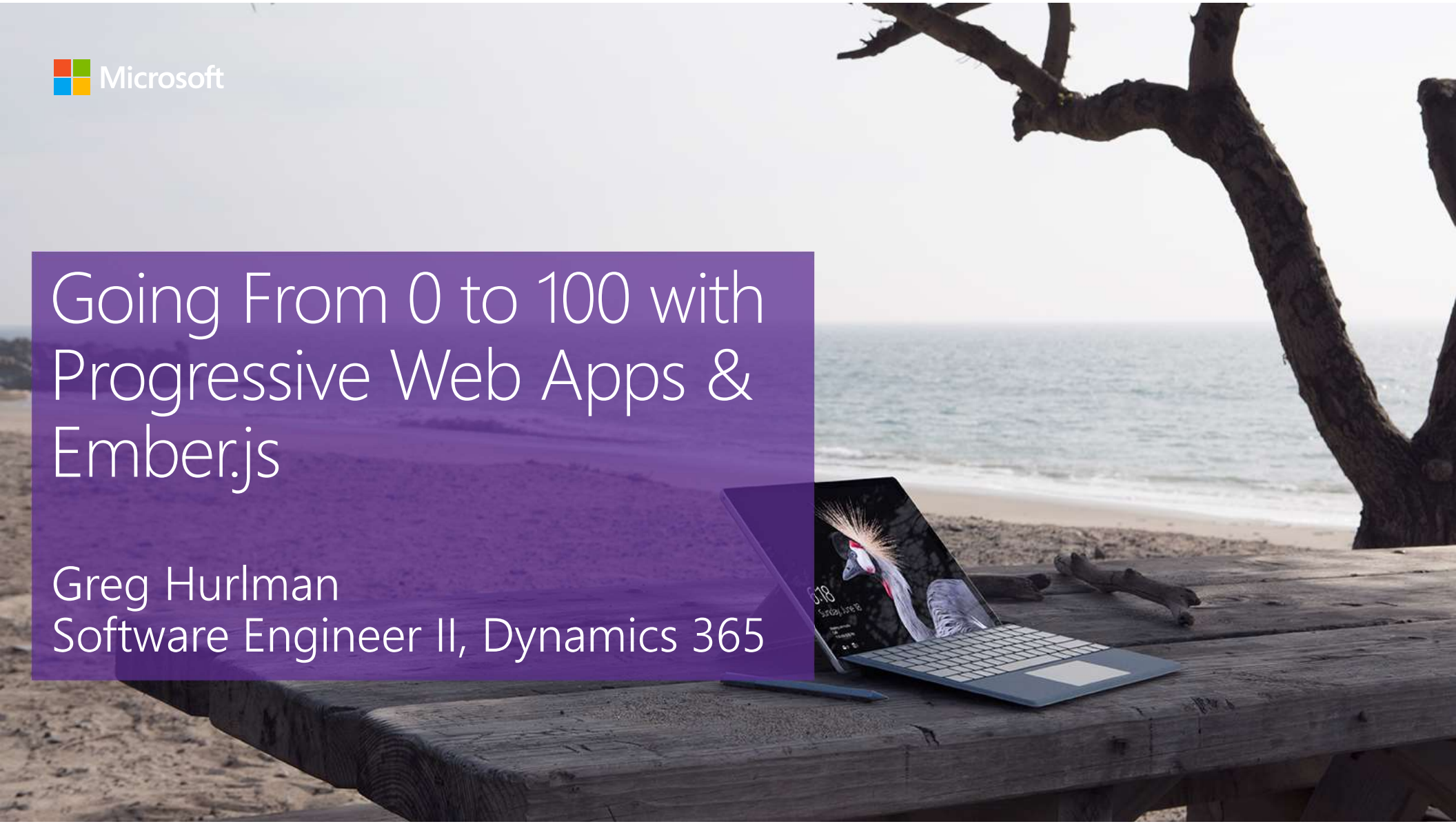

Going From 0 to 100 with Progressive Web Apps & Ember.js

Greg Hurlman
Software Engineer II, Dynamics 365

Progressive Web Apps 101

- Discoverable
  - Identifyable as apps, findable by search engines
- Installable
  - Available on home screens, without an app store
- Linkable
  - Easily Sharable with URLs
- Network Independent
  - Works offline and/or on low-quality networks
- Progressive
  - Works for all users, all browsers
- Re-engagable
  - Draws user attention back to the app
- Responsive
  - Fits any form factor
- Safe
  - HTTPS always on

Our PWA Checklist

- ❑ Registers a Service Worker
- ❑ Responds with a 200 when offline
- ❑ Contains some content when JavaScript is not available
- ❑ Uses HTTPS
- ❑ Redirects HTTP traffic to HTTPS
- ❑ Page load is fast enough on 3G (< 10s to user interactivity)
- ❑ User can be prompted to Install the Web App
- ❑ Configured for a custom splash screen
- ❑ Address bar matches brand colors
- ❑ Has a <meta name="viewport"> tag with width or initial-scale
- ❑ Content is sized correctly for the viewport

Why Ember?

