

#WWDC18

New Localization Workflows with Xcode 10

Session 404

Chris Hanson, Software Engineer
Sara Radi, Software Engineer
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Agenda

Agenda

Localization process overview

Agenda

Localization process overview

Xcode localization catalog

Agenda

Localization process overview

Xcode localization catalog

Localizing intent definition files

Localization Process Overview

Overview

Project.xcodeproj

Overview

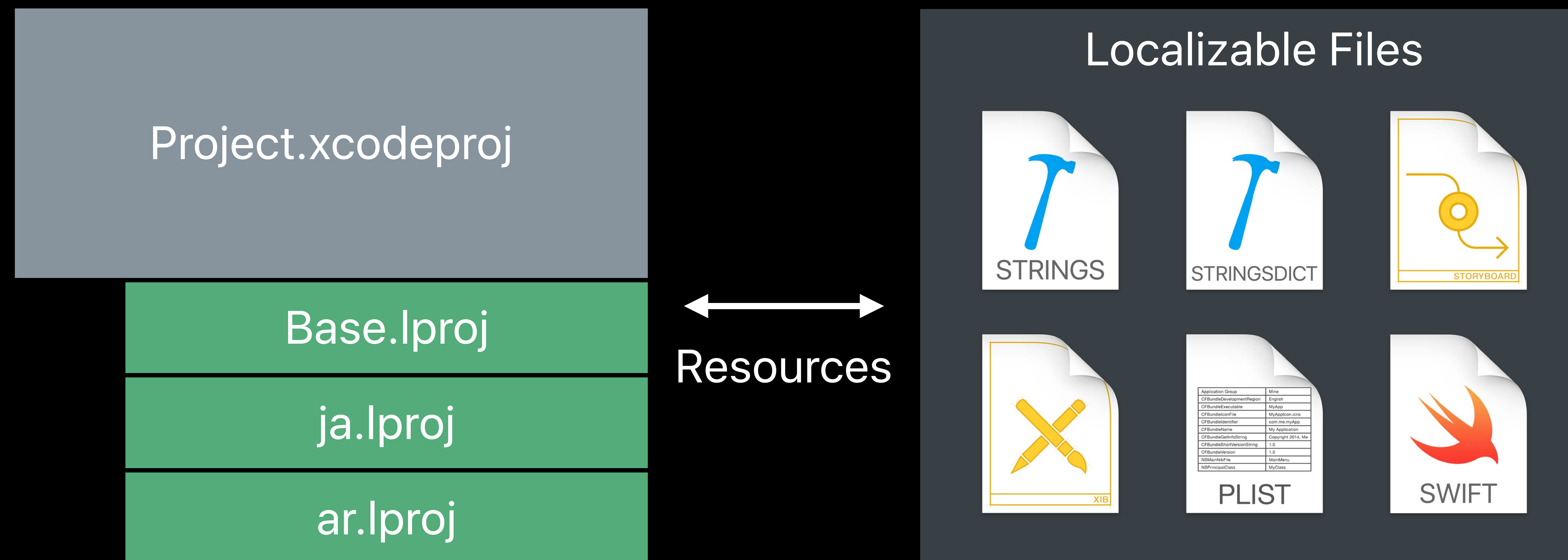
Project.xcodeproj

Base.lproj

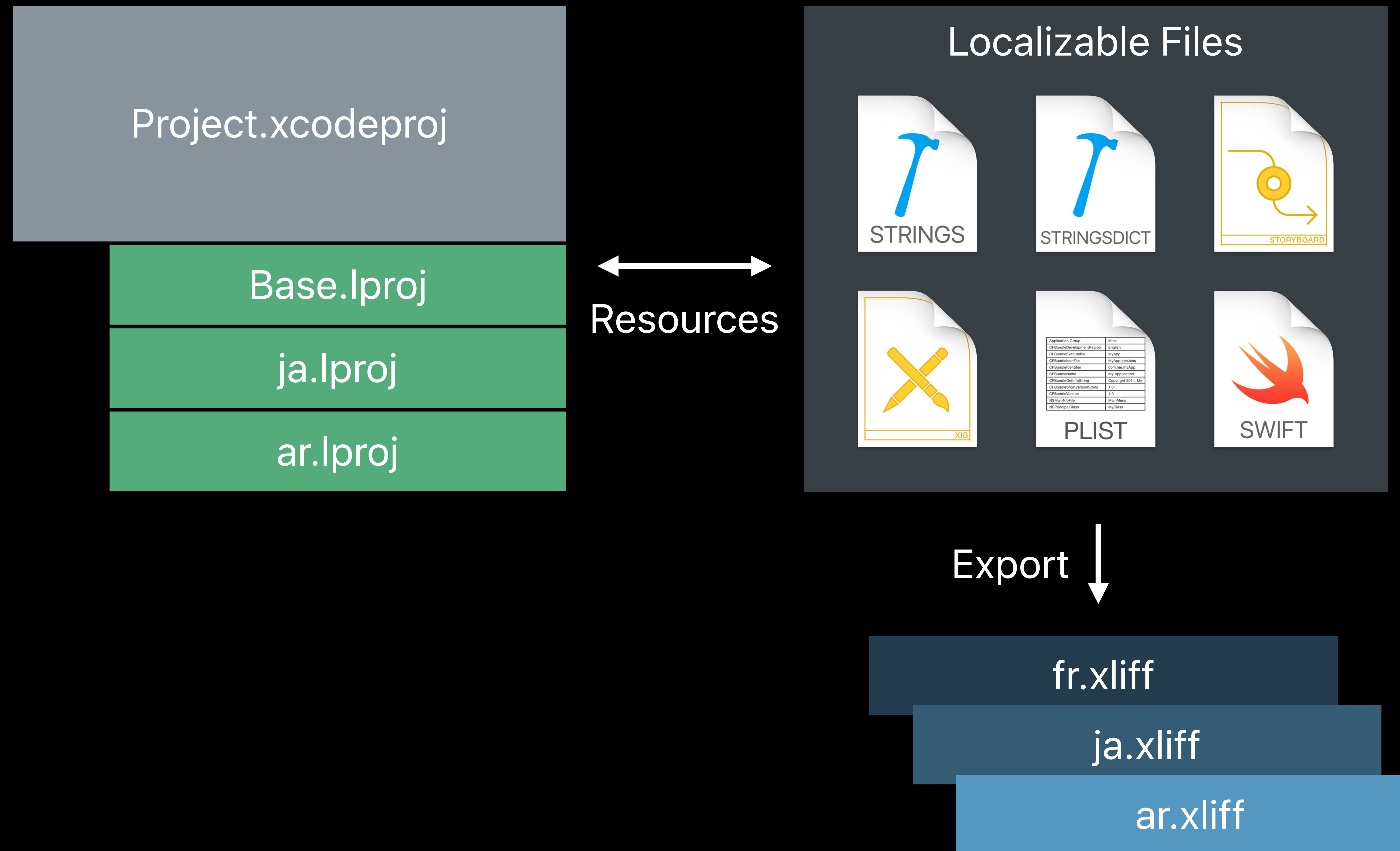
ja.lproj

ar.lproj

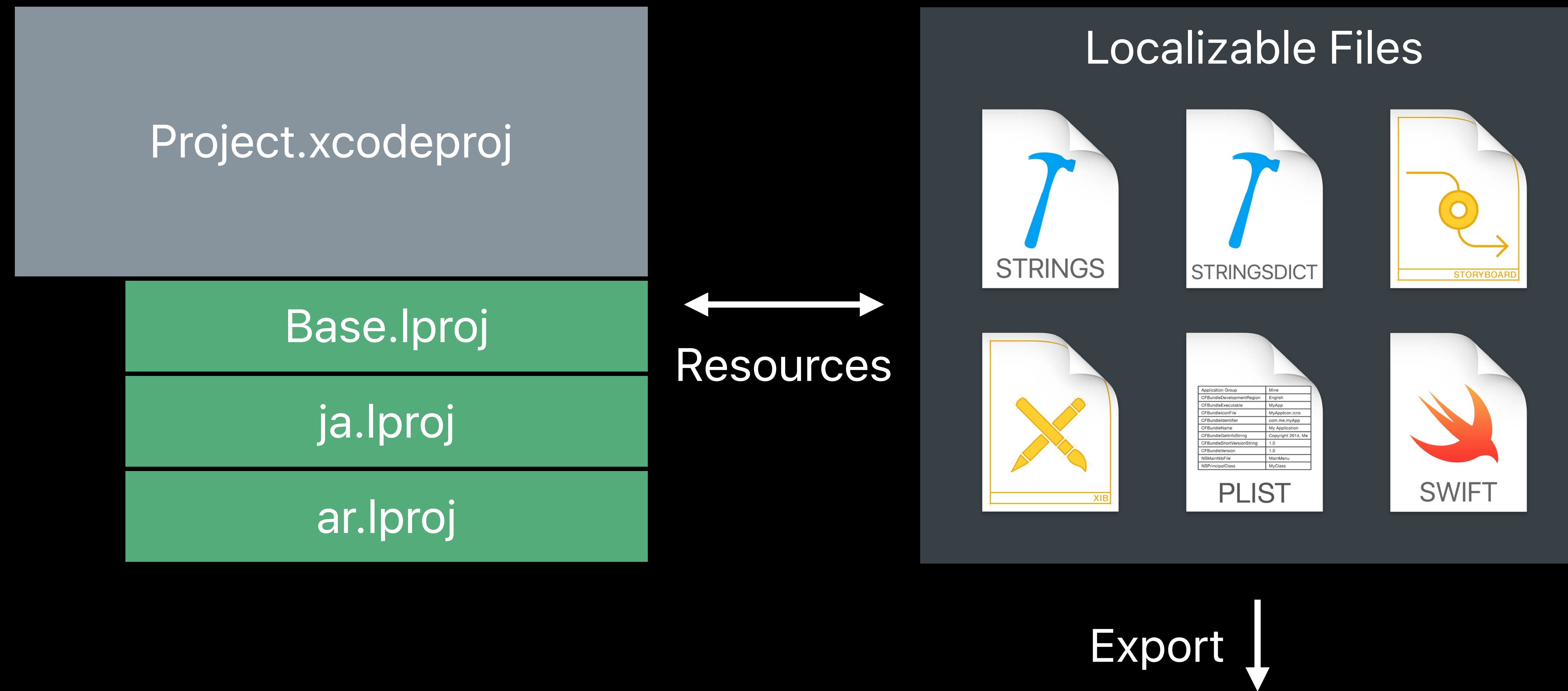
Overview



Overview



Overview



Overview

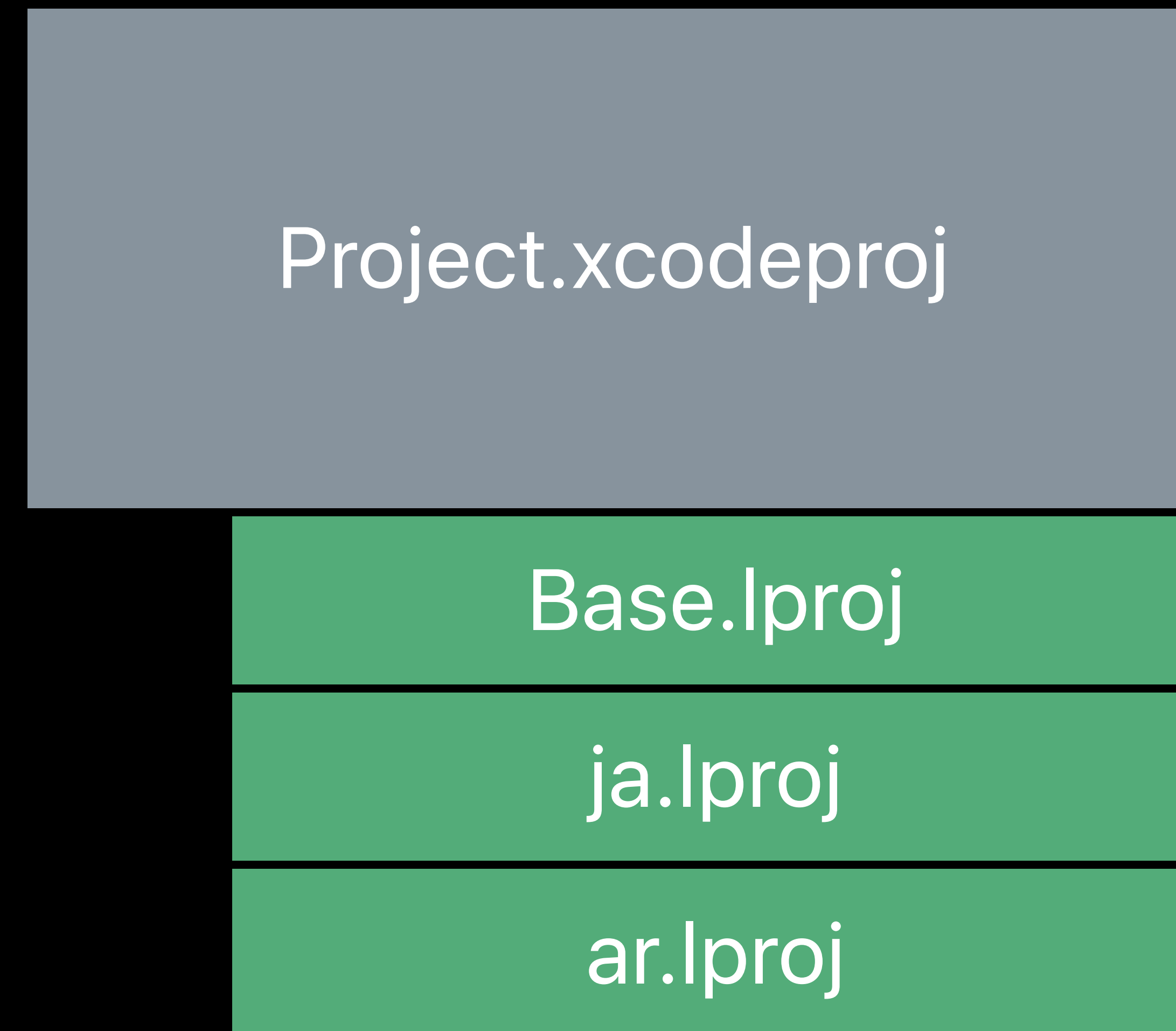
Project.xcodeproj

Base.lproj

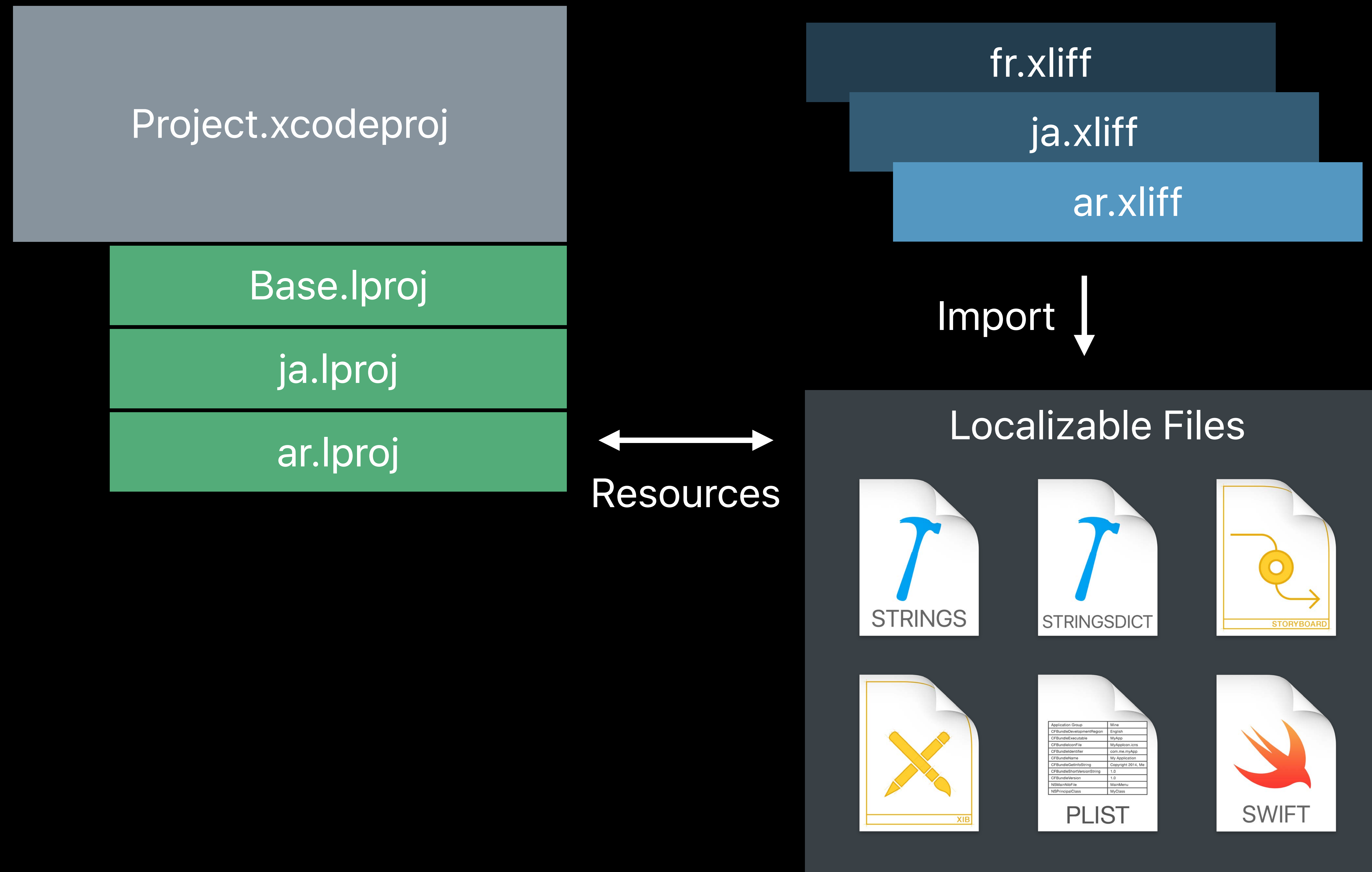
ja.lproj

ar.lproj

Overview



Overview



XLIFF Benefits

XLIFF Benefits

Abstracts localization from code

XLIFF Benefits

Abstracts localization from code

Contains development-language and translated strings

XLIFF Benefits

Abstracts localization from code

Contains development-language and translated strings

Supports multiple file types in a single document

XLIFF Limitations

XLIFF Limitations

Visual context

XLIFF Limitations

Visual context

Resource data

XLIFF Limitations

Visual context

Resource data

Custom metadata

XLIFF Limitations

Visual context

Resource data

Custom metadata

Size and length restrictions

Why is context important?

9:41



[← Back](#)

Travel Details

[Book](#)

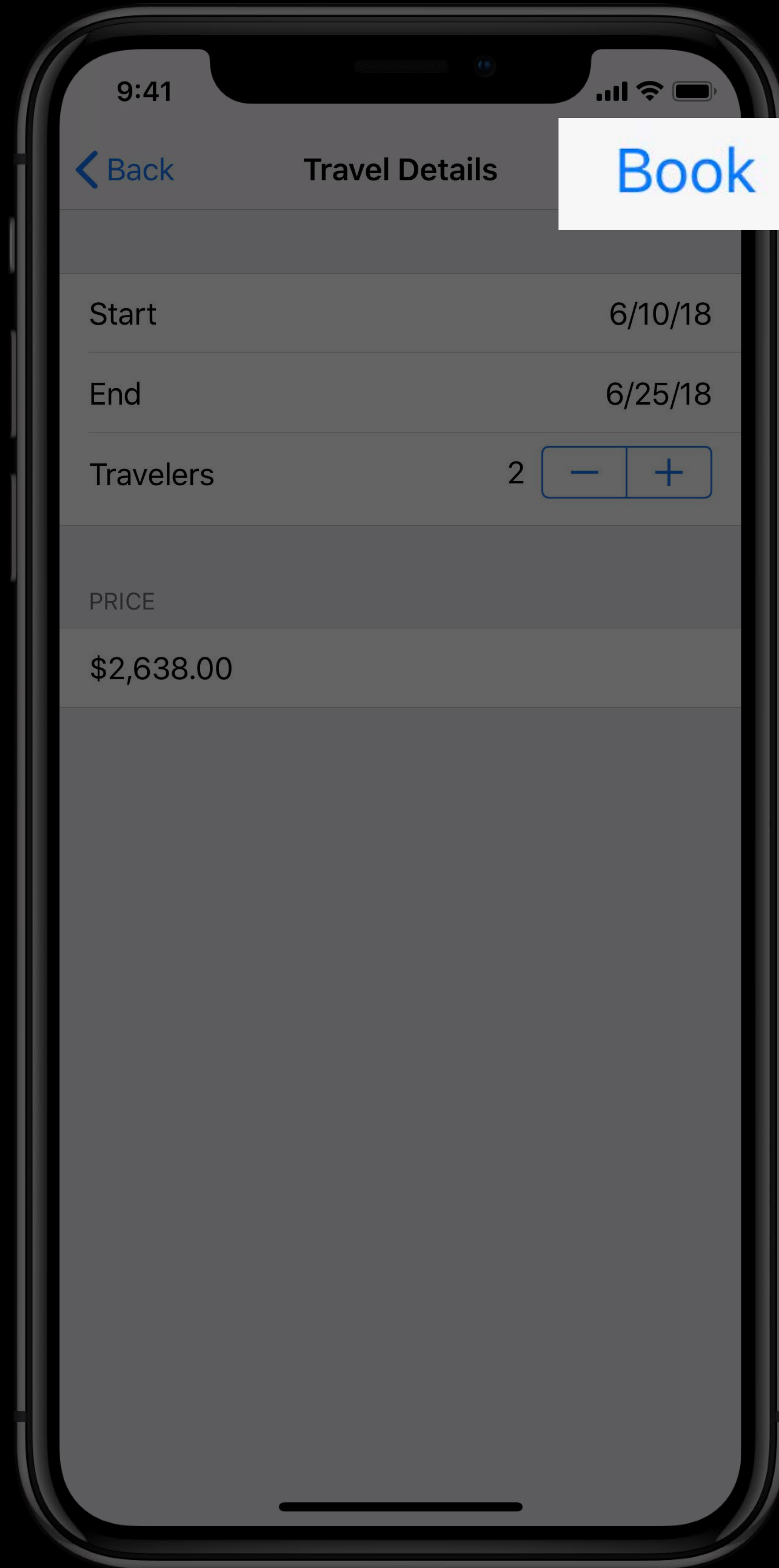
Start 6/10/18

End 6/25/18

Travelers 2

PRICE

\$2,638.00



9:41



< Back

Travel Details

Book

Start

6/10/18

End

6/25/18

Travelers

2

-

+

PRICE

\$2,638.00

9:41



[← Back](#)

Travel Details

[Book](#)

Start 6/10/18

End 6/25/18

Travelers 2

PRICE

\$2,638.00

Context

```
fr.xliff — Edited
fr.xliff <trans-unit id="cl8-gT-WU5.text">
101 <header>
102 <tool tool-id="com.apple.dt.xcode" tool-name="Xcode" tool-version="10.0" build-num="10N175d" />
103 </header>
104 <body>
105 <trans-unit id="2FZ-u0-mCK.text">
106 <source>1</source>
107 <target>1</target>
108 <note>Class = "UILabel"; text = "1"; ObjectID = "2FZ-u0-mCK";</note>
109 </trans-unit>
110 <trans-unit id="3Ux-ma-kz9.text">
111 <source>3 million miles away from you</source>
112 <target>3 million miles away from you</target>
113 <note>Class = "UILabel"; text = "3 million miles away from you"; ObjectID = "3Ux-ma-kz9";</note>
114 </trans-unit>
115 <trans-unit id="Duj-tm-IXV.headerTitle">
116 <source>Price</source>
117 <target>Price</target>
118 <note>Class = "UITableViewSection"; headerTitle = "Price"; ObjectID = "Duj-tm-IXV";</note>
119 </trans-unit>
120 <trans-unit id="aeL-be-sbV.title">
121 <source>Book</source>
