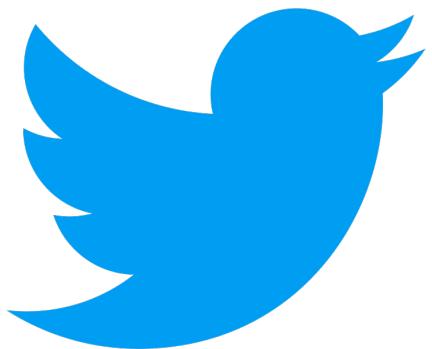


Progressive Web Apps (PWA)



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GJ



https://about.twitter.com/en_us/company/brand-resources.html
<https://tinder.com>
<https://business.pinterest.com/en/pinterest-brand-guidelines>

**"Progressive Web Apps are fast,
robust, app-like experiences built using
Service Workers and other modern web
capabilities"**



Alex Russell, Chrome Dev Summit 2015

PWA

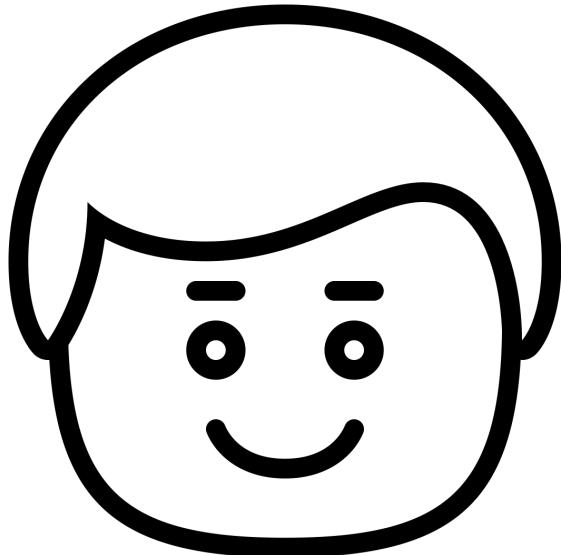
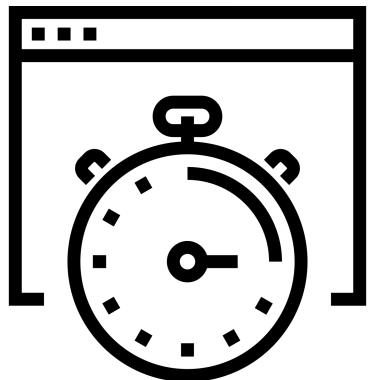
HTTPS

