PhoneGap

Cordova

What is Cordova?

- **A hybrid application framework**
  - App's user interface is built with HTML and JS
  - Native features can be called with JS
  - Cordova creates native source code for different platforms

- **Cordova is open source and used by many different frameworks**
  - PhoneGap, Ionic, Monaca, Intel XDK

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What is PhoneGap?

- **PhoneGap is a Cordova framework and set of tools by Adobe**
    - Desktop GUI for easily starting projects
    - Mobile app for quickly testing UI and some native features
    - PhoneGap Build cloud service for compiling and packaging app for publishing

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Benefits

- **Implement once, publish on many platforms**
  - And publish feature updates simultaneously
  - PhoneGap Build does not require platform-specific dev tools
- **Easy learning curve for web developers**
  - Build with modern web technologies
  - PhoneGap is UI framework agnostic
  - Others may have UI frameworks built-in, Ionic is built with Angular
- **Wide support for native features through plugins**
  - Most plugins are community-driven and available through npm and github

Challenges

- **Performance**
  - Transitions, large amounts of content, optimization
- **Platform quirks**
  - In operating systems web views
  - In plugins
  - In user interface guidelines
- **Testing**
  - Many devices and os versions
  - Getting the app to external testers
- **Publishing**
  - App store approvals

Alternatives

- **Go native**
  - iOS: xCode, Swift or objective-C
  - Android: Android Studio, Java
  - Windows: Visual Studio, C# and JavaScript/TypeScript
- **React Native**
  - Easy for developers familiar with React
  - Compiles to native components
  - Many components are platform specific
- **NativeScript & Angular 2**

- **Progressive Web App**
  - App-like, installable website

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Getting started

- **Cordova is primarily command-line tool**
  - PhoneGap offers minimal GUI for starting projects
- **Creating project**
  - Can be done in GUI
  - Or with command "phonegap create <path>"
- **Project structure**
  - config.xml
  - www/
  - hooks, platforms, plugins
- **Adding plugins**
  - For PhoneGap Build plugins are referenced in config.xml
  - Plugin repositories have installation instructions
  - Commonly "phonegap plugin add <github url or npm name>"

Testing

- PhoneGap desktop app runs a local server
- App's user interface can be tested in desktop browser
- With PhoneGap mobile app, one can test UI and some native features within local network
- Code changes push an automatic update (LiveReload)

Possibilities

- **Notifications**
- **Camera**
  - Wikitude Augmented Reality framework
- **Native sharing dialog**
- **Device's internal memory**
  - Saving pictures and files
  - Offline usage
- **Native UI elements**

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Publishing

- **Compiling / packaging app for publishing**
  - PhoneGap Build
  - xCode, Android Studio and Visual Studio

- **App stores and ja approval processes**
  - App Store (xCode)
  - Google Play
  - Microsoft Store

Exercise

bitbucket.org/mikkohytonen/phonegap-exercise

- Additional information
  - docs.phonegap.com/tutorials
  - docs.phonegap.com
  - cordova.apache.org/docs

- Example app: SuomiAreena 2017

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