

The Cordova Development Lifecycle

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ApacheCon

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<http://goo.gl/bTGMNW>



Vanity Slide



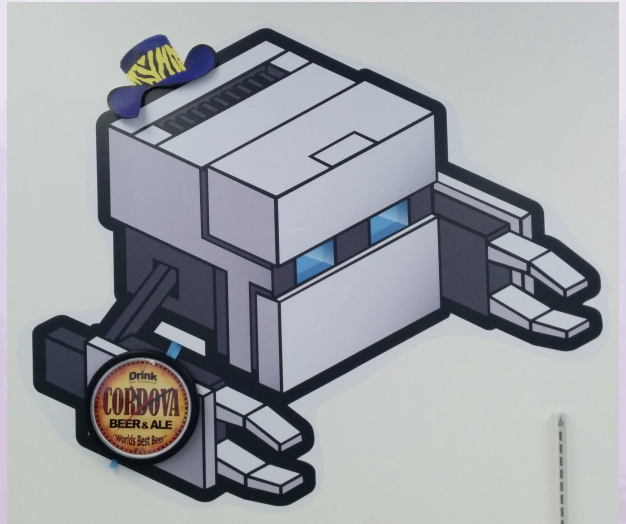
Why Google and Cordova

- Cordova is good for the web
- Basis for Chrome Packaged Apps



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Why Google and Cordova



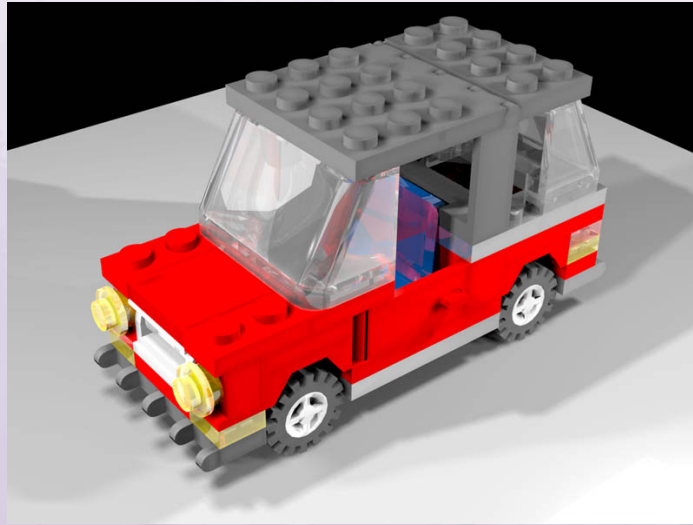
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Get to it already!

Presentation Goals

- Be informative
- Elicit feedback as to what we could do better

Cordova in 2012



Cordova in 2012

Repositories (~10)

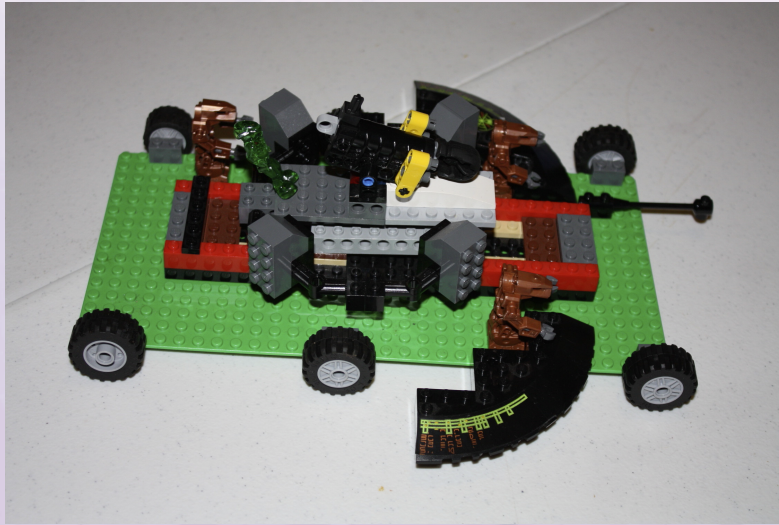
- cordova-\$PLATFORM
- cordova-js
- cordova-mobile-spec
- cordova-docs
- cordova-site (svn)

Cordova in 2012

Release Process

1. Snapshot cordova-js
2. Tag all repos
3. Snapshot docs
4. Mega-.zip on dist/

Cordova in 2014



Cordova in 2014

Repositories (~50)