- Opinionated
- Testable
- Simple
- Documentation
  - https://guides.emberjs.com/
- Community
  - https://emberjs.com/community/
- Ecosystem
  - https://emberobserver.com

$ ember new...

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Enter the addons

```
ember install ember-service-worker ember-service-worker-asset-cache ember-service-worker-cache-fallback
```

ember-service-worker: Provides baseline support for service workers; provides a pluggable API for you to implement logic for service workers (or use logic others wrote and published as addons)

ember-service-worker-asset-cache: Caches CSS, image and JavaScript assets for the app

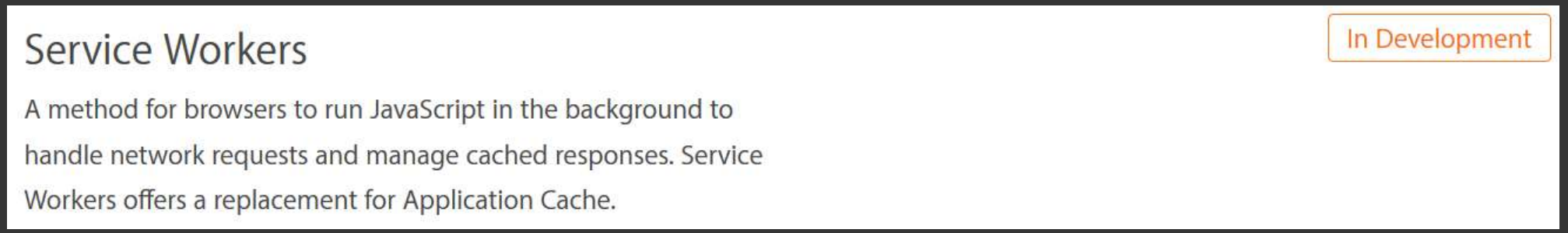
ember-service-worker-cache-fallback: Provides offline support for a given path

Can I use... service worker

Is Service Worker ready?

https://jakearchibald.github.io/isserviceworkerready/

https://webkit.org/status/#specification-service-workers



$ ember install...

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Ember Fastboot

```
ember install ember-cli-fastboot
```

Ember FastBoot brings server-side rendering to Ember.js applications. It works by creating a Node.js process and executing your Ember application within it.

$ ember install...

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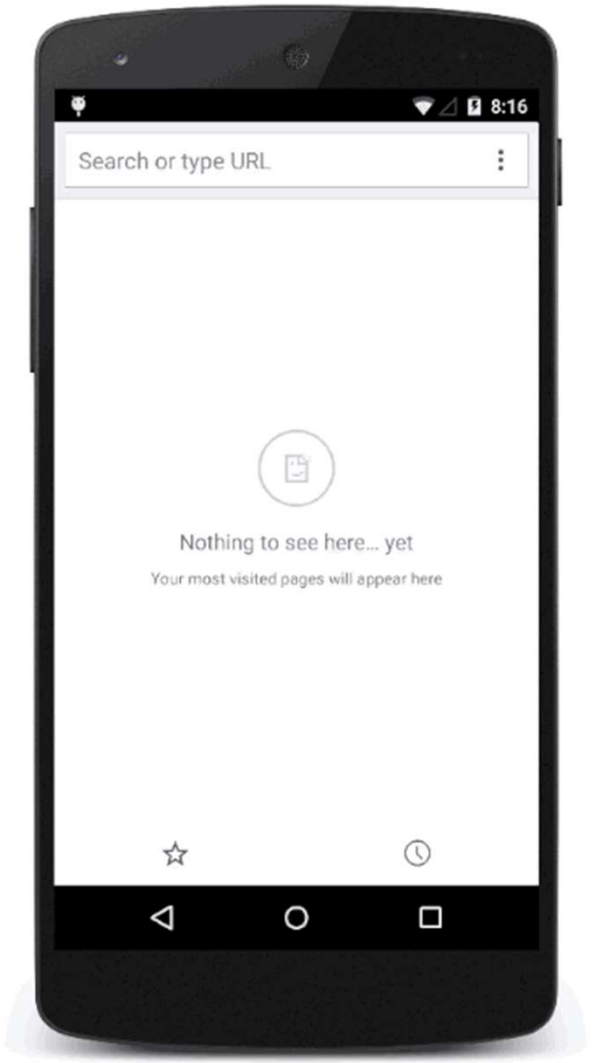
Adding a manifest

```
ember install ember-web-app
```

The web app manifest provides information about an application (such as name, author, icon, and description) in a JSON text file.