122 <target>Book</target>
123 <note>Class = "UIBarButtonItem"; title = "Book"; ObjectID = "aeL-be-sbV";</note>
124 </trans-unit>
125 <trans-unit id="HIR-8w-24C.text">
126 <source>Detail</source>
127 <target>Detail</target>
128 <note>Class = "UILabel"; text = "Detail"; ObjectID = "HIR-8w-24C";</note>
129 </trans-unit>
130 <trans-unit id="SmN-BV-yxL.text">
131 <source>Label</source>
132 <target>Label</target>
133 <note>Class = "UILabel"; text = "Label"; ObjectID = "SmN-BV-yxL";</note>
134 </trans-unit>
135 <trans-unit id="Tpg-bM-UM3.text">
136 <source>Start</source>
137 <target>Start</target>
138 <note>Class = "UILabel"; text = "Start"; ObjectID = "Tpg-bM-UM3";</note>
139 </trans-unit>
140 <trans-unit id="V5T-ui-hqD.text">
141 <source>Detail</source>
142 <target>Detail</target>
143 <note>Class = "UILabel"; text = "Detail"; ObjectID = "V5T-ui-hqD";</note>
144 </trans-unit>
145 <trans-unit id="aoA-z5-Dnr.normalTitle">
```

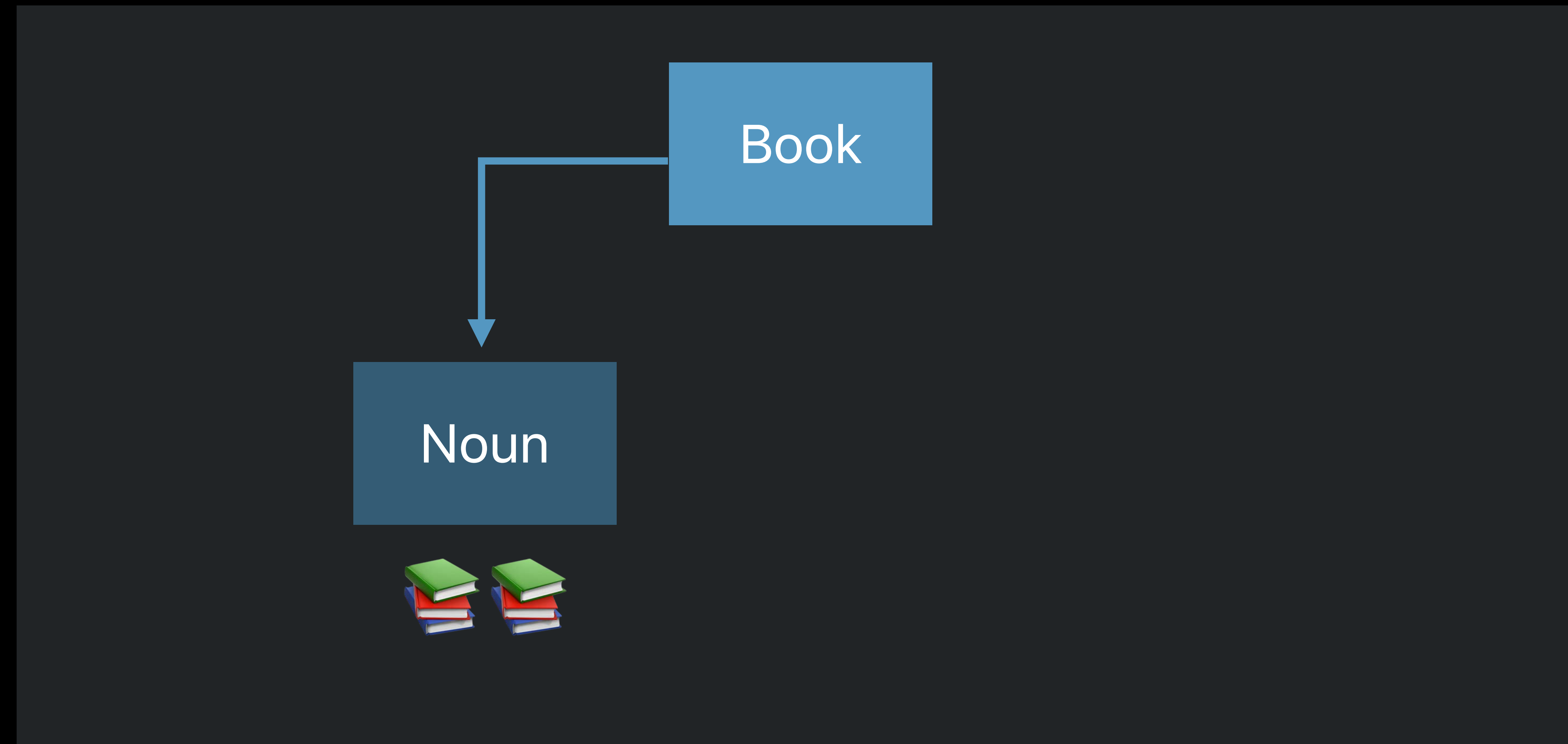

Context

```
fr.xliff — Edited
fr.xliff <trans-unit id="cl8-gT-WU5.text">
101 <header>
102 <tool tool-id="com.apple.dt.xcode" tool-name="Xcode" tool-version="10.0" build-num="10N175d" />
103 </header>
104 <body>
105 <trans-unit id="2FZ-u0-mCK.text">
106 <source>1</source>
107 <target>1</target>
108 <note>Class = "UILabel"; text = "1"; ObjectID = "2FZ-u0-mCK";</note>
109 </trans-unit>
110 <trans-unit id="3Ux-ma-kz9.text">
111 <source>3 million miles away from you</source>
112 <target>3 million miles away from you</target>
113 <note>Class = "UILabel"; text = "3 million miles away from you"; ObjectID = "3Ux-ma-kz9";</note>
114 </trans-unit>
115 <trans-unit id="Duj-tm-IXV.headerTitle">
116 <source>Price</source>
117 <target>Price</target>
118 <note>Class = "UITableViewSection"; headerTitle = "Price"; ObjectID = "Duj-tm-IXV";</note>
120 <trans-unit id="aeL-be-sbV.title">
121 <source>Book</source>
122 <target>Book</target>
123 <note>Class = "UIBarButtonItem"; title = "Book"; ObjectID = "aeL-be-sbV";</note>
124 </trans-unit>
126 <source>Detail</source>
127 <target>Detail</target>
128 <note>Class = "UILabel"; text = "Detail"; ObjectID = "HIR-8w-24C";</note>
129 </trans-unit>
130 <trans-unit id="SmN-BV-yxL.text">
131 <source>Label</source>
132 <target>Label</target>
133 <note>Class = "UILabel"; text = "Label"; ObjectID = "SmN-BV-yxL";</note>
134 </trans-unit>
135 <trans-unit id="Tpg-bM-UM3.text">
136 <source>Start</source>
137 <target>Start</target>
138 <note>Class = "UILabel"; text = "Start"; ObjectID = "Tpg-bM-UM3";</note>
139 </trans-unit>
140 <trans-unit id="V5T-ui-hqD.text">
141 <source>Detail</source>
142 <target>Detail</target>
143 <note>Class = "UILabel"; text = "Detail"; ObjectID = "V5T-ui-hqD";</note>
144 </trans-unit>
145 <trans-unit id="aoA-z5-Dnr.normalTitle">
```