- cordova-plugin-\$FOO
- cordova-plugman, cordova-cli
- cordova-registry, cordova-registry-web
- cordova-app-harness
- cordova-medic

Cordova in 2014

Release Process

- Several release processes:
 - Platforms & Docs
 - Plugins
 - Command-line tools

Lay of the Land

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Lay of the Land

`cordova.apache.org`

- `svn: /repos/asf/cordova/site`
- Documentation snapshot from `cordova-docs`
- Blog (`jekyll`)

Lay of the Land

CLI Tools

- git: cordova-cli, cordova-plugman

```
npm install -g cordova
cordova project create hello
cordova platform add android
cordova plugin add org.apache.cordova.file
```

Lay of the Land

Platforms

- git: cordova-android, cordova-ios, etc
- Downloaded via `git archive`
- project template (incl. cordova-js snapshot)
- platform-specific scripts

Lay of the Land

Plugins

- git: cordova-plugin-file, etc
- Downloaded via cordova-cli

Lay of the Land

Plugin Registry

- git: cordova-registry
- Plugin metadata & tarballs
- Same schema as npm
 - IrisCouch / CloudAnt
- registry.cordova.io

Lay of the Land

Plugin Registry Website

- git: cordova-registry-web
- plugins.cordova.io

Lay of the Land

App Harness

- git: cordova-app-harness
- Still in development
- Enables SDK-less fast edit-refresh
- Destined for App Store (hopefully)
 - Similar to PhoneGap App, Icenium App, etc

Lay of the Land

Coho

- git: cordova-coho
- Docs for committers (processes, howtos & design docs)
- Scripts for automating developer tasks

Lay of the Land

Shared Tests

- git: cordova-mobile-spec
- Jasmine-based tests
- Manual test harnesses
- For both plugins & platforms

Lay of the Land

Shared Tests

- Good: Easy to run
- Good: Ensures cross-platform consistency
- Bad: Append-only (dumping ground)
- Bad: Flakey
- Bad: Not in sync with plugins

Lay of the Land

Continuous Integration

- git: cordova-medic
- Scripts and configs for Build Bot
- Non-centralized instances

Lay of the Land

Continuous Integration

- Good: Catches failures (often)
- Bad: Requires a lot of maintenance
- Bad: Flakey

Lay of the Land

End-User Docs


- git: cordova-docs
- cordova.apache.org/docs
 - Docs & guides for our users
 - Generated by ruby for each release

Lay of the Land

MoinMoin Wiki

- wiki.apache.org/cordova
 - Quality & freshness varies.
 - Dumping ground

Communication

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Communication: Dev -> User

(Announcements)

- <http://cordova.apache.org/blog/>
- @ApacheCordova
- +ApacheCordova

Communication: User -> Dev

- JIRA (Issue Tracker)
- Mailing List
- Github Pull Requests
- IRC (#cordova)

Communication: Dev -> Dev

- **Mailing List**
- reviews.apache.org (Review Board)
- Direct IMs
- Hangouts on Air
- IRC (#cordova)
- Meetups / Conferences


Communication: User -> User

- StackOverflow
- IRC #phonegap
- PhoneGap Google Group

Communication: Summary

- More is always better
- Mailing list is (almost) never the wrong choice
- People sometimes are absent

Getting the Code

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Get the Code

```
./cordova-coho/coho repo-clone -r mobile-spec -r ios  
-r plugins -r ...
```

Update the Code

```
./cordova-coho/coho repo-status  
./cordova-coho/coho repo-update
```

Release Processes

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Platforms Release

1. Email ML:

What does everyone think about doing a release on X? Cut RC1 on Y?

- One Release Manager per-platform
- ~6 releases / year

Platforms Release

2. Create a JIRA issue

```
coho create-release-bug --version=3.1.0  
--username=... --password=...
```

Platforms Release

3. Branch & Tag RC1 for:

- cordova-js
- cordova-mobile-spec
- cordova-app-hello-world

Platforms Release

- Updating version numbers
- Creating release branches
- Creating git tags

```
coho prepare-release-branch --version 2.8.0-rc1  
  -r js -r app-hello-world -r mobile-spec  
coho repo-status -b master -b 2.8.x -r ...  
coho repo-push -b master -b 2.8.x -r ...  
coho tag-release --version 2.8.0-rc1 -r ...
```