Responsive

Offline

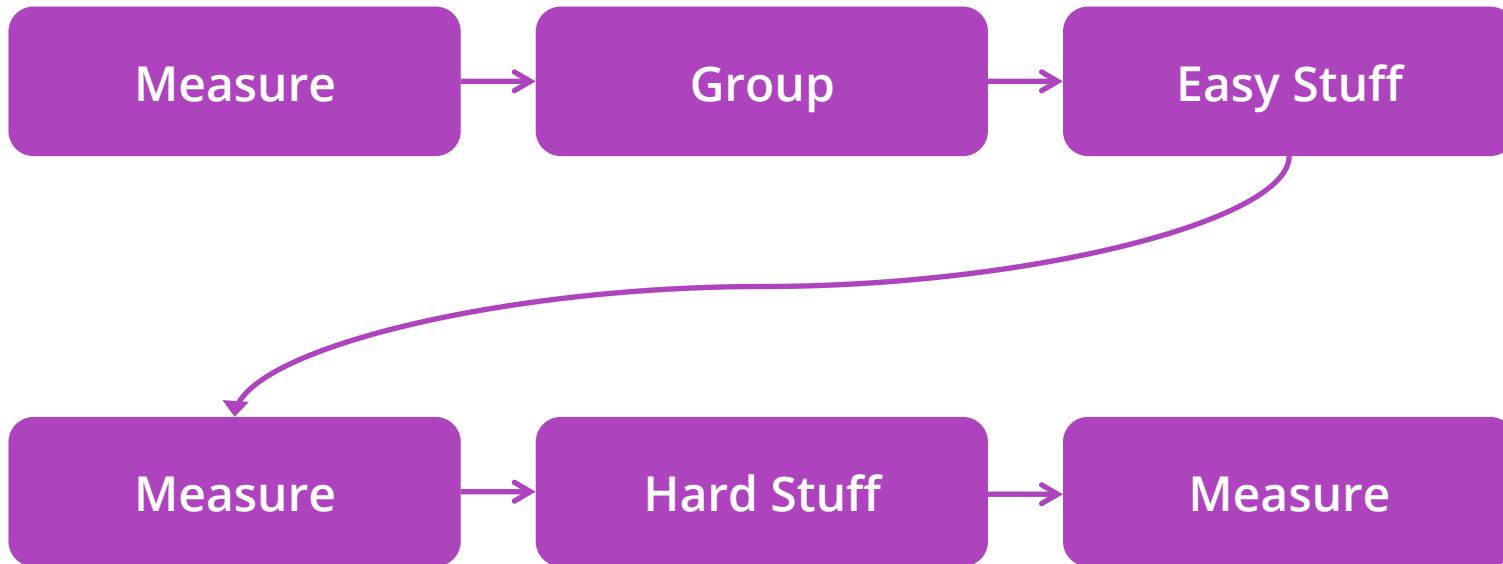
Manifest

Motivation



<https://thenounproject.com/term/performance/>
<https://thenounproject.com/term/happy-man/53700/>
<https://thenounproject.com/wirawizinda097/collection/money/?i=1542361>

Workflow



36

Progressive Web App

34

Performance

86

Accessibility

69

Best Practices

Progressive Web App

These audits validate the aspects of a Progressive Web App, as specified by the baseline [PWA Checklist](#).

36

7 failed audits

- ▶ Does not register a Service Worker 
- ▶ Does not respond with a 200 when offline 
- ▶ Does not provide fallback content when JavaScript is not available 
The page body should render some content if its scripts are not available.
- ▶ Page load is not fast enough on 3G 
First Interactive was at 26.580 ms. More details in the "Performance" section.
- ▶ User will not be prompted to Install the Web App 
Failures: No manifest was fetched, Site does not register a Service Worker, Manifest start_url is not cached by a Service Worker.
- ▶ Is not configured for a custom splash screen 



45/100

Passed (5/11)

- Contains some content when JavaScript is not available
- Uses HTTPS
- Redirects HTTP traffic to HTTPS
- Has a `<meta name="viewport">` tag with width or initial-scale
- Content Sized Correctly for Viewport

Failed (6/11)

- User will not be prompted to Install the Web App
- Is not configured for a custom splash screen
- Address bar does not match brand colors
- Does not register a Service Worker
- Does not respond with a 200 when offline
- Page load is not fast enough on 3G

Web App Manifest

```
1 {
```

```
2     "background_color": "#c00",
```

```
3     "description": "Nachrichten, Hintergründe & Reportagen",
```

```
4     "dir": "ltr",
```

```
5     "display": "standalone",
```

```
6     "icons": [
```

```
7         {
```

```
8             "src": "images/icon-192x192.png",
```

```
9             "sizes": "192x192",
```

```
10            "type": "image/png"
```

```
11     }
```

```
12 ],
```

```
13     "lang": "de-DE",
```

```
14     "name": "Stern.de",
```

```
15     "orientation": "portrait",
```

```
16     "prefer_related_applications": true
```

```
12 ],
13     "lang": "de-DE",
14     "name": "Stern.de",
15     "orientation": "portrait",
16     "prefer_related_applications": true,
17     "related_applications": [
18         {
19             "platform": "play",
20             "url": "https://play.google.com/store/apps/details?id=de.cellular.stern",
21             "id": "de.cellular.stern"
22         }
23     ],
24     "scope": "/",
25     "short_name": "Stern.de",
26     "start_url": "./?utm_source=web_app_manifest",
27     "theme_color": "#c00"
28 }
```