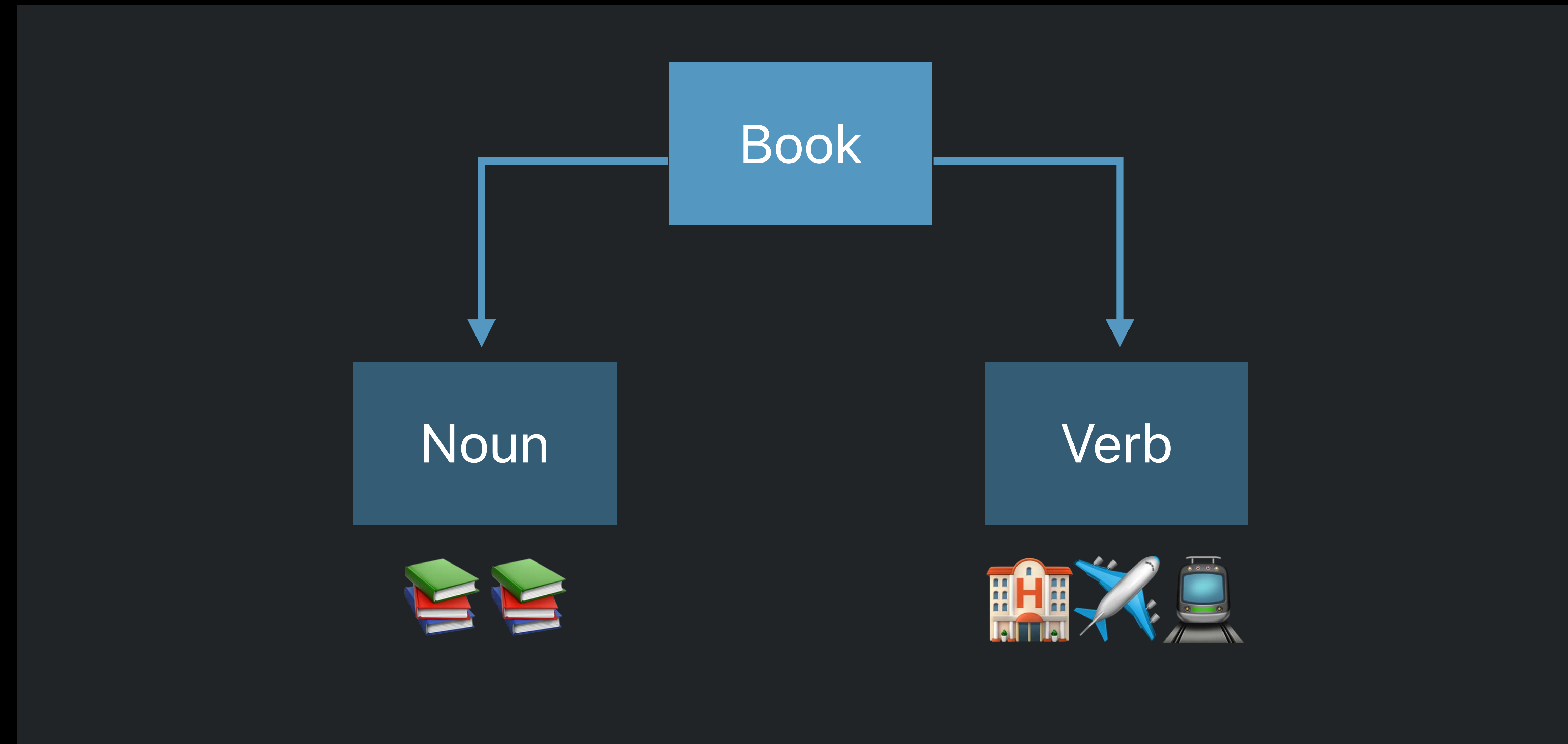

Context

Book

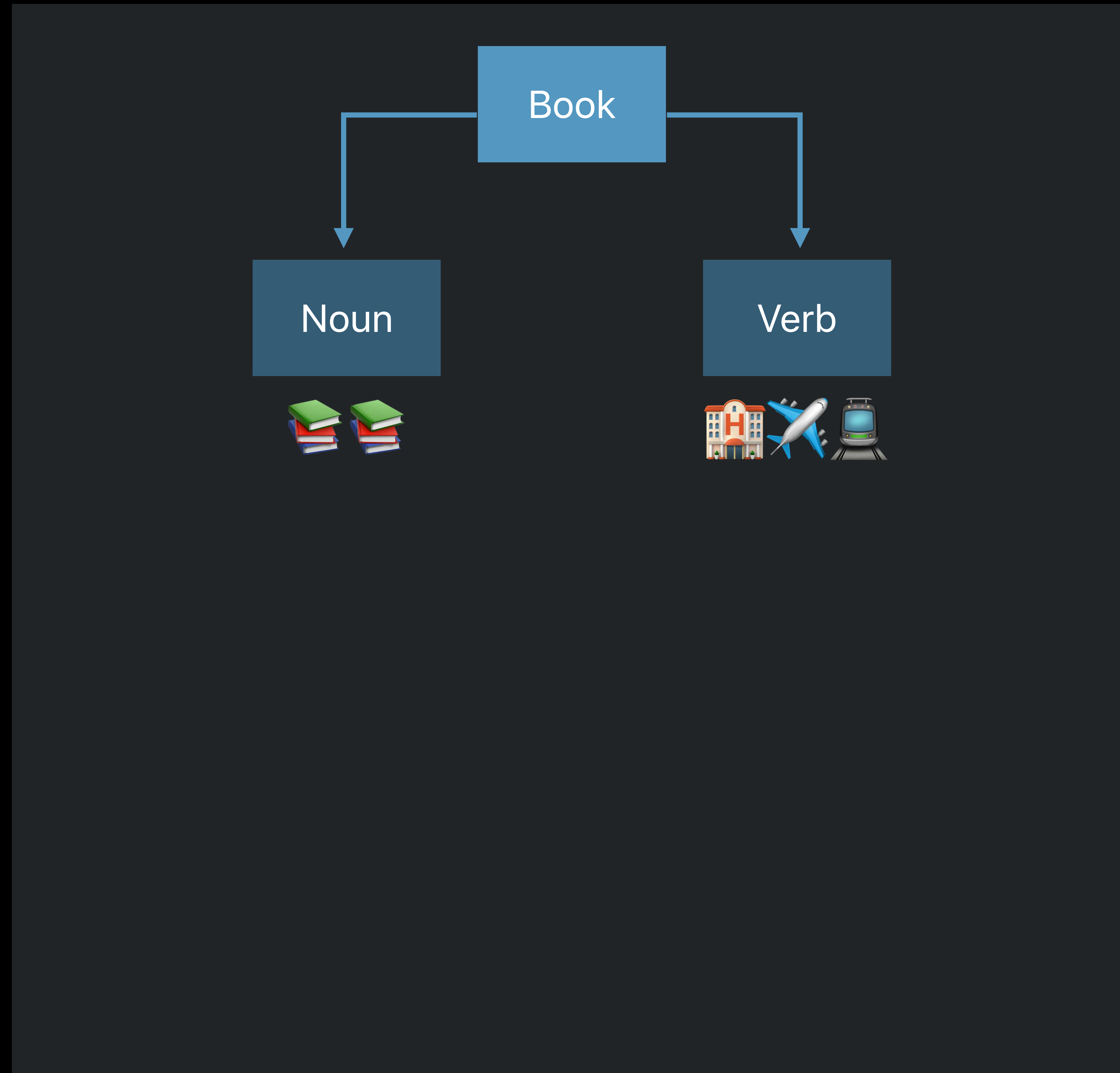
Context



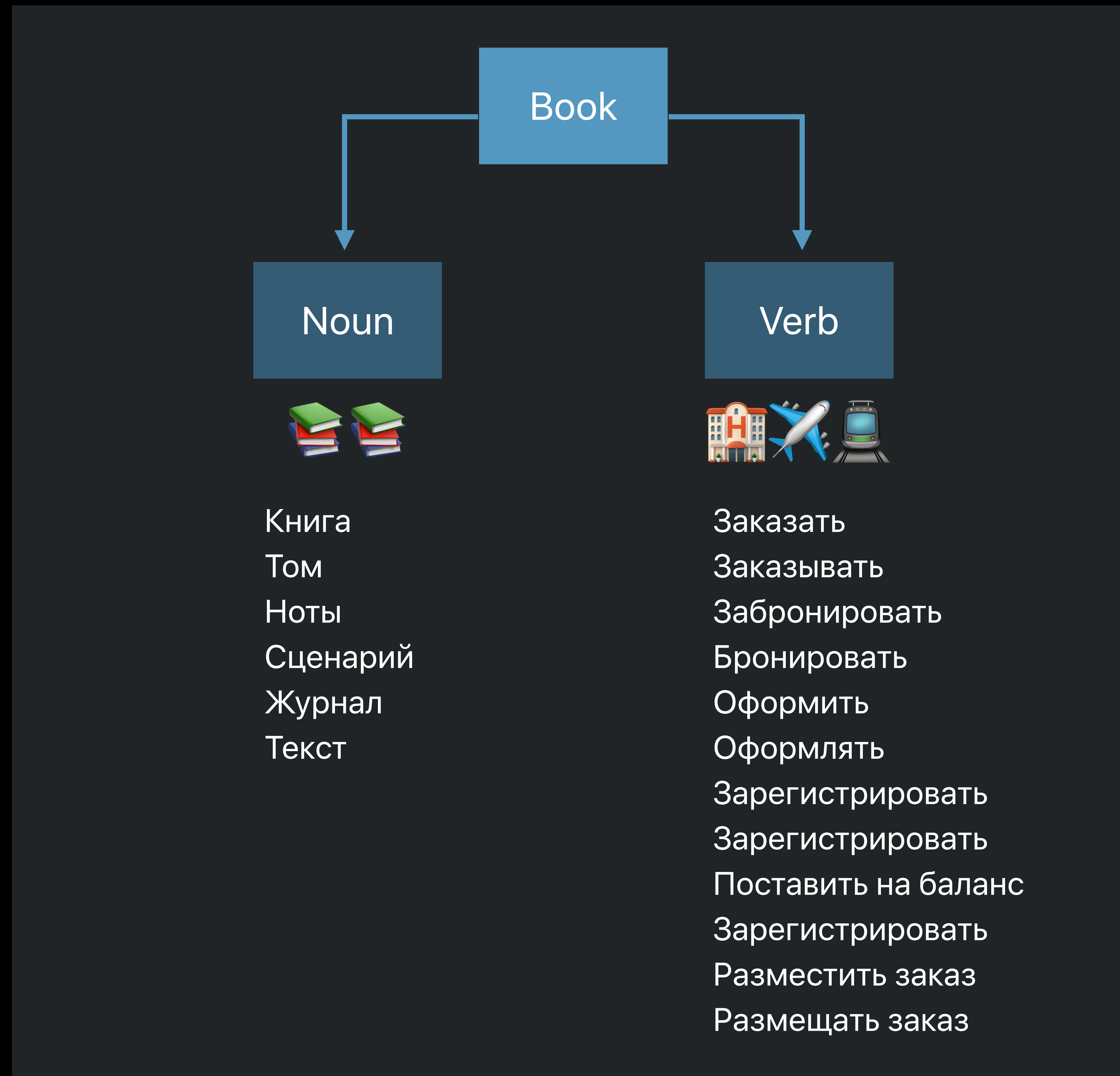
Context



Context



Context





10:09

Booking confirmed



10:09

Réservation con...

NEW

Xcode Localization Catalog

Xcode Localization Catalog

Purpose



NEW

Xcode Localization Catalog

Purpose



NEW

New type of localization artifact with `.xcloc` extension

Xcode Localization Catalog

Purpose



NEW

New type of localization artifact with `.xcloc` extension

Support localization of assets beyond strings

Xcode Localization Catalog

Purpose



NEW

New type of localization artifact with `.xcloc` extension

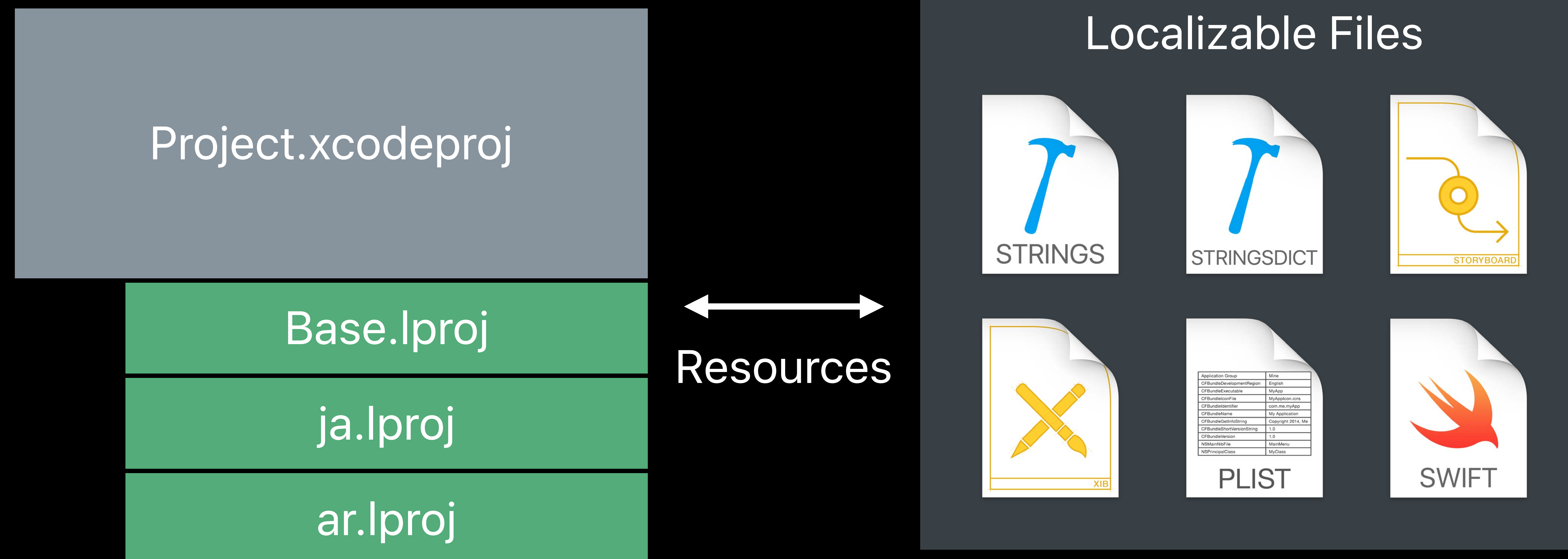
Support localization of assets beyond strings