Platforms Release

4. For each platform:

- Update snapshot of app-hello-world, cordova-js
- Create branches & tags

```
coho prepare-release-branch --version 2.8.0-rc1  
  -r ios  
coho repo-status -b master -b 2.8.x -r ios  
coho repo-push -b master -b 2.8.x -r ios  
coho tag-release --version 2.8.0-rc1 -r ios
```

Platforms Release

5. Update cordova-cli:

- Update cordova-cli to point at new platform tags
- Publish cordova as RC to npm

Platforms Release

6. Testing & Cherry-picking (days):

- Announce RC Availability on ML
- Test update scripts
- Test using mobile-spec
- Assume that others are testing in silence*

Platforms Release

7. Update RELEASENOTES.md for each repo

```
### 3.4.0 (Feb 2014) ###
```

```
43 commits from 10 authors. Highlights include:
```

- * Removing addJavascriptInterface support from all...
- * CB-5917 Add a loadUrlIntoView overload that...
- * CB-5889 Make update script find project name...

Platforms Release

9. Generate new docs

```
rake version[2.8.0,en]  
bin/generate  
rsync -av --exclude='.svn*' public/  
  ../cordova-website/public/docs
```

Platforms Release

10. Tag non-RC version on all repos

- Update snapshot of app-hello-world, cordova-js
- Create branches & tags

```
coho prepare-release-branch --version 2.8.0 -r ios  
coho ...
```

Platforms Release

11. Update website & DOAP file

- Make "Download" point to new version

Platforms Release

12. Update docs.cordova.io redirect

- Email michael@michaelbrooks.ca
- Ask him nicely

Platforms Release

13. New cordova release, this time pointing to non-RC versions

- Refer to tools release steps

Platforms Release

14. Tell JIRA it's released

- <https://issues.apache.org/jira/plugins/servlet/project-config/CB/versions>

Platforms Release

15. Write a blog post

- Collect & curate & re-format RELEASENOTES.md from all repos

Platforms Release

16. Add .zip to dist/

```
coho create-release-snapshot --prev-version 2.7.0  
--new-version 2.8.0-rc1 -r release-repos
```


Platforms Release

- Bad: Often takes **weeks**
 - Waiting for other platforms to do thier part
 - No one volunteers to do docs / website
- Platforms that need to be updated get held back

Platforms Release

- Bad: Non-sanctioned releases
 - Voting for *all* release artifacts a recent discovery

Platforms Release

- Bad: Too much automation via coho
 - Committers don't know what the tool will do

Platforms Release

- Good: The process is changing

Tools Release

1. Email ML (1 minute):

I plan on starting a tools release tomorrow.
Let me know if there are any concerns with doing so.

Tools Release

2. Create a JIRA issue (1 minute)

Tools Release

3. Simple Tests (15 minutes*)

- Ensure medic dashboard is green
- Check for missing license headers
- Create mobile-spec project
- Add / remove a plugin
- Ensure unit tests are passing
- Add test results to JIRA

Tools Release

4. Update release notes (15 minutes)

- RELEASENOTES.md based on commit logs

Tools Release

5. Version, tag, version (1 minute)

- Version using SemVer
- Tagged with version number
- Add -dev to version as first commit after tag.

Tools Release

6. Publish to dist/dev (2 minute)

```
coho repo-clone -r dist -r dist/dev
coho create-archive -r plugman -r cli --dest PATH/$JIRA
coho verify-archive cordova-dist-dev/$JIRA/*.zip
svn commit
```

Tools Release

7. Start VOTE Thread (2 minutes)

- Vote lasts 48 hours minimum

Tools Release

8. Draft release announcement (30 minutes)

- Copy & paste previous blog post
- Further curate RELEASENOTES
- Include some highlights
- Send to ML for review

Tools Release

9. Close vote (5 minutes)

- Send email with result & list of binding +1s

Tools Release

10. dist/dev/ -> dist/ (5 minutes)

- Copy / svn commit
- svn rm

Tools Release

11. Publish to npm (5 minutes)

```
npm publish
```

Tools Release

12. Post blog post (5 minutes)

```
rake build  
svn add ...  
svn commit
```


Tools Release

13. Close JIRA (1 minute)

Tools Release

- Minimum 3 days
 - 88 Release Manager minutes
 - 2 * 20 voter minutes
- Not included: setting up gpg
- Not included: any hiccups

Tools Release

- Good: Documentation as Copy n' Paste code
- Good: Continuous integration => already tested

Tools Release

- Bad: npm != dist/
- Bad: Signing & voting wasn't done until recently
- Bad: Commit logs are of varying quality

Tools Release

- Question: Better way to review blog posts?
- Question: How to select Release Managers?


