of web permissions



Battery status	✓	✗
RAM size	✓	✗
Manage clipboard	~	✓
Mouse integration	✓	✓
Presentation (Chromecast)	✓	✗

Availability of web permissions



VR	~	X
Speech recognition	~	X
Fullscreen	~	~
Screen orientation & lock	✓	X
Wake lock	✓	X

Coming soon

- NFC
- Contacts
- SMS
- Ambient light
- Task scheduler in SW



What Web Can Do Today

Can I rely on the Web Platform features to build my app?
An overview of the device integration HTML5 APIs

FEATURES

TRAININGS

SERVICES

✓ Feature available in your current browser ✗ Feature not available in your current browser

Camera & Microphone

- 📷 AUDIO & VIDEO CAPTURE ✓
- 📹 ADVANCED CAMERA CONTROLS ✓
- 🎤 RECORDING MEDIA ✓
- 📺 REAL-TIME COMMUNICATION ✓

Native Behaviors

- 📱 LOCAL NOTIFICATIONS ✓
- 📶 PUSH MESSAGES ✓
- 📲 HOME SCREEN INSTALLATION ✓
- 📱 FOREGROUND DETECTION ✓
- 🔒 PERMISSIONS ✓

Seamless Experience

- ⚙️ OFFLINE MODE ✓
- 🔄 BACKGROUND SYNC ✓
- 🔗 INTER-APP COMMUNICATION ✗
- 💳 PAYMENTS ✓
- 🔒 CREDENTIALS ✓

Advertisement

See how your visitors are really using your website

Operating System

Location & Position