Provide additional contextual information

Xcode Localization Catalog

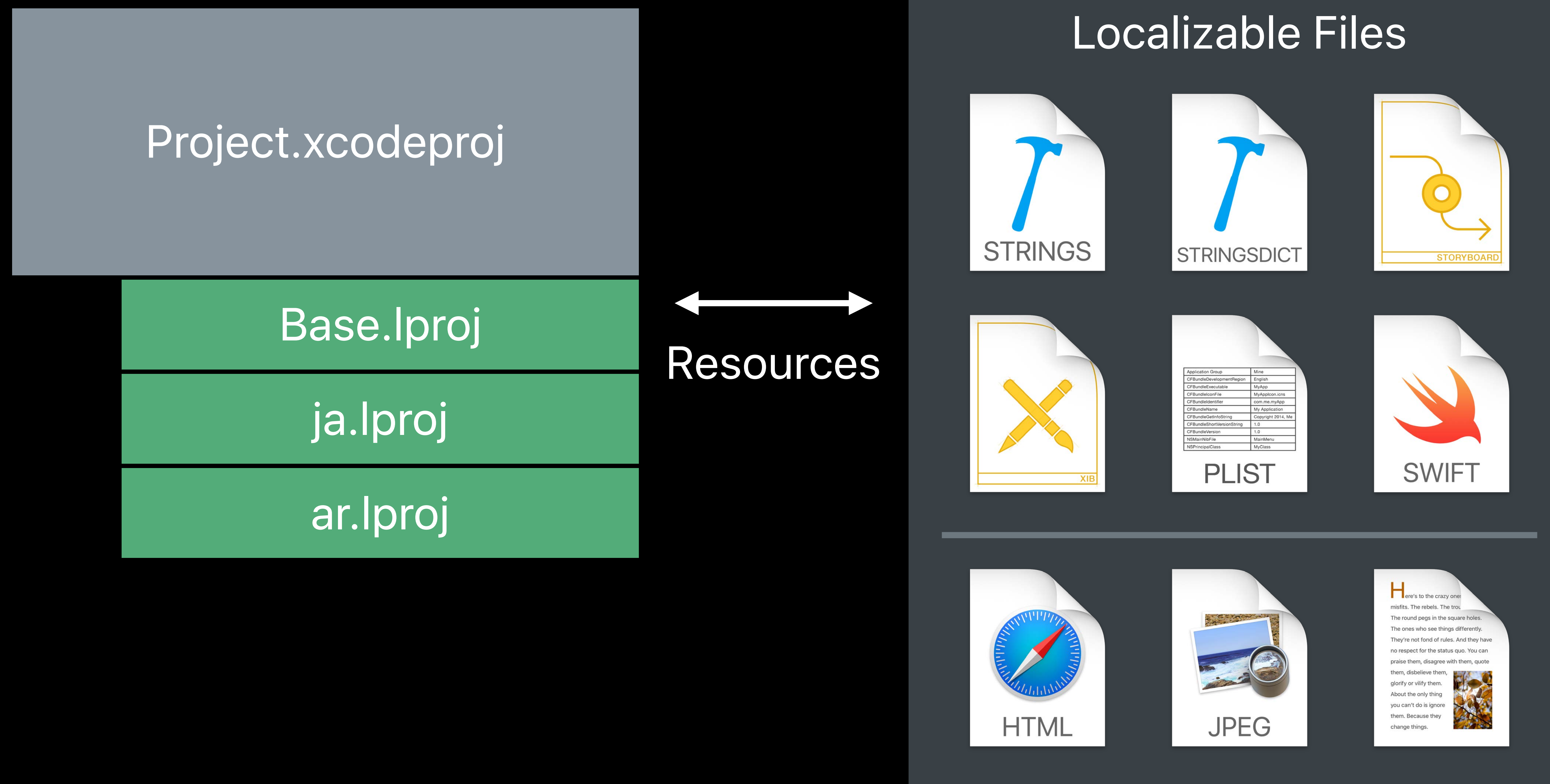
Structure

NEW

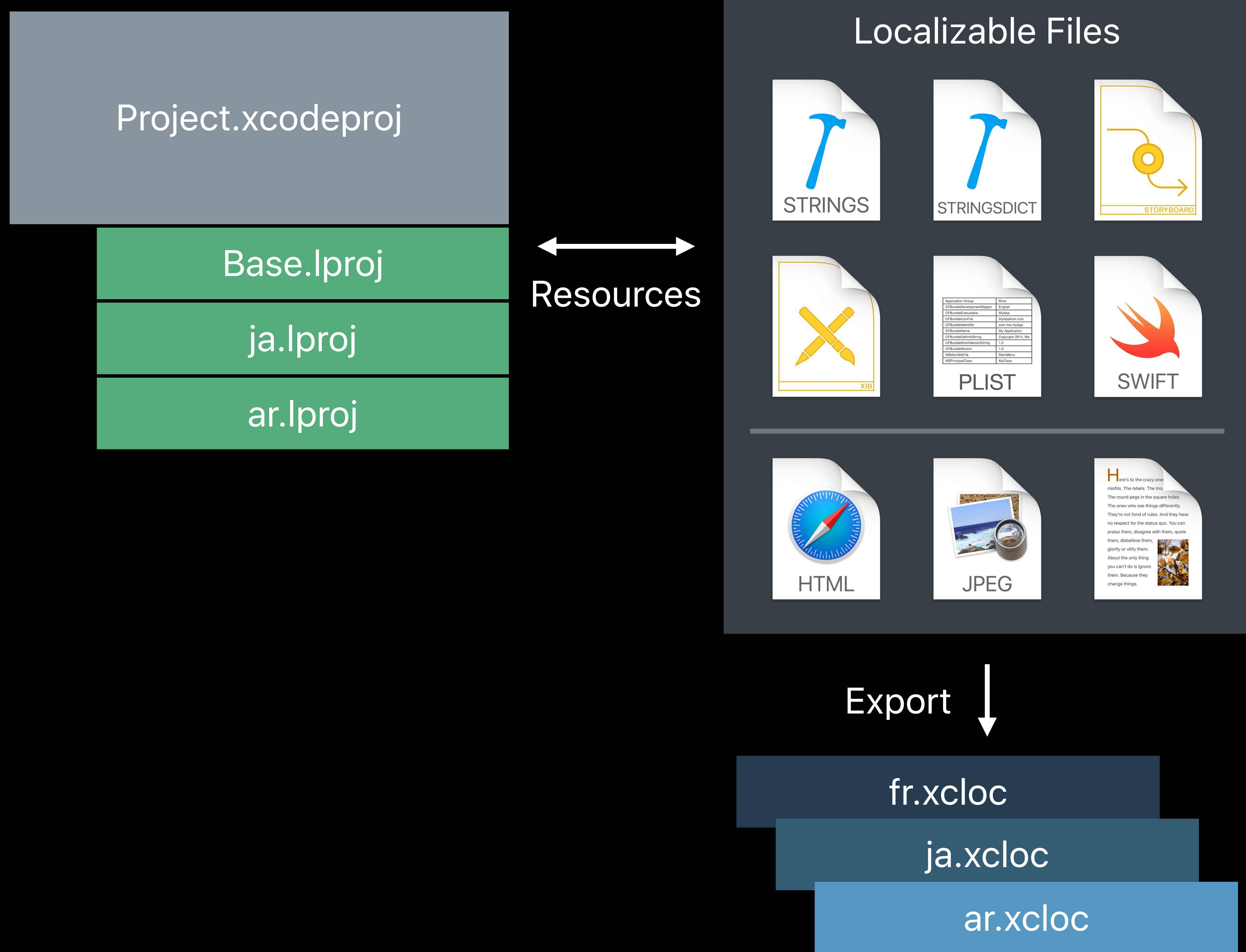


Xcode Localization Catalog

Structure



Xcode Localization Catalog Structure



Xcode Localization Catalog Structure



Localizable Files

The 'Localizable Files' section displays nine file icons arranged in three rows. The first row contains STRINGS (blue hammer), STRINGSdict (blue hammer), and STORYBOARD (yellow storyboard icon). The second row contains XIB (yellow crossed pencils), PLIST (white document with table), and SWIFT (red bird). The third row contains HTML (blue compass), JPEG (landscape photo), and a text file icon with a paragraph of text.

Application Group	Info
CFBundleDevelopmentRegion	English
CFBundleExecutable	MyApp
CFBundleIdentifier	MyApp
CFBundleInfoDictionaryVersion	6.0
CFBundleName	MyApp
CFBundlePackageType	APPLXIB
CFBundleSupportedPlatforms	macOS
CFBundleVersion	1.0
NSHumanReadableCopyright	Copyright © 2014, MyCompany, Inc.
NSHumanReadableName	MyApp
NSHumanReadableVersion	1.0
NSHumanReadableURL	MyApp
NSHumanReadableWebsiteURL	MyApp

Export

A white arrow pointing to the right, indicating the export process.

fr.xcloc

A large, empty rectangular area representing the localization catalog for the French locale (fr.xcloc). The background is a dark blue color.

Xcode Localization Catalog Structure

NEW

Localizable Files



Export

fr.xcloc

contents.json

Xcode Localization Catalog

Structure

NEW

contents.json

Metadata about the localization catalog

```
contents.json
contents.json > No Selection
1 {
2   "developmentRegion" : "en",
3   "targetLocale" : "fr",
4   "toolInfo" : {
5     "toolBuildNumber" : "10N175d",
6     "toolID" : "com.apple.dt.xcode",
7     "toolName" : "Xcode",
8     "toolVersion" : "10.0"
9   },
10  "version" : "1.0"
11 }
12 |
```


Xcode Localization Catalog

Structure

NEW

contents.json

Metadata about the localization catalog

- Development region

```
contents.json
contents.json > No Selection
1 {
2   "developmentRegion" : "en",
3   "targetLocale" : "fr",
4   "toolInfo" : {
5     "toolBuildNumber" : "10N175d",
6     "toolID" : "com.apple.dt.xcode",
7     "toolName" : "Xcode",
8     "toolVersion" : "10.0"
9   },
10  "version" : "1.0"
11 }
12 |
```


Xcode Localization Catalog

Structure

NEW

`contents.json`

Metadata about the localization catalog

- Development region
- Target locale

```
contents.json
contents.json > No Selection
1 {
2   "developmentRegion" : "en",
3   "targetLocale" : "fr",
4   "toolInfo" : {
5     "toolBuildNumber" : "10N175d",
6     "toolID" : "com.apple.dt.xcode",
7     "toolName" : "Xcode",
8     "toolVersion" : "10.0"
9   },
10  "version" : "1.0"
11 }
12 |
```


Xcode Localization Catalog

Structure

NEW

`contents.json`

Metadata about the localization catalog

- Development region
- Target locale
- Tool info

```
contents.json
contents.json > No Selection
1 {
2   "developmentRegion" : "en",
3   "targetLocale" : "fr",
4   "toolInfo" : {
5     "toolBuildNumber" : "10N175d",
6     "toolID" : "com.apple.dt.xcode",
7     "toolName" : "Xcode",
8     "toolVersion" : "10.0"
9   },
10  "version" : "1.0"
11 }
12 |
```


Xcode Localization Catalog

Structure

NEW

`contents.json`

Metadata about the localization catalog

- Development region
- Target locale
- Tool info
- Version

```
contents.json
contents.json > No Selection
1 {
2   "developmentRegion" : "en",
3   "targetLocale" : "fr",
4   "toolInfo" : {
5     "toolBuildNumber" : "10N175d",
6     "toolID" : "com.apple.dt.xcode",
7     "toolName" : "Xcode",
8     "toolVersion" : "10.0"
9   },
10  "version" : "1.0"
11 }
12 |
```

Xcode Localization Catalog Structure

NEW

Localizable Files



Export

fr.xcloc

contents.json

Xcode Localization Catalog Structure



Localizable Files

The 'Localizable Files' section displays nine file types: STRINGS (blue hammer icon), STRINGSdict (blue hammer icon), STORYBOARD (yellow storyboard icon), XIB (yellow pencil icon), PLIST (table icon), SWIFT (red bird icon), HTML (blue compass icon), JPEG (landscape photo icon), and a text file (document icon with text).

Export

fr.xcloc

The 'fr.xcloc' structure is shown as a vertical stack of three main components:

- contents.json**: A light green box at the top.
- Localized Contents**: A dark green box containing:
 - fr.xliff**: A medium green box.
 - fr.lproj**: A dark green box containing three file icons: XIB, STORYBOARD, and JPEG.

Xcode Localization Catalog

Structure

NEW

Localized Contents

Xcode Localization Catalog

Structure



NEW

Localized Contents

- XLIFF 1.2 document containing the project localized strings

Xcode Localization Catalog

Structure



NEW

Localized Contents

- XLIFF 1.2 document containing the project localized strings
- Non-strings localizable assets

Xcode Localization Catalog

Structure



NEW

Localized Contents

- XLIFF 1.2 document containing the project localized strings
- Non-strings localizable assets
- Organized into the same file system hierarchy as Xcode project

Xcode Localization Catalog

Structure



NEW

Localized Contents

- XLIFF 1.2 document containing the project localized strings
- Non-strings localizable assets
- Organized into the same file system hierarchy as Xcode project
- Override resources

Xcode Localization Catalog Structure



Localizable Files

STRINGS

STRINGSdict

STORYBOARD

XIB

PLIST

SWIFT

HTML

JPEG

Export

fr.xcloc

contents.json

Localized Contents

fr.xliff

fr.lproj

XIB

STORYBOARD

JPEG

Xcode Localization Catalog Structure



Localizable Files

The 'Localizable Files' section displays a grid of nine file types: STRINGS (blue hammer icon), STRINGSdict (blue hammer icon), STORYBOARD (yellow storyboard icon), XIB (yellow pencil icon), PLIST (table icon), SWIFT (red bird icon), HTML (blue compass icon), JPEG (image icon), and a text file (document icon).

Export

fr.xcloc

The 'fr.xcloc' section illustrates the structure of a localization catalog. It is organized into three main columns: 'contents.json', 'Localized Contents', and 'Source Contents'. The 'Localized Contents' column contains 'fr.xliff' and 'fr.lproj'. The 'Source Contents' column contains 'Base.lproj' and 'en.lproj'. The 'fr.lproj' and 'en.lproj' folders each contain icons for XIB, STORYBOARD, and JPEG files. The 'Base.lproj' folder contains icons for XIB, STORYBOARD, and JPEG files. The 'en.lproj' folder contains two STRINGSdict icons.