Shipped



In Development



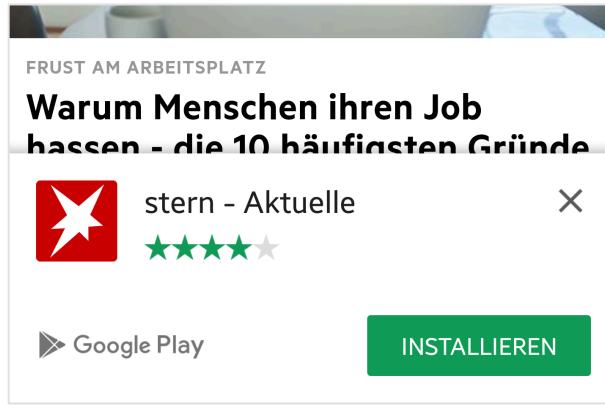
Shipped



Shipped



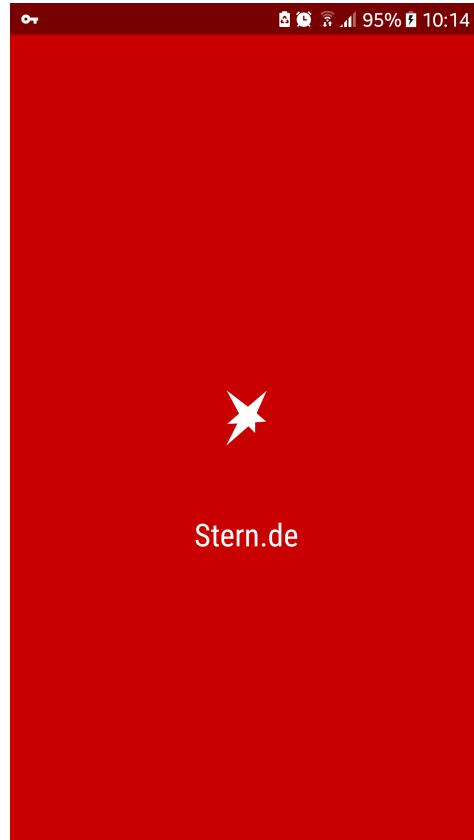
Native add-to-homescreen



Native smart app banner



App icon



Splashscreen



Standalone display mode



65/100

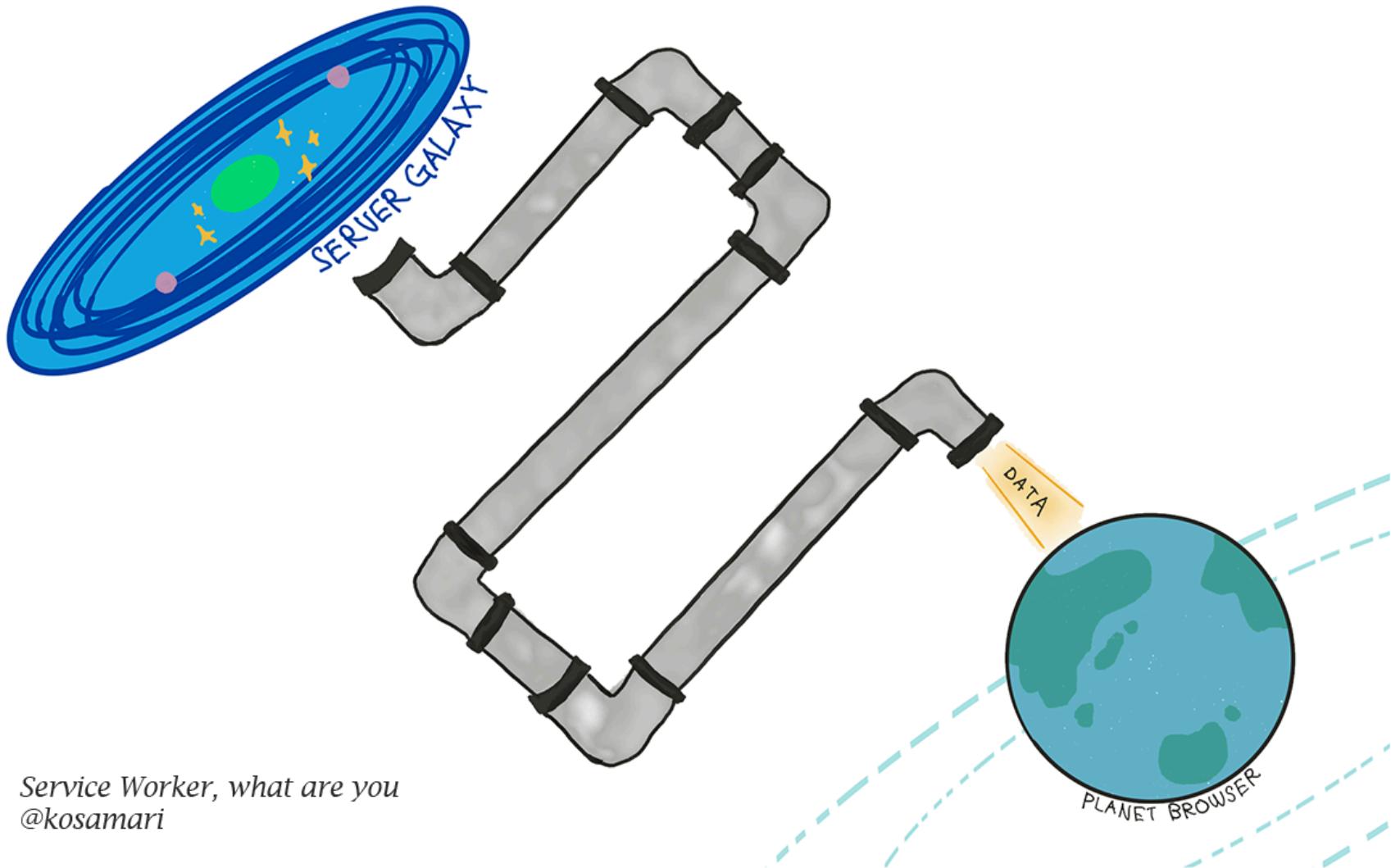
+20

Service Worker

me : "Service Worker, what are you?"
Service Worker: "I'm a programmable network proxy."
me : "... what?"