Plugins Release

- Same as tools, except:
 - Up to 19 repositories
 - Some on dev branch, some on master
 - Publish to plugins registry instead of npm

Plugins Release

- Minimum 3 days
 - 130 Release Manager minutes
 - 2 * 20 voter minutes
- Not included: any hiccups

Working with Contributors

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A Story...

Hi! My name is X, I've been reading the list for a while now and would like to start helping out.

A Story...

Hi! My name is X, I've been reading the list for a while now and would like to start helping out.

Hello X, what part of Cordova would you like to work on? Also, have a look at our wiki page for Contributors.

A Story...

Hi! My name is X, I've been reading the list for a while now and would like to start helping out.

Hello X, what part of Cordova would you like to work on? Also, have a look at our wiki page for Contributors.

The End!

GitHub Pull Requests

-
- Good: Users contribute!
- Bad: We wouldn't notice them
- Bad: We wouldn't act on them when we did
- Bad: We can't close them
- Bad: Mirroring was up to a day delayed

GitHub Pull Requests

Thanks INFRA!

- Good: Users contribute!
- ~~Bad: We wouldn't notice them~~
- Bad: We wouldn't act on them when we did
- Bad: We can't close them
- ~~Bad: Mirroring was up to a day delayed~~

GitHub Pull Requests

Thanks (*whoever figured this out*)

- Good: Users contribute!
- ~~Bad: We wouldn't notice them~~
- Bad: We wouldn't act on them when we did
- ~~Bad: We can't close them~~
- ~~Bad: Mirroring was up to a day delayed~~

GitHub Pull Requests

- Very few know about CLA
- Often don't know to run tests
- Usually don't create JIRA issues
- Code formatting often an issue

GitHub Pull Requests

1. Discover pull requests

- Visit GitHub, or:

```
coho list-pulls -r android -r ios
```


GitHub Pull Requests

```
agrieve@agrieve-macbookpro2 ~/git/cordova/cordova-coho (master) $ ./coho list-pulls -r android -r ios
===== cordova-android: 3 Pull Requests. =====
-----
qwe2: Support for PluginFactory (qwe2 3 days ago)
-----
* https://github.com/apache/cordova-android/pull/97
To merge: git pull https://github.com/qwe2/cordova-android.git plugin-factory
Pull request based on this issue: https://issues.apache.org/jira/browse/CB-6384
-----
jsoref: [CB-5258] use exit library (agrieve 116 days ago)
-----
* https://github.com/apache/cordova-android/pull/82
To merge: git pull https://github.com/jsoref/cordova-android.git cb_5258
On Windows, if you have pending bits in pipes and you exit, they
generally do not get delivered.
```

GitHub Pull Requests

Example: <https://github.com/apache/cordova-ios/pull/94>


GitHub Pull Requests

```
commit 89373b32158ee677beabe12543a242f6e2886d18
Author: Andrew Grieve <agrieve@chromium.org>
Date:   Fri Mar 28 13:43:22 2014 -0400
```

Closing stale pull requests.

```
close apache/cordova-android#91
close apache/cordova-ios#95
close apache/cordova-ios#82
```

Code Reviews

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Code Reviews

- You must request one
- reviews.apache.org is confusing
- GitHub pull requests

JIRA

<https://issues.apache.org/jira/browse/CB>

JIRA

Important fields:

- ID (CB-XXXX)
- Status
- Components
- Linked Issues

Not Important:

- assignee
- label
- Fix Version / Affects Version
- Priority

JIRA

Workflow:

- Everyone gets access
- Default assignee == unassigned
- Link to ML via markmail
- Triaging is done by first-come-first serve

JIRA

- Not good for discussion
- Not good for proposals

Cordova's Future



Questions?



Cordova Hackathon

Sponsored by
IBM & RedHat



Win one of 2 nexus 7 tablets!



- **When:** Tuesday
- **Where:** McCourt room
- **What:** Race to Apache Cordova Contribution & Hybrid Mobile App Challenge
- **Who:** Everyone is invited. 8+ Apache Cordova Committers will be in the room answering questions. Come stump the experts!
- **Why:** See what it's like to participate in the Apache Cordova community.