Xcode Localization Catalog

Structure

NEW

Source Contents

Xcode Localization Catalog

Structure



NEW

Source Contents

- Assets used to produce the Localized Contents

Xcode Localization Catalog

Structure



NEW

Source Contents

- Assets used to produce the Localized Contents
- Organized into the same file system hierarchy as Xcode project

Xcode Localization Catalog

Structure



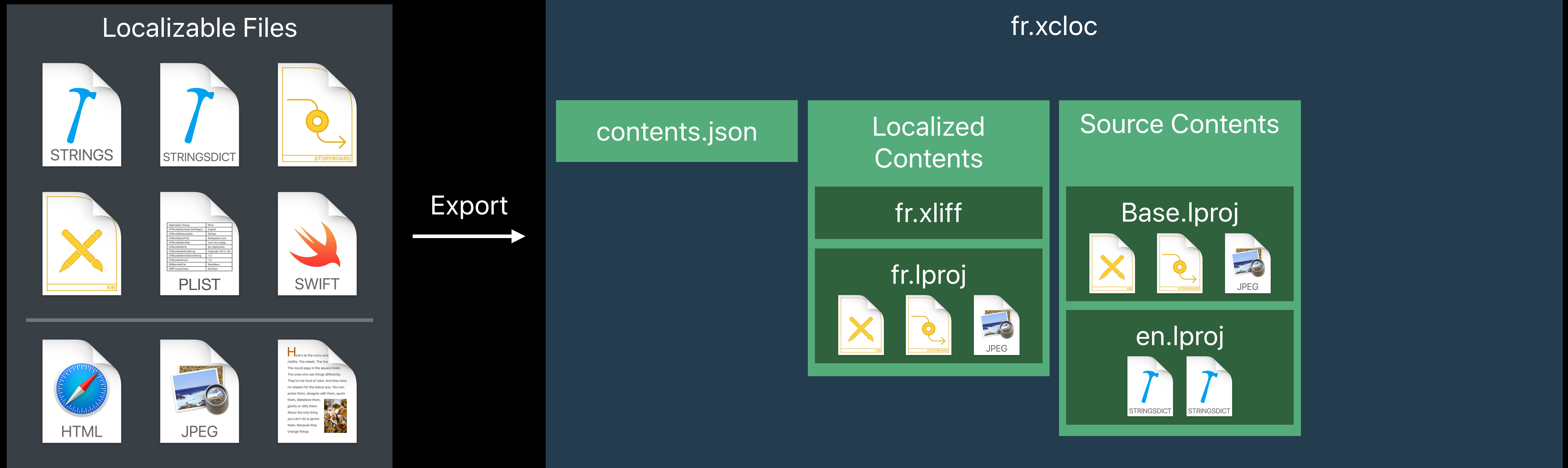
NEW

Source Contents

- Assets used to produce the Localized Contents
- Organized into the same file system hierarchy as Xcode project
- Provided for context

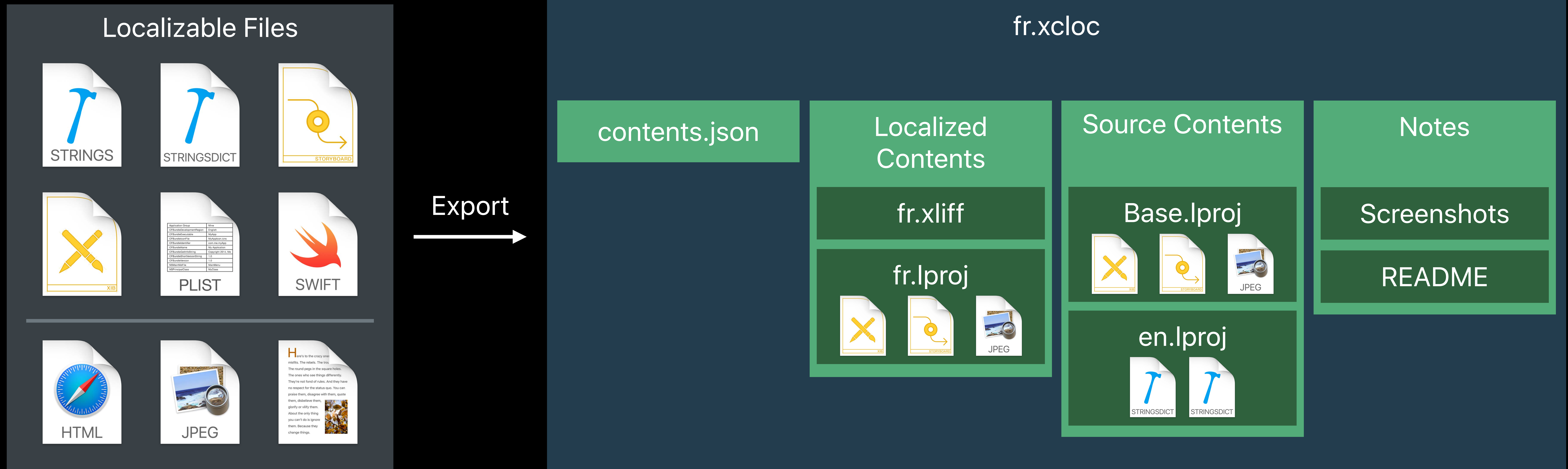
Xcode Localization Catalog Structure

NEW



Xcode Localization Catalog Structure

NEW



Xcode Localization Catalog

Structure

NEW

Notes

Xcode Localization Catalog

Structure



NEW

Notes

- Provide additional information to the localizers

Xcode Localization Catalog

Structure



NEW

Notes

- Provide additional information to the localizers
- Screenshots

Xcode Localization Catalog

Structure



NEW

Notes

- Provide additional information to the localizers
- Screenshots
- Readme file

Xcode Localization Catalog

Continuous integration—export

Xcode Localization Catalog

```
$ xcodebuild -exportLocalizations -project <projectname> -localizationPath <dirpath>  
[[-exportLanguage <targetlanguage>] ...]
```

Xcode Localization Catalog

Continuous integration—import

Xcode Localization Catalog

```
$ xcodebuild -importLocalizations -project <projectname> -localizationPath </path/to/  
language.xcloc>
```

XLIFF file

```
$ xcodebuild -importLocalizations -project <projectname> -localizationPath </path/to/  
language.xliff>
```

Xcode Localization Catalog

Continuous integration—import

Xcode Localization Catalog

```
$ xcodebuild -importLocalizations -project <projectname> -localizationPath </path/to/  
language.xcloc>
```

XLIFF file

```
$ xcodebuild -importLocalizations -project <projectname> -localizationPath </path/to/  
language.xliff>
```


Demo

Xcode Localization Catalog

Vivian Robison, Software Engineer

Xcode Localization Catalog

Xcode Localization Catalog

New standard for localization export and import

Xcode Localization Catalog

New standard for localization export and import

Provides more flexibility and context for localizers

Xcode Localization Catalog

New standard for localization export and import

Provides more flexibility and context for localizers

Increased file type support for nonstring resources

Xcode Localization Catalog

New standard for localization export and import

Provides more flexibility and context for localizers

Increased file type support for nonstring resources

Continuous integration support

Xcode Localization Catalog

New standard for localization export and import

Provides more flexibility and context for localizers

Increased file type support for nonstring resources

Continuous integration support

Backward compatible

Intent Definition Localization

Chris Hanson, Software Engineer

Intent Definition File



NEW

Used to define custom intents for shortcuts

Intent Definition File



NEW

Used to define custom intents for shortcuts

`.intentdefinition` extension

Intent Definition File



NEW

Used to define custom intents for shortcuts

`.intentdefinition` extension

Base localized

Intent Definition File

NEW

Used to define custom intents for shortcuts

`.intentdefinition` extension

Base localized

Localized using `.strings` files

Intent Definition File

NEW

Used to define custom intents for shortcuts

`.intentdefinition` extension

Base localized

Localized using `.strings` files

...and `.stringsdict` files too

Intent Definition File

Localizable content

NEW

The screenshot shows the Xcode interface for defining a custom intent. The breadcrumb path is: VacationPlanet > VacationPlanet > Intents.intentdefinition > Intents.intentdefinition (Base) > Custom Intents > BookItem.

CUSTOM INTENTS

- BookItem (selected)
- Response

ENUMS

- Type

Custom Intent

Category: Book

Title: Book a travel item

Description: You can use this action to book an item from our wide catalog o

Confirmation: User confirmation required

Parameters

Parameter	Type	Array
type	Type	<input type="checkbox"/>
destination	String	<input type="checkbox"/>
travelers	Integer	<input type="checkbox"/>

Shortcut Types

Parameter Combination

- type, travelers (selected)
- type, destination, travelers

Title: Book a type for travelers people

Subtitle:

Background: Supports background execution

Watch: Primary shortcut type on watch

Intent Definition File

Localizable content

NEW

▼ Custom Intent

Category

Title

Description

Confirmation User confirmation required

Parameter	Type	Array
<input type="text" value="type"/>	Type	<input type="checkbox"/>
<input type="text" value="destination"/>	String	<input type="checkbox"/>
<input type="text" value="travelers"/>	Integer	<input type="checkbox"/>
+ -		

▼ Shortcut Types

Parameter Combination

<input type="text" value="type, travelers"/>	<input type="text" value="Book a type for travelers people"/>
<input type="text" value="type, destination, travelers"/>	<input type="text" value=""/>
<input type="text" value=""/>	<input type="text" value=""/>
<input type="text" value=""/>	<input type="text" value=""/>
<input type="text" value=""/>	<input type="text" value=""/>
+ -	

Background Supports background execution

Watch Primary shortcut type on watch

+ - Filter

Intent Definition File

Localizable content

NEW

VacationPlanet > VacationPlanet > Intents.intentdefinition > Intents.intentdefinition (Base) > Custom Intents > BookItem

CUSTOM INTENTS

- BookItem
- Response

ENUMS

- Type

Custom Intent

Category: Book

Title: Book a travel item

Description: You can use this action to book an item from our wide catalog o

Confirmation: User confirmation required

Parameters

Parameter	Type	Array
type	Type	<input type="checkbox"/>
destination	String	<input type="checkbox"/>

Shortcut Types

Parameter Combination

type, travelers
type, destination, travelers

+ -

Title: Book a type for travelers people

Subtitle

Background: Supports background execution

Watch: Primary shortcut type on watch

+ -

Intent Definition File

Localizable content

NEW

The screenshot displays a user interface for defining an intent. On the left, a sidebar lists 'CUSTOM INTENTS' with 'BookItem' and 'Response' (selected), and 'ENUMS' with 'Type'. The main area is divided into two sections: 'Properties' and 'Response Templates'. The 'Properties' section contains a table with columns for 'Property', 'Type', and 'Array'. The 'Response Templates' section contains a table with columns for 'Code', 'Success', and 'Template'.

Property	Type	Array
type	Type	<input type="checkbox"/>
destination	String	<input type="checkbox"/>

Code	Success	Template
failure	<input type="checkbox"/>	We were unable to book the <code>type</code> to <code>destination</code>
success	<input checked="" type="checkbox"/>	Your <code>type</code> to <code>destination</code> has been booked

Intent Definition File

Localizable content

NEW

CUSTOM INTENTS

- BookItem
- Response

ENUMS

- Type

▼ Properties

Property	Type	Array
type	Type	<input type="checkbox"/>
destination	String	<input type="checkbox"/>

▼ Response Templates

Code	Success	Template
failure	<input type="checkbox"/>	We were unable to book the <code>type</code> to <code>destination</code>
success	<input checked="" type="checkbox"/>	Your <code>type</code> to <code>destination</code> has been booked