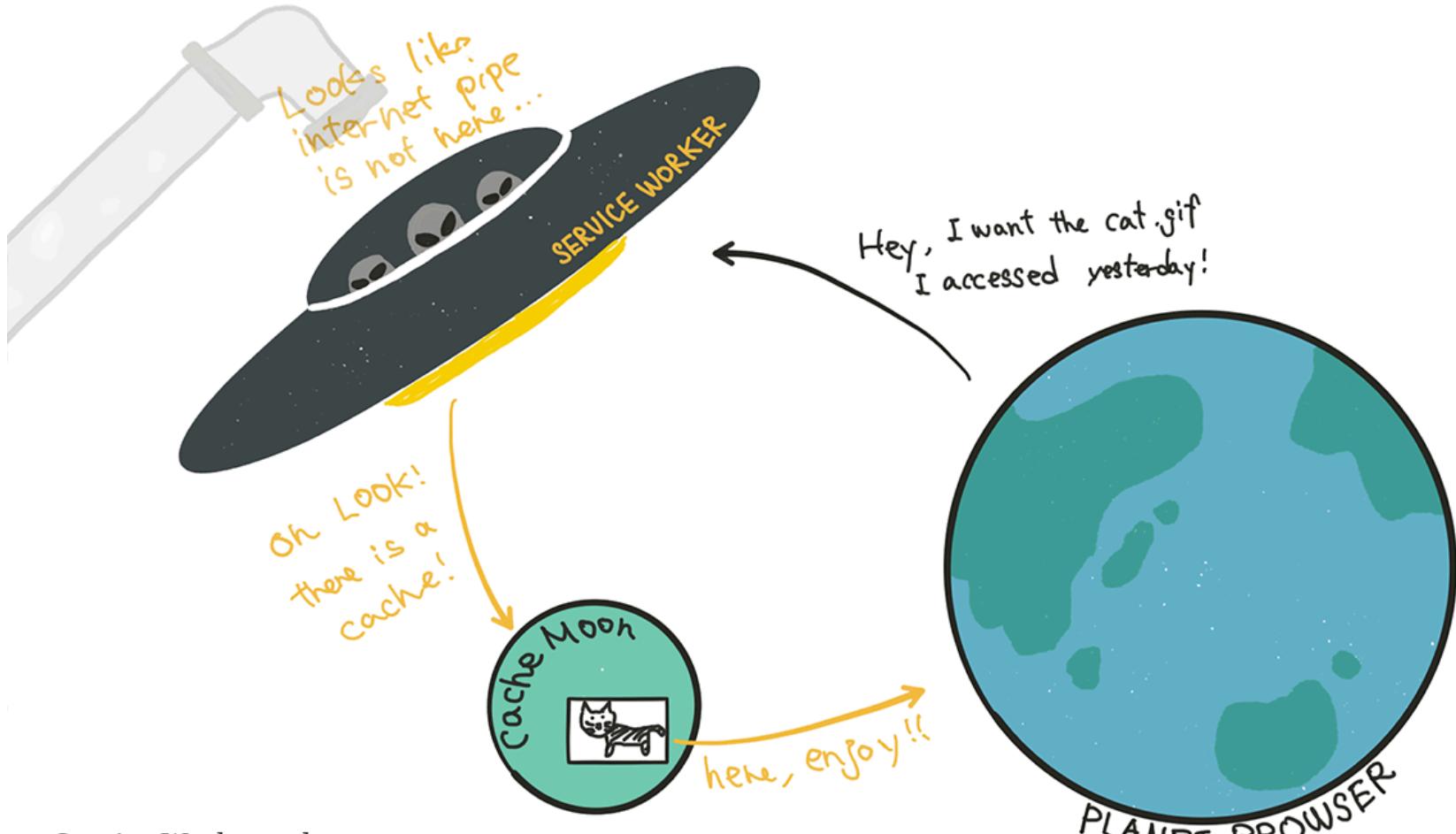
Mariko Kosaka