8:16
Search or type URL
Nothing to see here... yet
Your most visited pages will appear here

Can I use... manifest

$ ember install...

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Setting up the server & redirect

```
npm install --save fastboot-app-server
```

The FastBoot App Server is an application server for hosting Ember FastBoot apps. It manages downloading the Ember app, starting multiple HTTP server processes, and detecting when new versions of the application have been deployed.

Deployment: Heroku

```
heroku create
heroku buildpacks:set
      https://codon-buildpacks.s3.amazonaws.com/buildpacks/heroku/emberjs.tgz
git push heroku master
heroku open
```

Uses heroku-cli, Heroku's command-line tool, and also ember-cli-deploy, a pluggable deployment pipeline

$ npm install && heroku...

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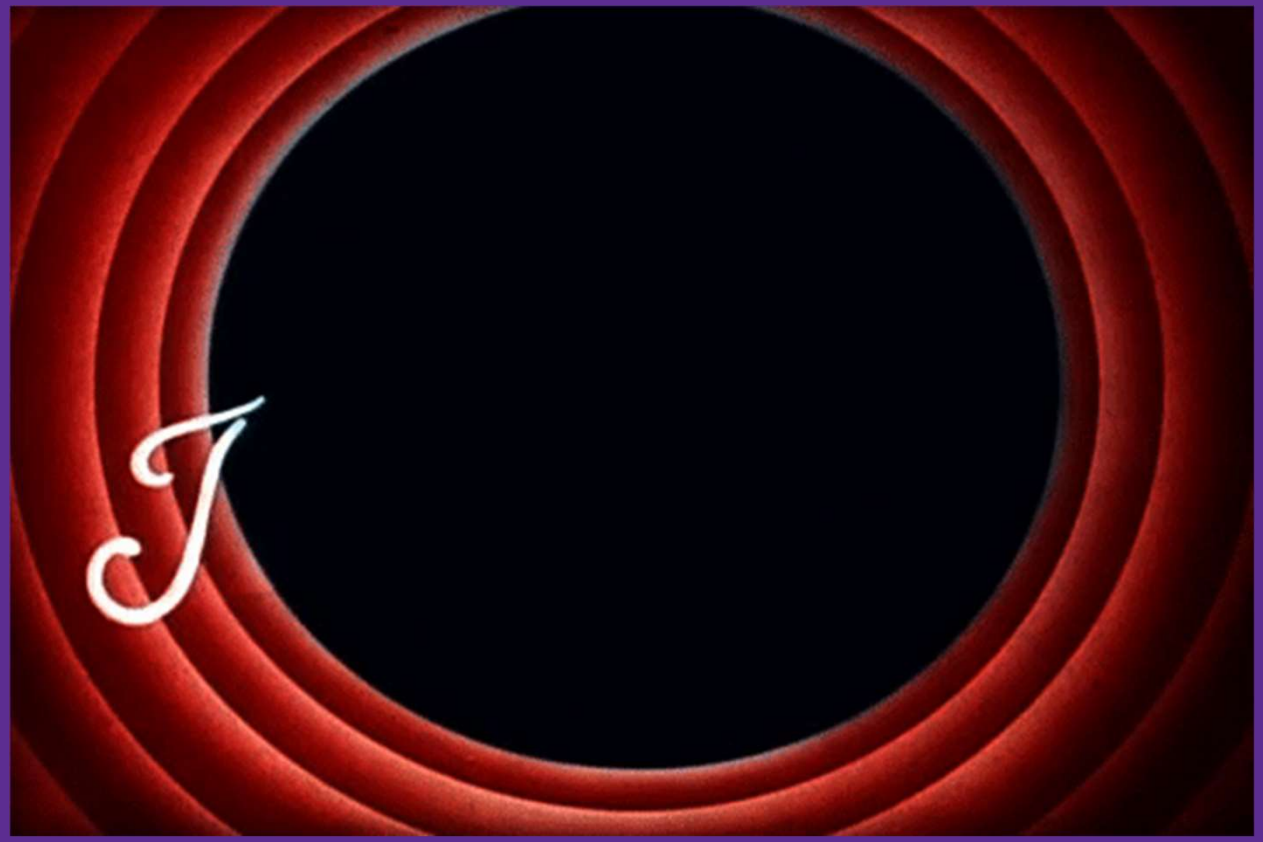
Microsoft



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Microsoft

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Greg Hurlman
twitter: @justcallme98