+ -

Intent Definition File

Localizable content

NEW

Intent

Parameter

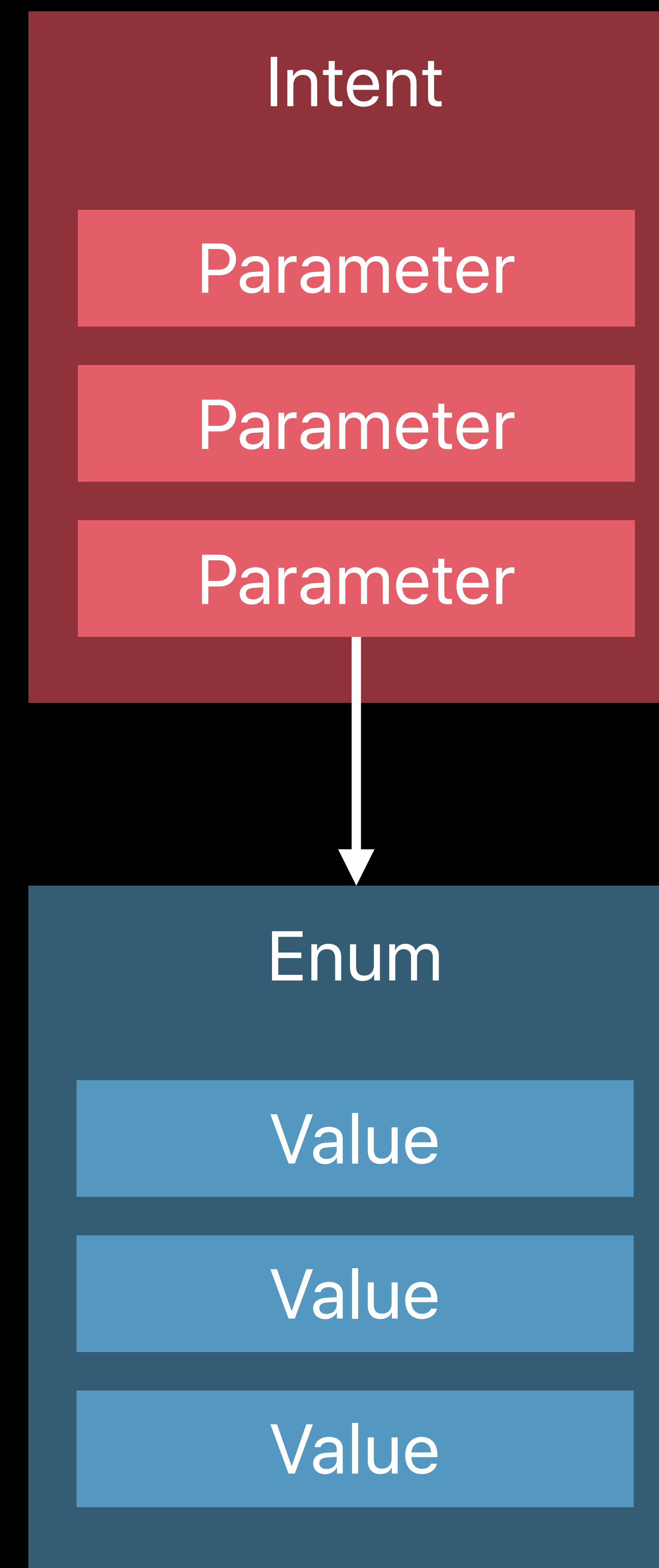
Parameter

Parameter

Intent Definition File

Localizable content

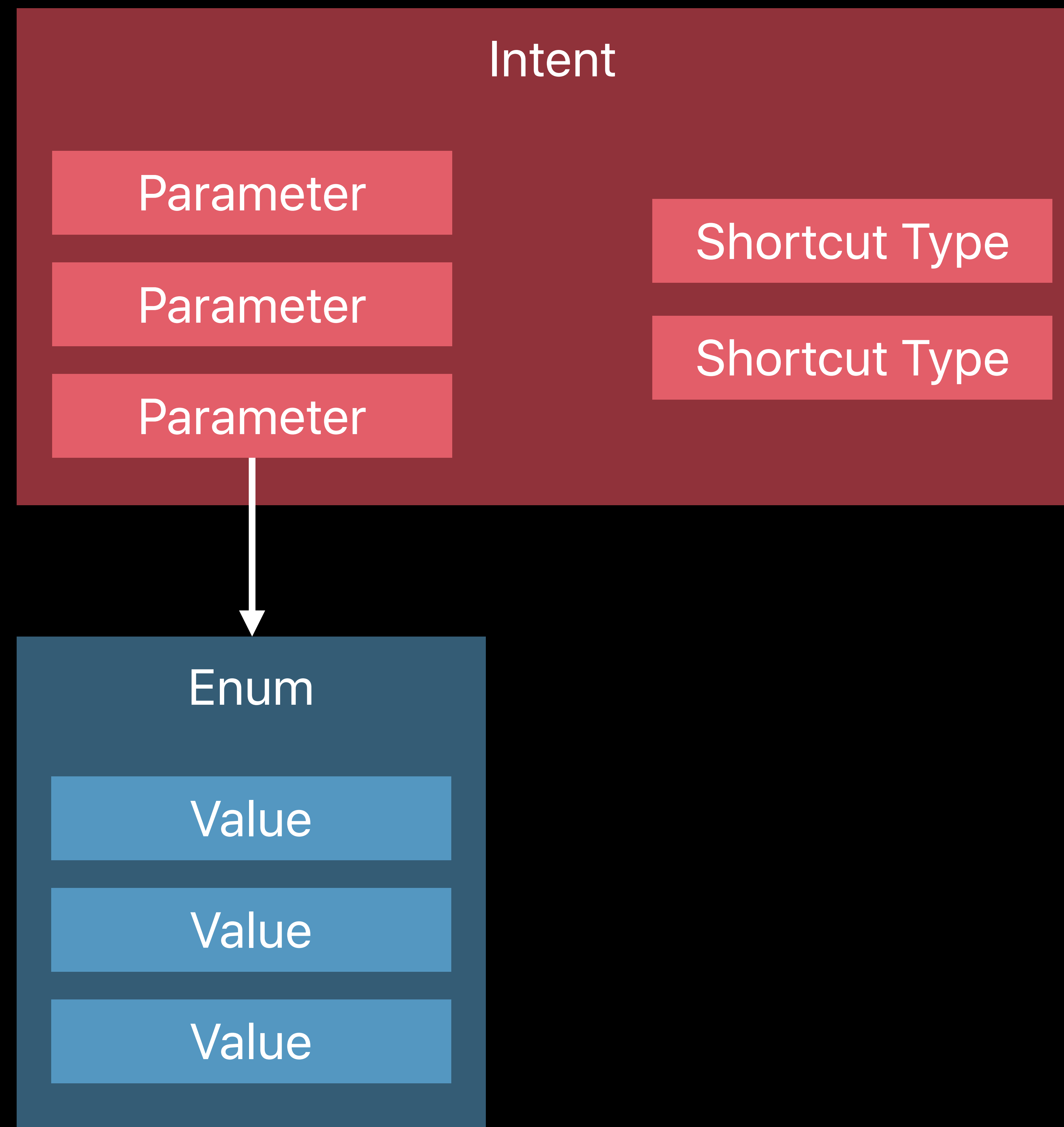
NEW



Intent Definition File

Localizable content

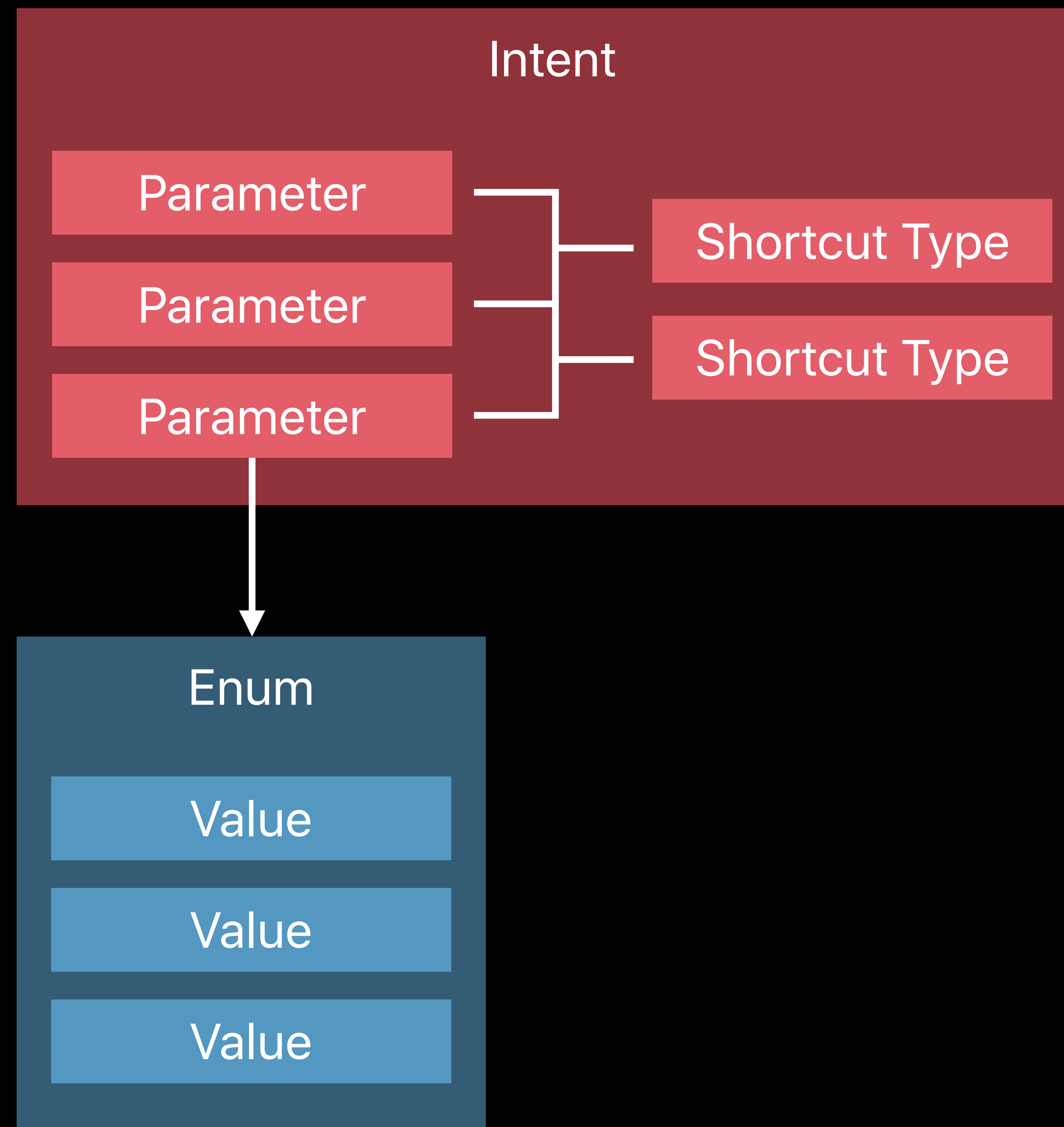
NEW



Intent Definition File

Localizable content

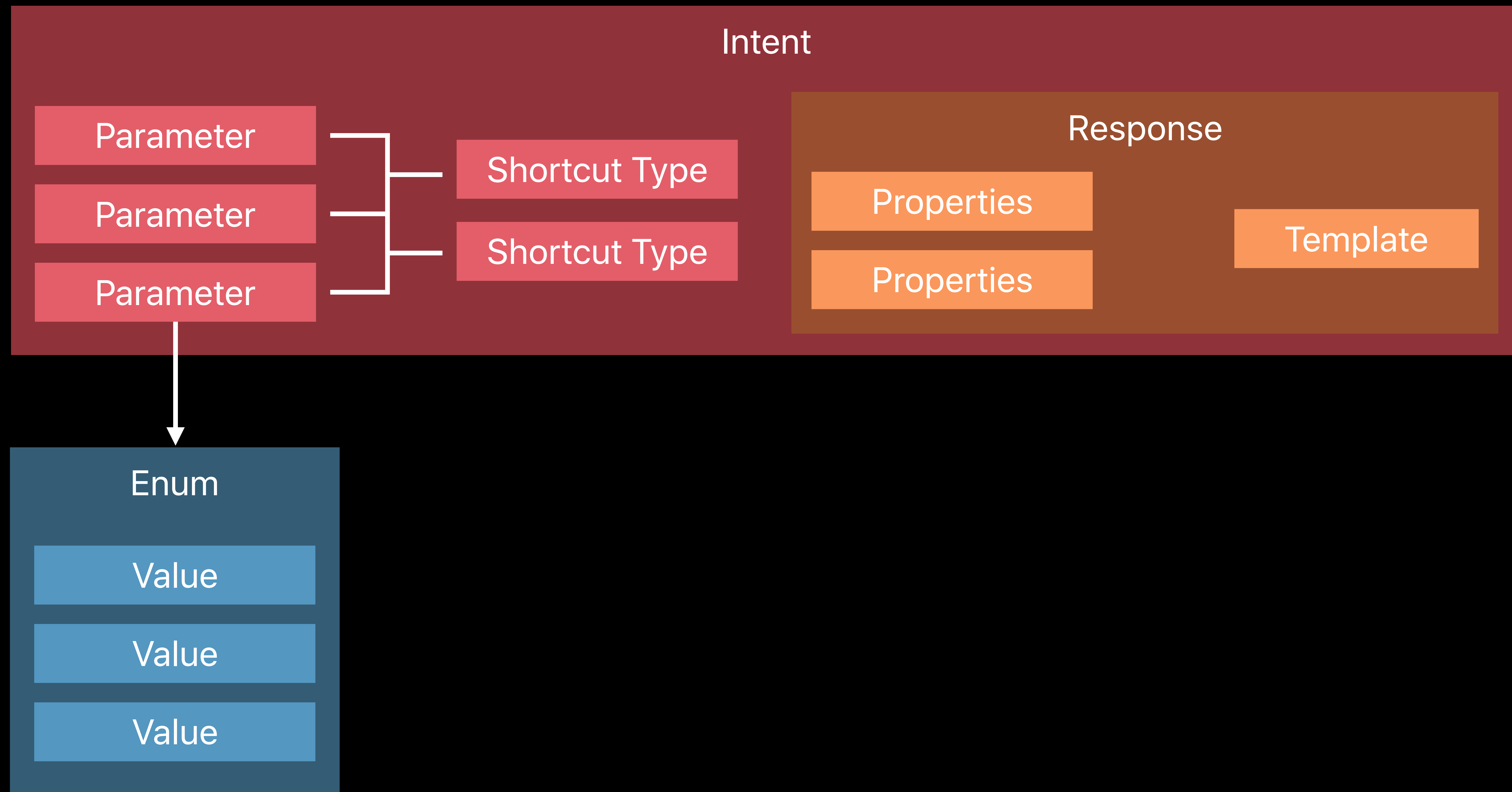
NEW



Intent Definition File

Localizable content

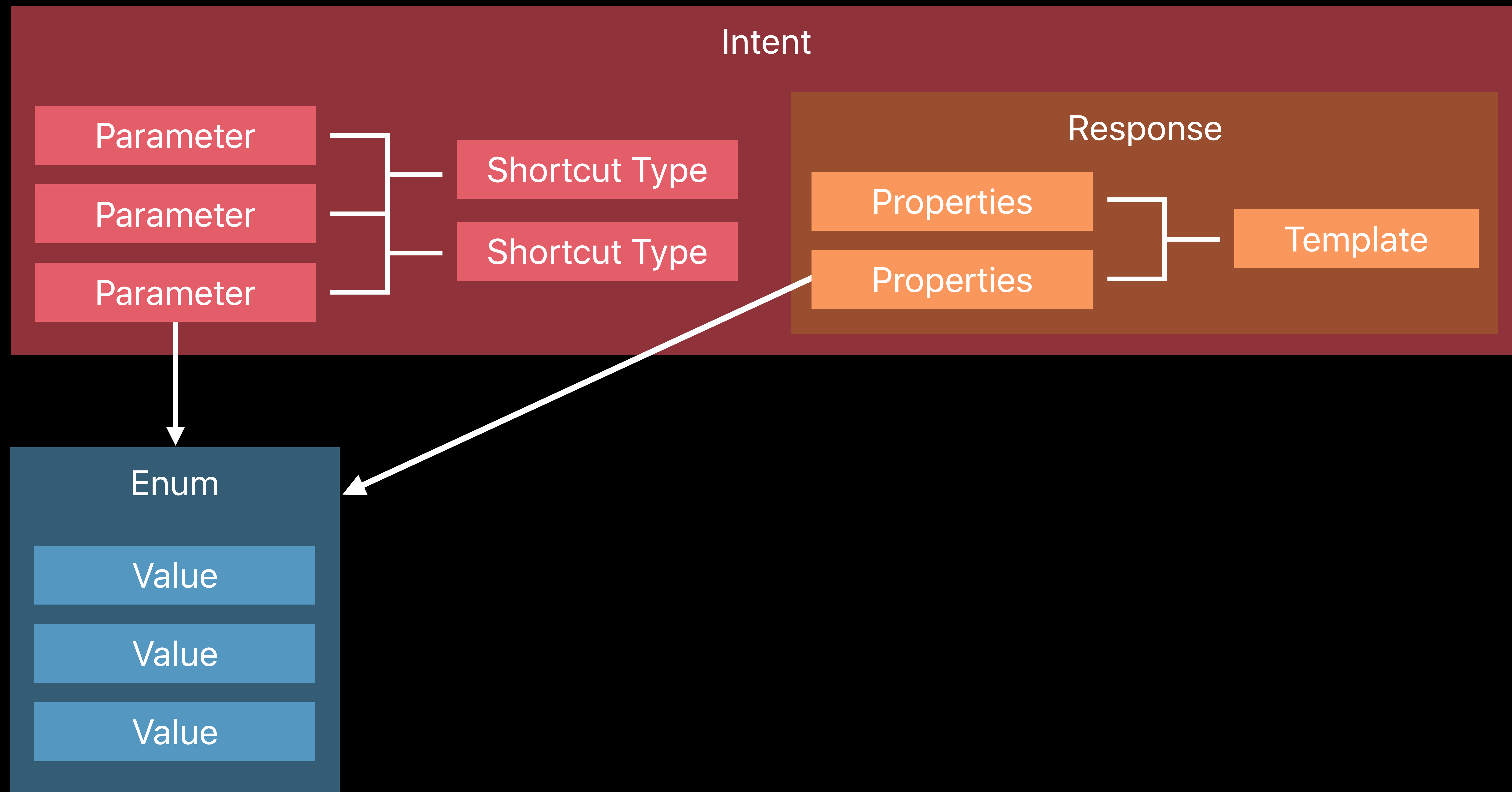
NEW



Intent Definition File

Localizable content

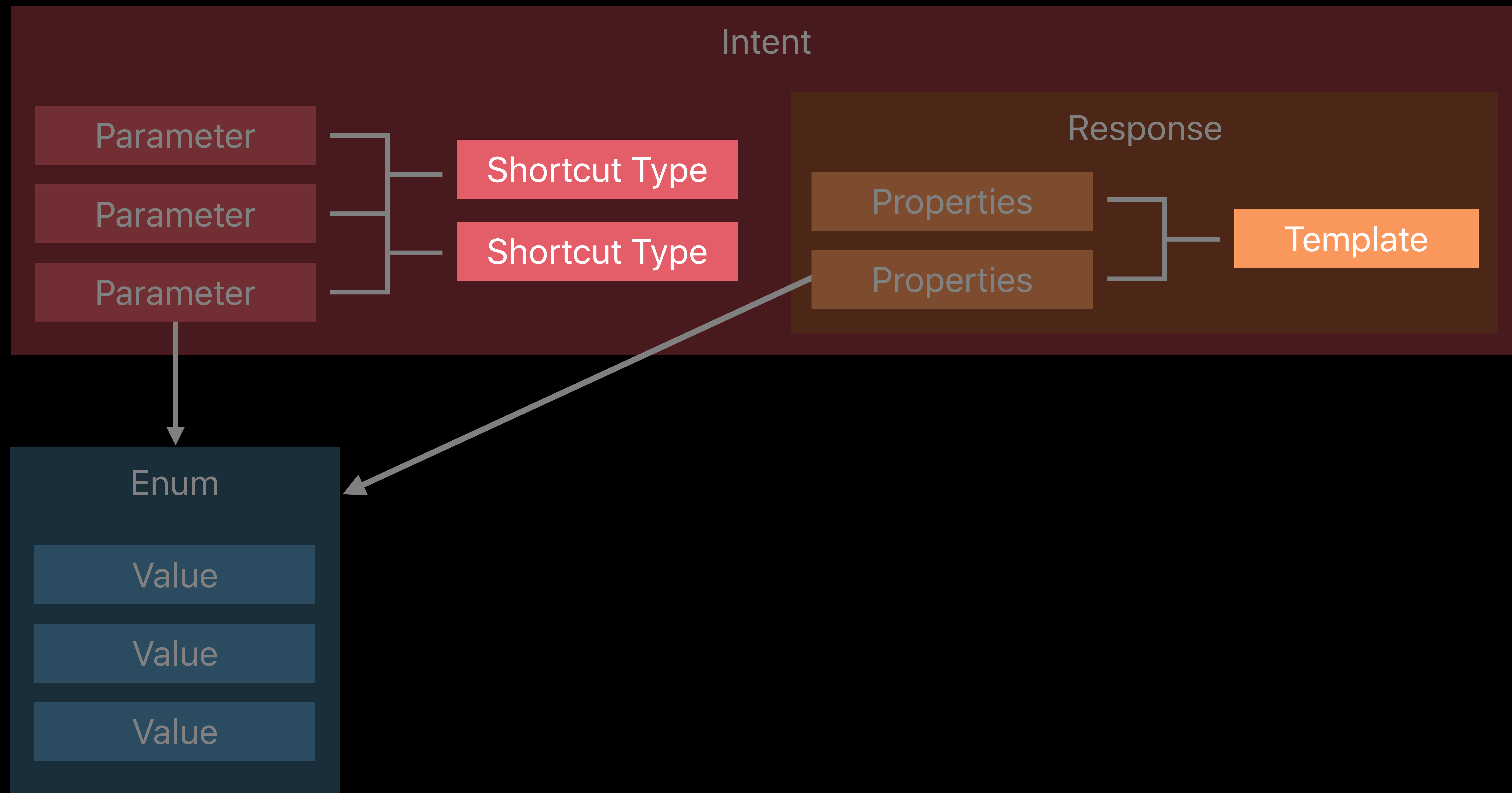
NEW