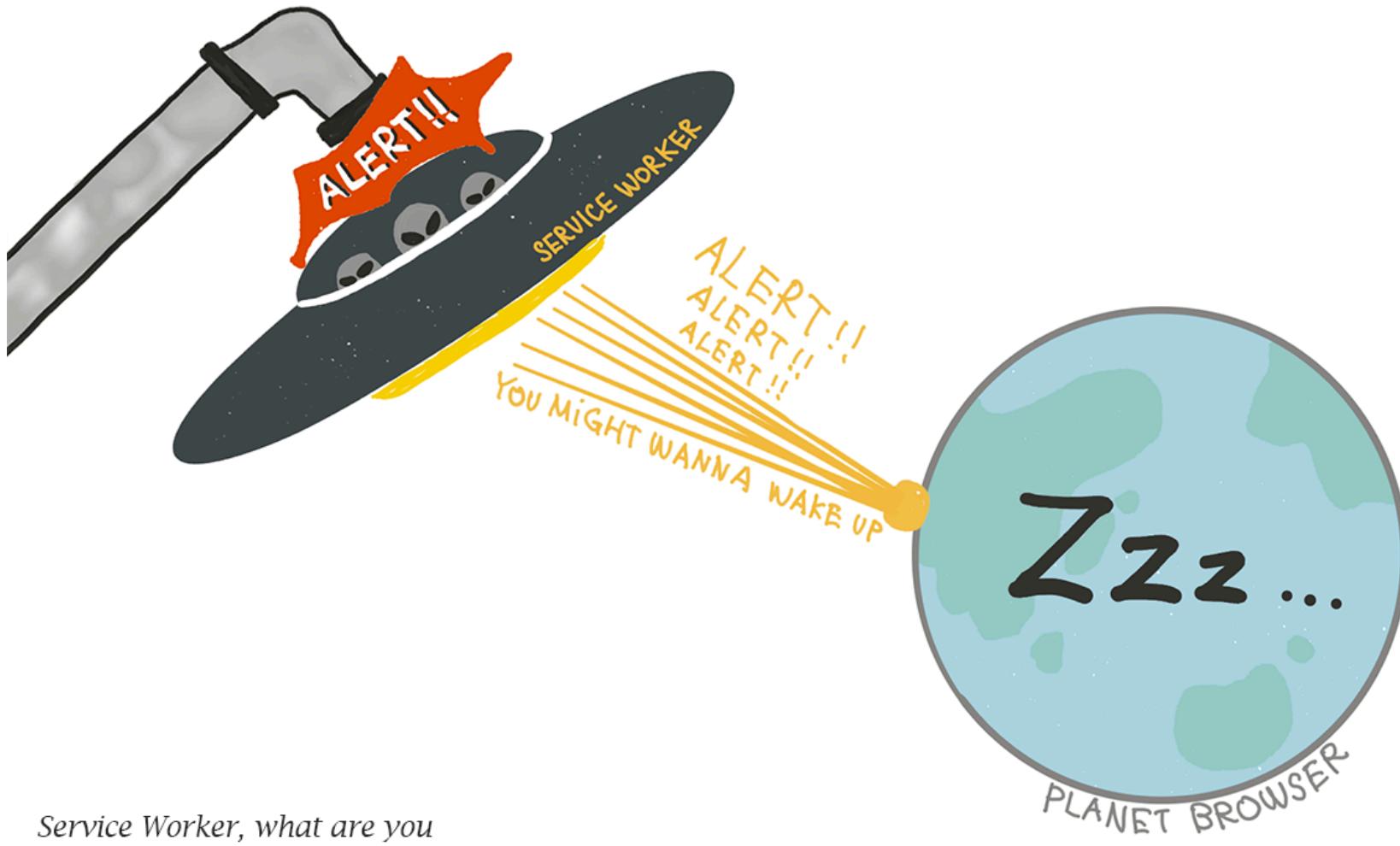
*Service Worker, what are you
@kosamari*



