Localization Best Practices on tvOS

Session 248

Joaquim Lobo Silva, Internationalization Software Engineer
Text

Layout and images

Exporting and testing
Strings in Storyboards are localizable by default
Strings in Storyboards are localizable by default

In code, wrap strings with NSLocalizedString() calls
Strings in Storyboards are localizable by default

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Comments are extremely useful
Strings in Storyboards are localizable by default

In code, wrap strings with NSLocalizedString() calls

Comments are extremely useful

```swift
let instruction = NSLocalizedString("Subscribe", comment: "Button title, start subscription")
```
Strings in Storyboards are localizable by default

In code, wrap strings with NSLocalizedString() calls

Comments are extremely useful
Strings in Storyboards are localizable by default

In code, wrap strings with NSLocalizedString() calls

Comments are extremely useful
Not everything needs to be a localized string literal
Not everything needs to be a localized string literal

Formatters for numbers, dates and date intervals, units, etc.
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```swift
let formatter = DateFormatter()
```
Not everything needs to be a localized string literal

Formatters for numbers, dates and date intervals, units, etc.

```swift
let formatter = DateFormatter()
formatter.timeStyle = .short
let string = formatter.string(from: date) // 9:41 AM
```
Not everything needs to be a localized string literal

Formatters for numbers, dates and date intervals, units, etc.

```swift
let formatter = DateFormatter()
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let string = formatter.string(from: date) // 9:41 AM
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Remote Content
Remote Content

Remote text should match your app's language
Remote Content

Remote text should match your app's language
• e.g. media content and descriptions
Remote Content

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• e.g. media content and descriptions

APIs to determine best language to display
Remote Content

Remote text should match your app's language
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APIs to determine best language to display

Considers regional variants and appropriate fallbacks
Remote Content

Remote text should match your app's language
• e.g. media content and descriptions

APIs to determine best language to display

Considers regional variants and appropriate fallbacks

<table>
<thead>
<tr>
<th>Locale.preferredLanguages</th>
<th>bundle.localizations</th>
<th>bundle.preferredLocalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>es-MX</td>
<td>en, en-GB, es-ES, es-419, zh-Hans</td>
<td>es-419</td>
</tr>
<tr>
<td>zh-CN</td>
<td>en, es, fr, ja, ko, zh-Hans, zh-Hant</td>
<td>zh-Hans</td>
</tr>
</tbody>
</table>
// Get the localization the app is currently launched in
let currentLocalization = Bundle.main.preferredLocalizations.first

// Get best localization match from a list of available localizations
let available = myServerSupportedLanguages()
let matchedLocalization = Bundle.preferredLocalizations(from: available).first
// Get the localization the app is currently launched in
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Text Summary

Use strings in Storyboards

Use NSLocalizedString

Use formatters

Use Bundle APIs to determine language for remote content
Text

Layout and images

Exporting and testing
Layout

Adapt for...
Layout

Adapt for...

• Different translation lengths
Layout

Adapt for...

• Different translation lengths

Backup

English
Layout

Adapt for...

• Different translation lengths

Backup

English

Varmuuskopiointi

Finnish
Layout

Adapt for...

- Different translation lengths
- Script directionality

Backup

English

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Adapt for...

- Different translation lengths
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Backup

Hello

Varmuuskopiointi

English

Finnish

English
Layout

Adapt for...
- Different translation lengths

Backup
  English

Hello
  English

Varmuuskopiointi
  Finnish

مرحبا
  Arabic
Layout in UIKit
Layout in UIKit

UIStackView
Layout in UIKit

UIStackView

1
2
3
4
Layout in UIKit

UIStackView

1
2
3
4

Left-to-Right
Layout in UIKit

UIStackView

1
2
3
4

Left-to-Right

Auto Layout: Leading/trailing constraints
Layout in UIKit

UIStackView

Auto Layout: Leading/trailing constraints
• Leading resolves to left in left-to-right, right in right-to-left
Layout in UIKit

UIStackView

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Layout in TVMLKit

Templates do all the work
Layout in TVMLKit

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For custom positioning:
Layout in TVMLKit

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For custom positioning:

- leading and trailing tv-position and tv-align
Layout in TVMLKit

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Layout in TVMLKit

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For custom positioning:

- leading and trailing tv-position and tv-align
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- @media layout-direction: rtl media queries for margins and padding
Layout in TVMLKit

Templates do all the work

For custom positioning:

- leading and trailing tv-position and tv-align
- leading resolves to left in left-to-right, right in right-to-left
- @(media layout-direction: rtl) media queries for margins and padding
Images

Universal
Images

Universal

Mirrored
Images

Universal

Mirrored

Dedicated
What’s New in International User Interfaces
Layout and Images Summary

UIKit
  • UIStackView
  • Auto Layout

TVMLKit
  • Templates
  • New direction APIs
Text

Layout and images

Exporting and testing
Adding Languages to Your Project

PROJECT

TARGETS

Deployment Target

No macOS or iOS Targets Found

Configurations

- Debug
- Release

+ —

Use Release for command-line builds

Localizations

Language | Resources
---|---
English — Development Language | 1 File Localized

+ —

Use Base Internationalization
Adding Languages to Your Project
Exporting Your Localizable Content
Importing Translated Content
Testing
Xcode has several features for testing and verification
Testing

Xcode has several features for testing and verification

Even if you don't speak the language!
Xcode has several features for testing and verification

Even if you don't speak the language!

• Localizability static analyzer
Testing

Xcode has several features for testing and verification

Even if you don't speak the language!

- Localizability static analyzer
- Pseudolanguages
Testing

Xcode has several features for testing and verification

Even if you don't speak the language!

- Localizability static analyzer
- Pseudolanguages
Project Setup Summary

Add supported languages to your project

Export and import localizable content

Static analyzer and runtime pseudolanguages
More Information

## Related Sessions

<table>
<thead>
<tr>
<th>Session</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localizing with Xcode 9</td>
<td>Grand Ballroom B</td>
<td>Tuesday 10:20AM</td>
</tr>
<tr>
<td>Advances in TVMLKit</td>
<td>Grand Ballroom B</td>
<td>Tuesday 11:20AM</td>
</tr>
<tr>
<td>Internationalization Best Practices</td>
<td></td>
<td>WWDC 2016</td>
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<tr>
<td>What’s New in International User Interfaces</td>
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<td>WWDC 2016</td>
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<tr>
<td>Measurements and Units</td>
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