Intent Definition File

Localizable content

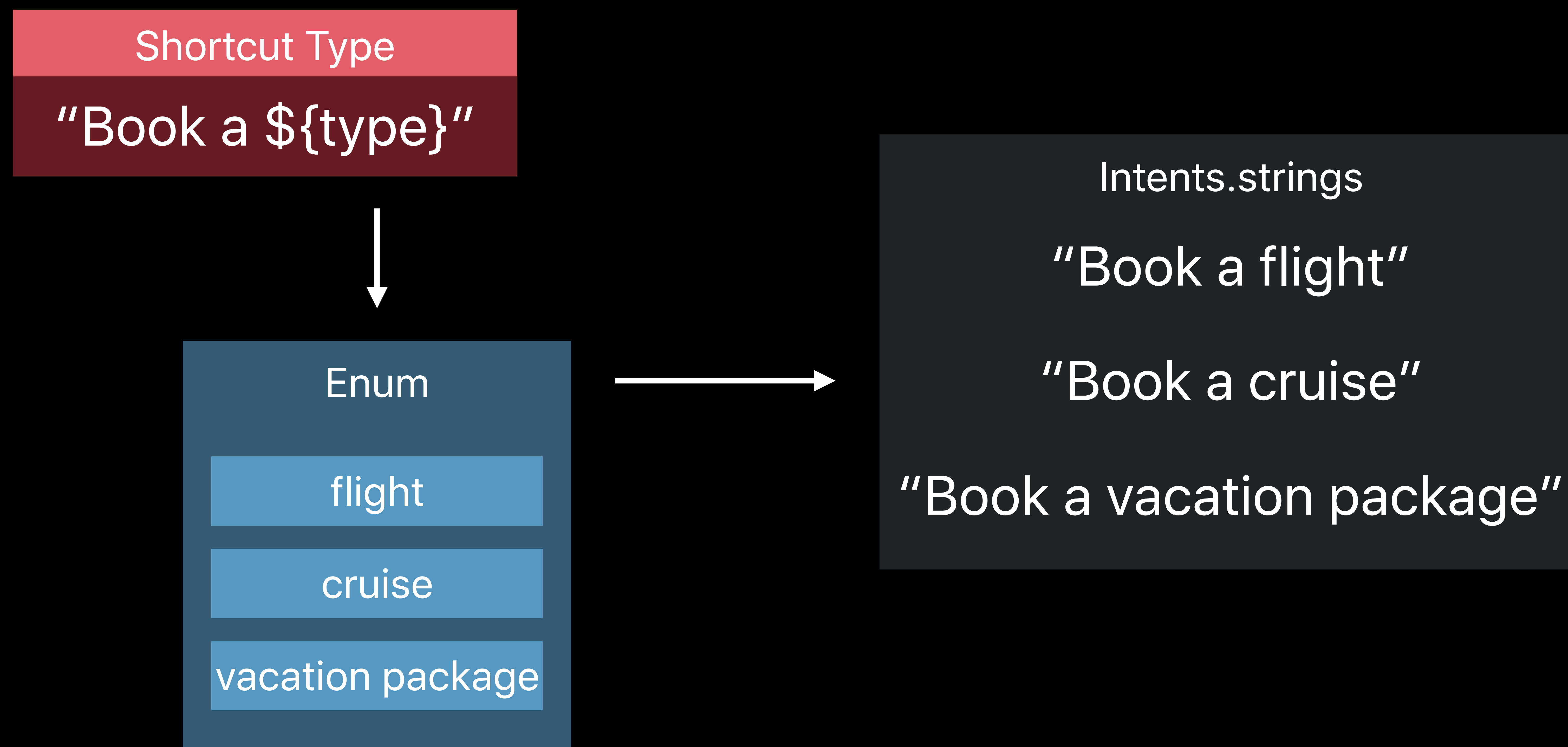
NEW



Intent Definition File

Localizable content

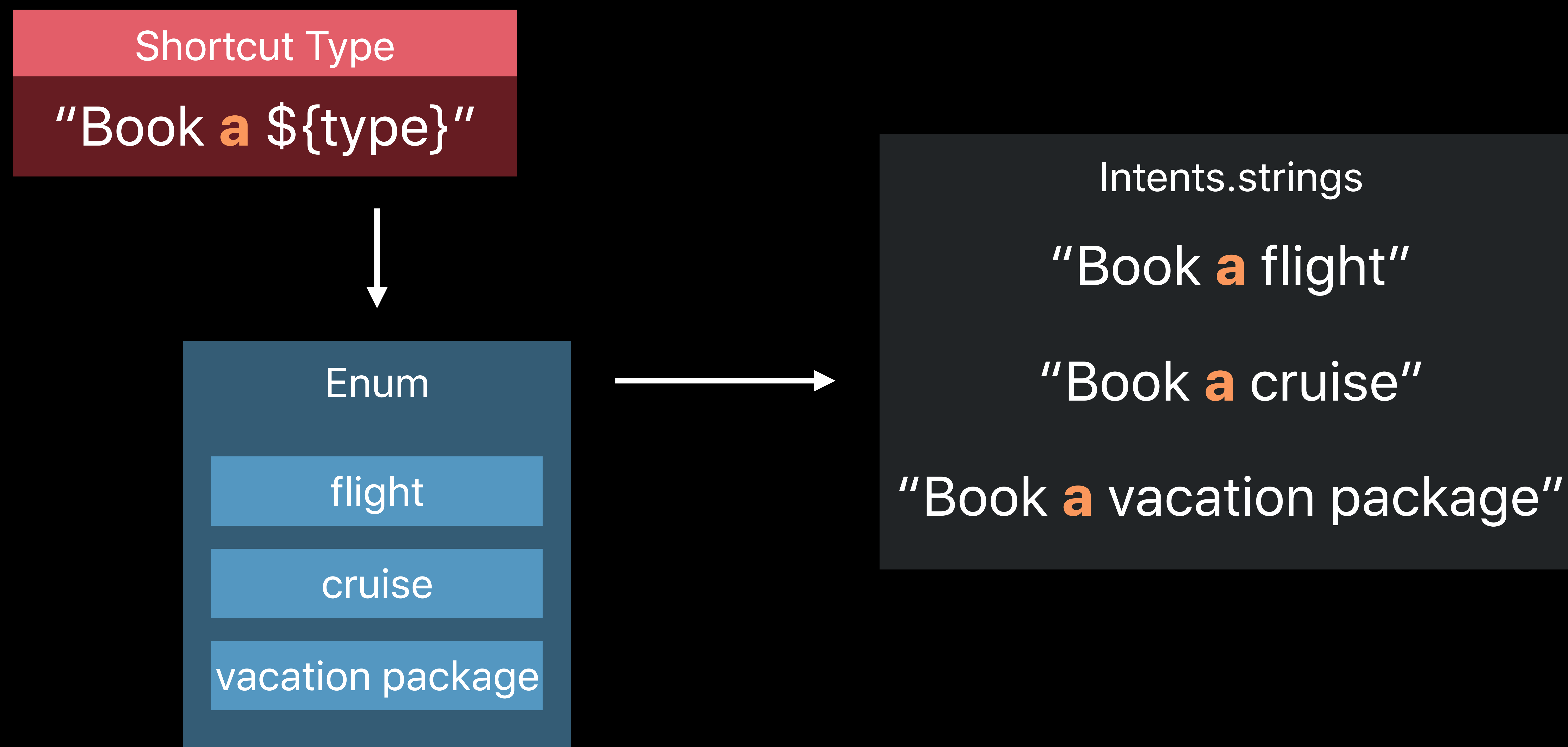
NEW



Intent Definition File

Localizable content

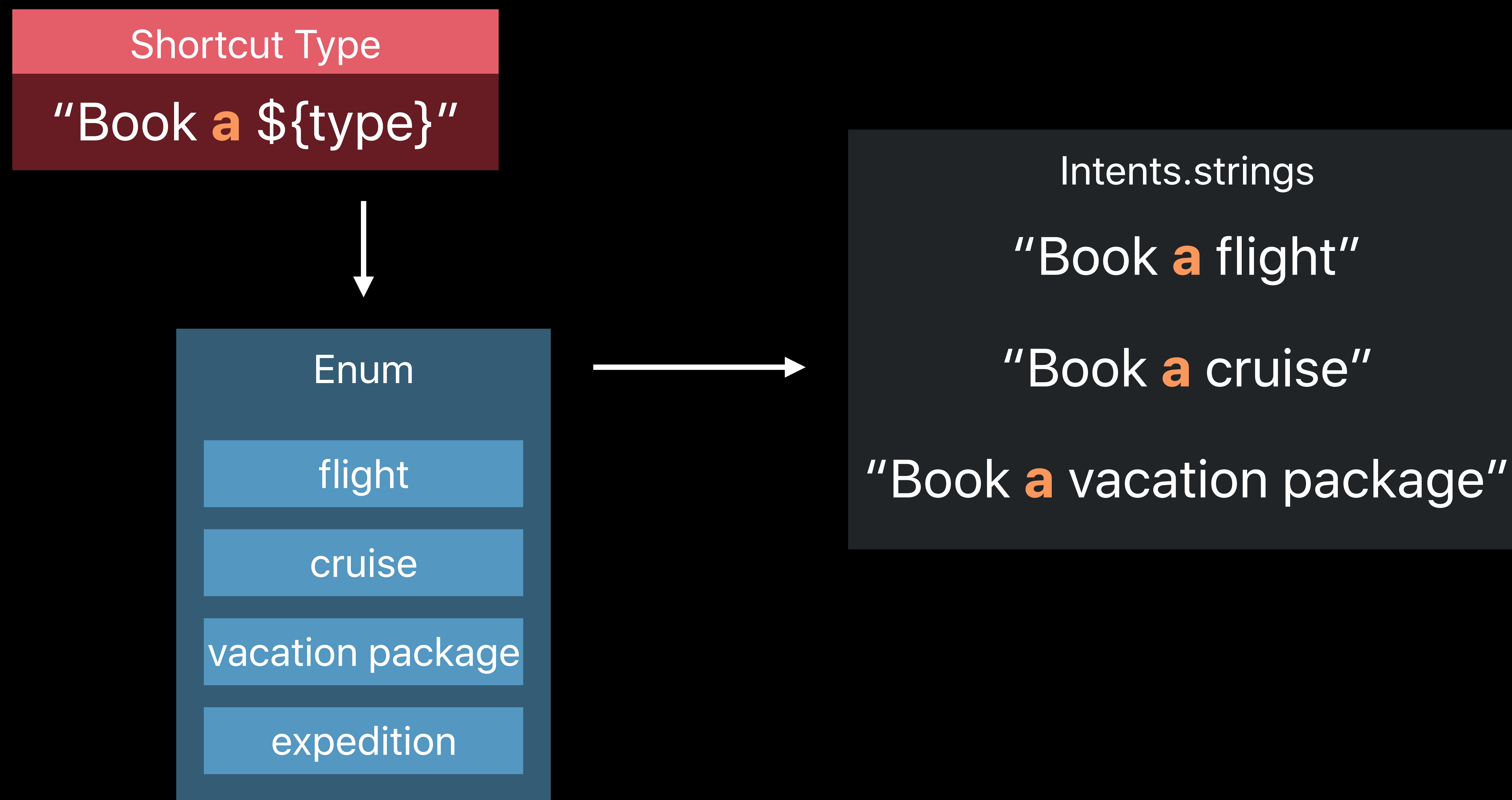
NEW



Intent Definition File

Localizable content—strings

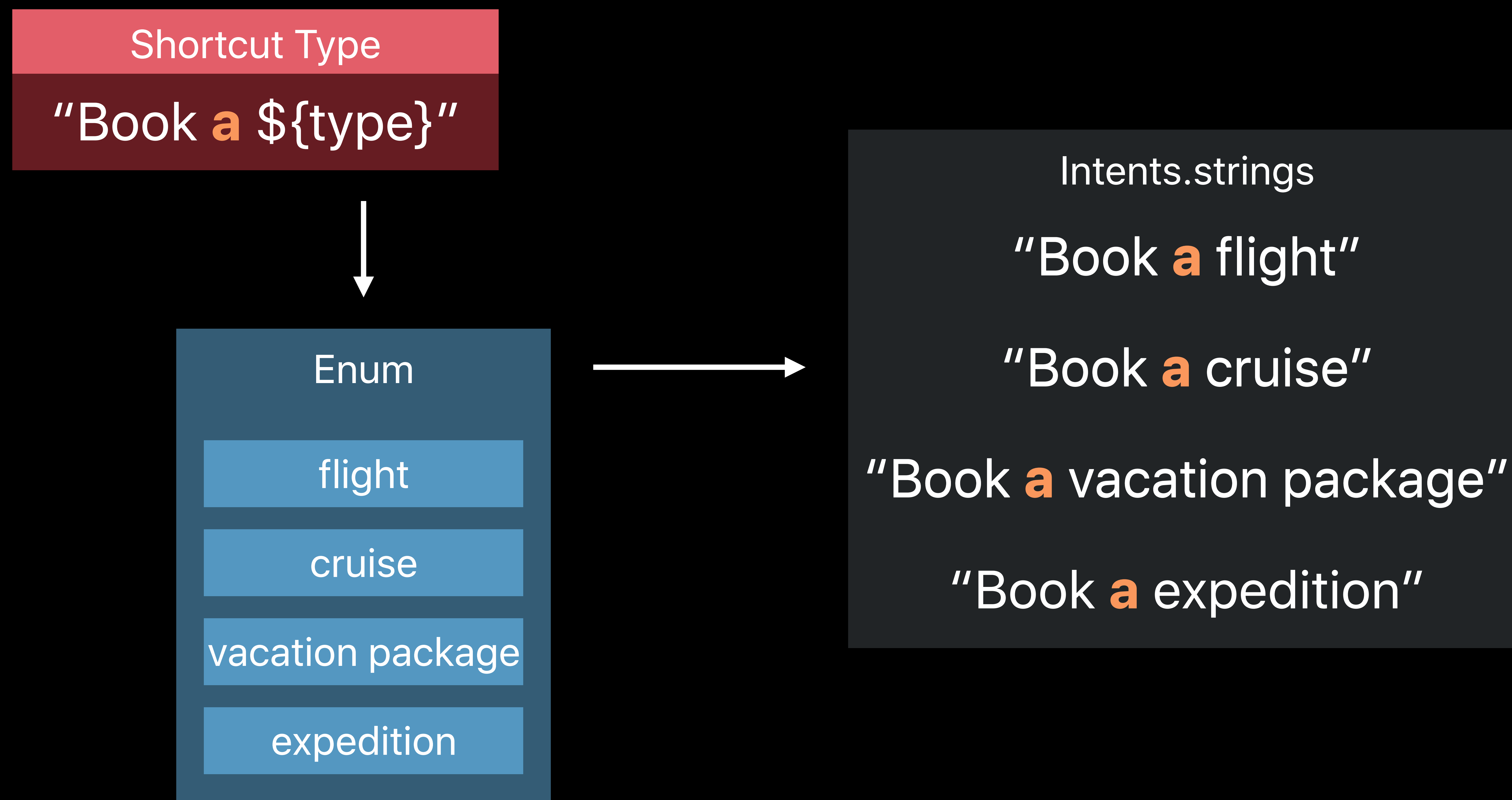
NEW



Intent Definition File

Localizable content—strings

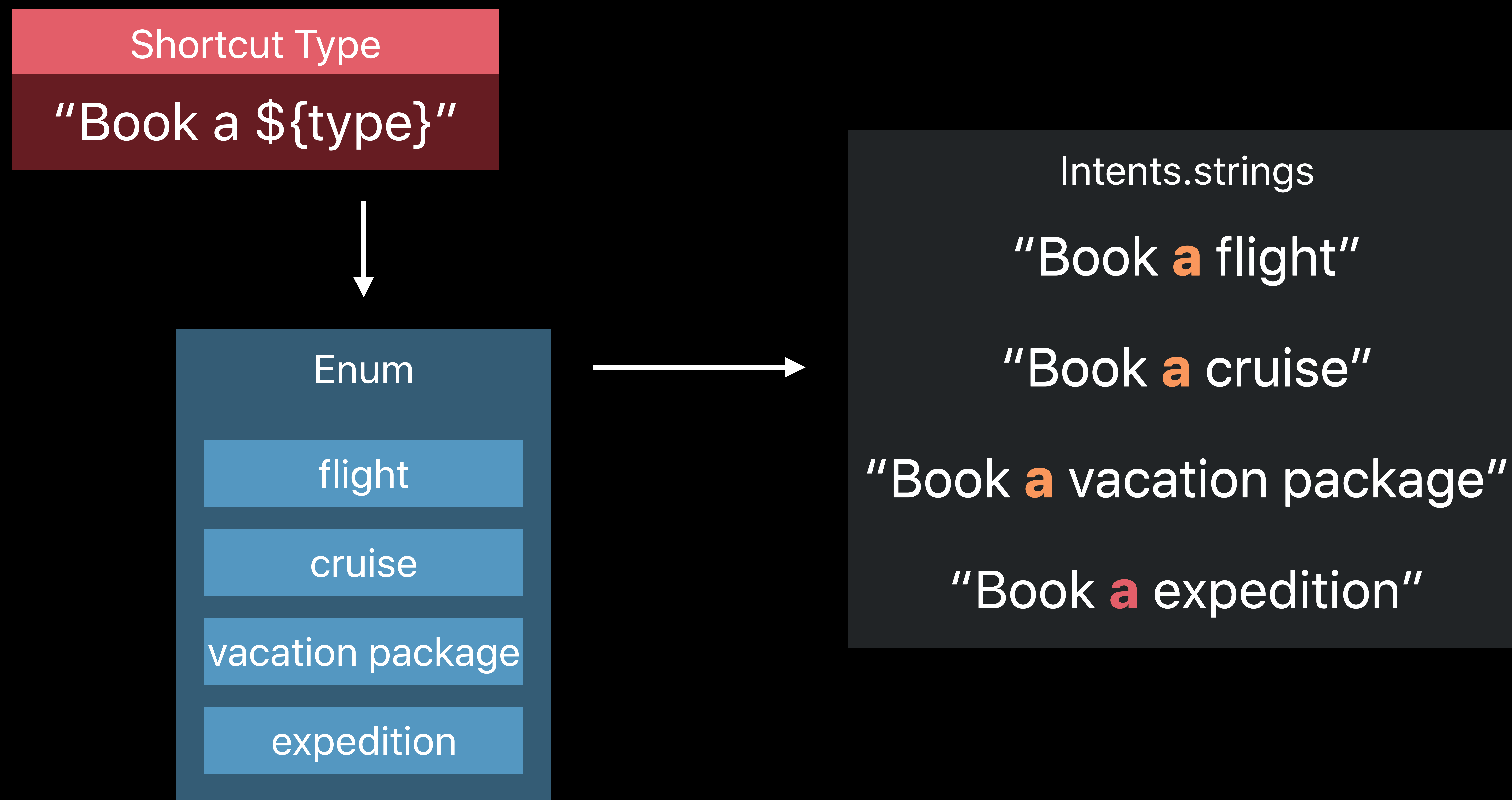
NEW



Intent Definition File

Localizable content—strings

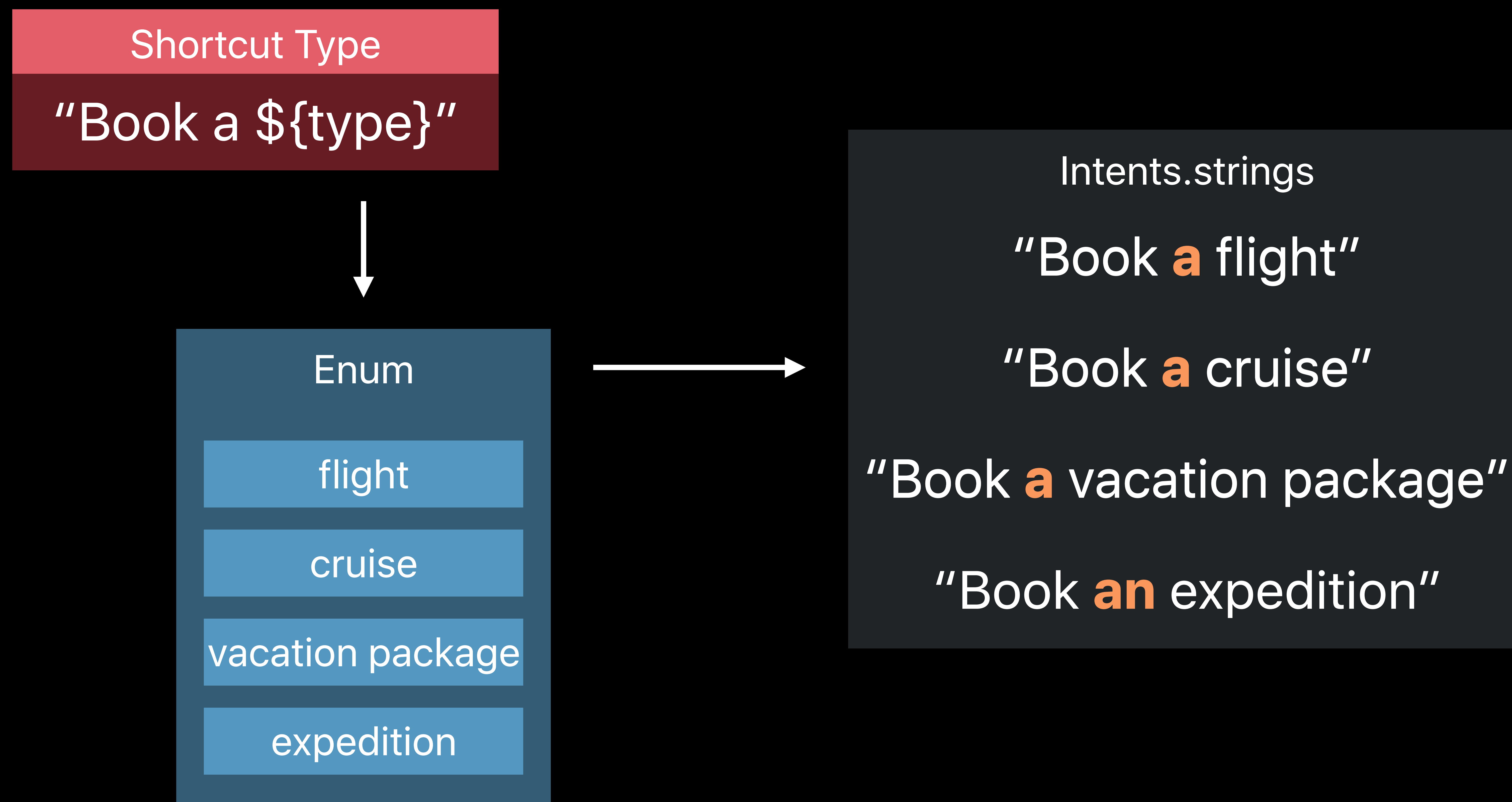
NEW



Intent Definition File