*Service Worker, what are you
@kosamari*



Service Worker, what are you
@kosamari



*Service Worker, what are you
@kosamari*



Shipped



Shipped



Shipped



Shipped

*With great power,
comes great responsibility*

~~*complexity*~~



workbox

```
1 importScripts('workbox-sw.prod.v2.1.0.js');
2
3 const workboxSW = new self.WorkboxSW({
4   "cacheId": "str"
5 });
6 workboxSW.precache([
7   {
8     "url": "r1510560485202/js/init_package.min.js",
9     "revision": "b708209d9eb7cf3c25f4378871c18c08"
10   },
11   { ... ~
12 });
13 workboxSW.router.registerRoute(/https?:\/\/image\.[^.]+\.\de\//, workboxSW.strategies.cacheFirst({
14   "cacheName": "images",
15   "cacheExpiration": { "maxEntries": 20 },
16   "cacheableResponse": {
17     "statuses": [0, 200 ]
18   }
19 }), 'GET');
```

...later



<https://unsplash.com/photos/ICIZBVw5W5A>



91/100 +26

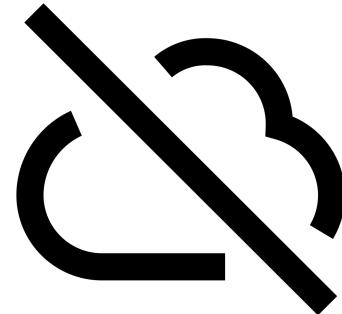
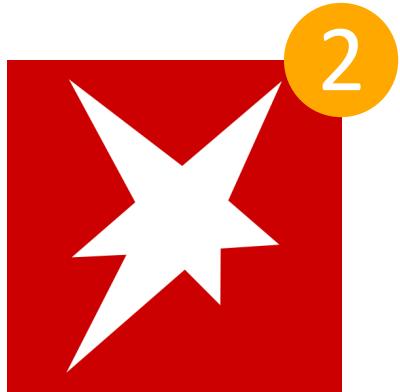
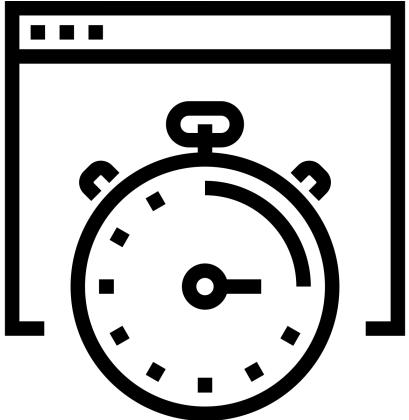
Passed (10/11)

- ...
- User can be prompted to Install the Web App
- Configured for a custom splash screen
- Address bar matches brand colors
- Register a Service Worker
- Responds with a 200 when offline

Failed (1/11)

- Page load is not fast enough on 3G

Challenges



<https://thenounproject.com/term/performance/885483/>
<https://thenounproject.com/search/?q=offline&i=821504>

Questions

Links

- <https://de.udacity.com/course/intro-to-progressive-web-apps--ud811>
- <https://de.udacity.com/course/offline-web-applications--ud899>
- <https://developers.google.com/web/ilt/pwa/>
- <https://jakearchibald.com/2014/offline-cookbook/>
- <https://serviceworke.rs/>
- <https://github.com/hemanth/awesome-pwa>