Continuous Localization

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Agenda

1. Brief History
   How we shipped Firefox

2. Continuous L10n
   Localizing Firefox Nightly

3. Android
   Analysis of our Android Apps

4. Q&A
Brief History

Shipping Localized Firefox over time
The OLD Days

Firefox < 5

• Localize mostly on the release branch
• We all forgot most of that
  • It was year(s) per branch
Rapid Release
getting closer in 2011

<table>
<thead>
<tr>
<th>Nightly</th>
<th>Aurora</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>• small locale list</td>
<td>• all locales</td>
<td>• release-ready locales</td>
</tr>
<tr>
<td>• localized builds each day</td>
<td>• 6-ish weeks of string freeze</td>
<td>• weekly builds</td>
</tr>
<tr>
<td>• directly what’s on central</td>
<td>• localized builds each day</td>
<td>• signed off by localizers</td>
</tr>
<tr>
<td>• localizers merge to Aurora</td>
<td>• l10n-drivers merge to Beta</td>
<td>• reviewed by l10n-drivers</td>
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<tr>
<td></td>
<td></td>
<td>• release-engineering merges to release</td>
</tr>
</tbody>
</table>
Today
post-“Dawn”

- one localization for Nightly, Beta, Release, ESR
- “Herald” notifies on patches touching l10n
- Localization of Nightly, Beta, Release in Pontoon
- Nightly builds twice a day with latest localization
- Beta twice a week with sign-offs by l10n-drivers
- Release/ESR with latest state of that release during Beta, plus fixups
Herald
catching localization issues during review

• Herald is part of Phabricator
• CCs l10n-drivers on patches when they get submitted for review
• Developers can’t hide ;-)  
• We don’t know when developers don’t touch l10n files, but should.
• Use CODEOWNERS on github to achieve similar results
Quarantine

not everything is healthy

• problems for localization still reach mozilla-central
• keep them to just a few localizers to verify
• ask for help if problems arise
• publish known-good states to gecko-strings
gecko-strings

- en-US strings
- contains the unit (super-set) of
  - mozilla-central, mozilla-beta, mozilla-release
  - comm-central, comm-beta, comm-release
- we localize this, and have strings for each channel
  - thus **cross-channel**
- used to build localized versions of Firefox, Fennec, Thunderbird, SeaMonkey
- will include ESR at some point in the future
Android

Mobile Apps & More
The good parts

- Android app development puts localizable strings into `strings.xml` files
- Strings have comments, and are maintained as part of the patch
- Engineering teams are set on a linear history in git

**All set for continuous localization!**
... and the Ugly
... if they’d ever fix that bug ...

<resources>
  <string name="app_name">Two Strings</string>
  <string name="textView1">one string" with "apos'trophe</string>
  <string name="textView2">one string" with \" apos\'trophe</string>
</resources>
Still Ugly

app/src/main/res/values/strings.xml is localized in
  ● app/src/main/res/values-de-rDE/strings.xml or
  ● app/src/main/res/values-b+sr+Latn/strings.xml

Locale codes: in vs id, etc

Documentation only describes best practices, but lacks definition of edge cases
The Way Forward

- Establish a mozilla-supported subset
- Automated tests to enforce that subset
- Support some quirks like locale codes

=>

Pontoon can localize Android projects directly.
Mozilla’s Android Apps
Many Things Firefox

And

- Android Components
- Firefox Lockbox
- Firefox Reality
- Firefox Lite
- Fenix
- ...
Workflow
Builds

- Builds with all languages
- Published on a developer channel with updates
- Some projects will have automated screenshots for testing
Thank You