Localizable content—strings

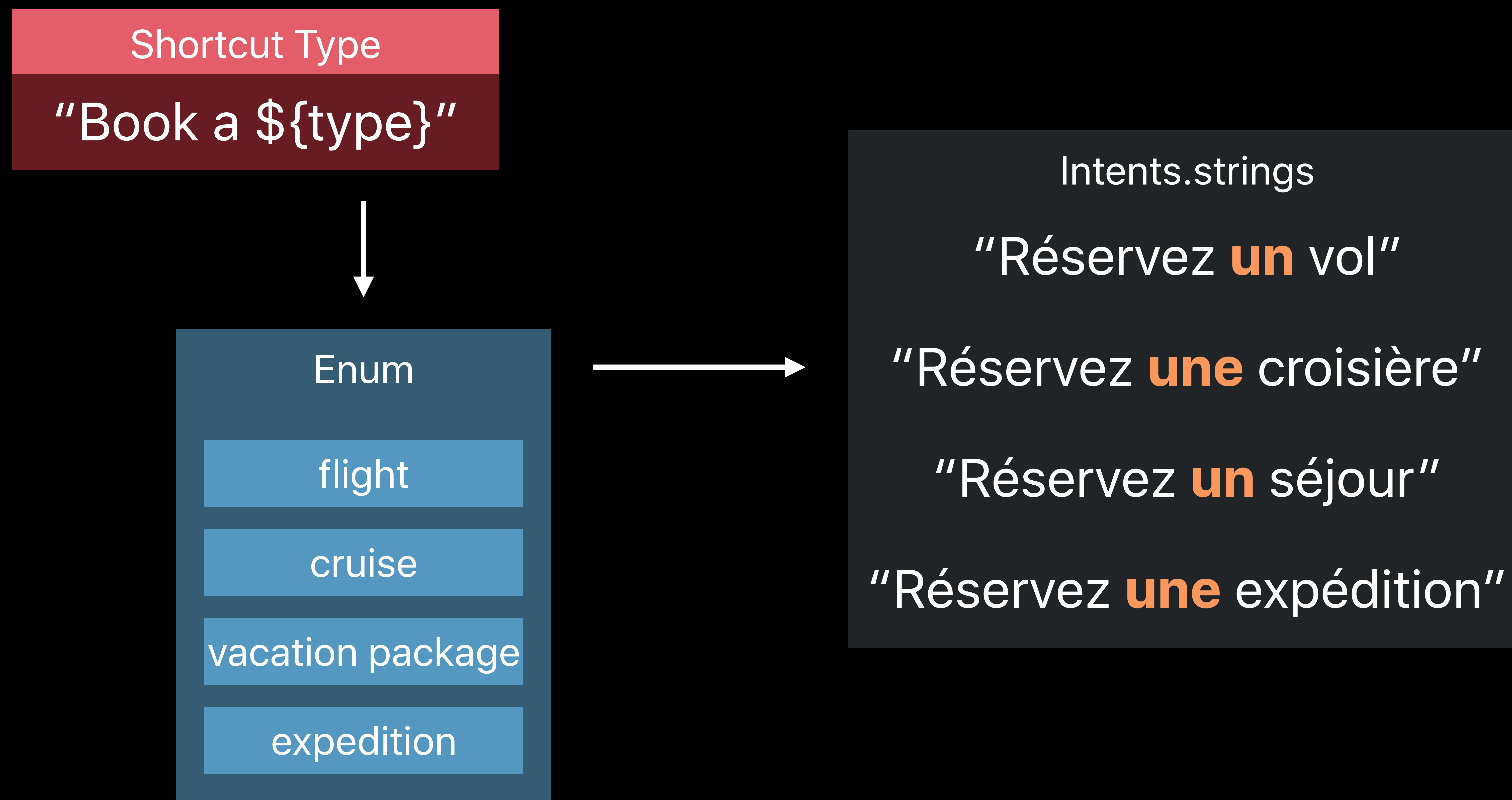
NEW



Intent Definition File

Localizable content—strings

NEW



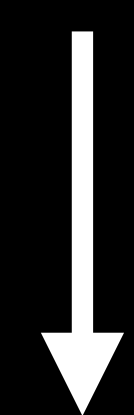
Intent Definition File

Localizable content—strings

NEW

Shortcut Type

“Book a $\{\text{type}\}$ for $\{\text{travelers}\}$ people”



Enum

flight

cruise

vacation package

Integer



Intents.strings

“Book a flight for $\{\text{travelers}\}$ people”

“Book a cruise for $\{\text{travelers}\}$ people”

“Book a vacation package for $\{\text{travelers}\}$ people”

Intent Definition File

Localizable content—strings

NEW

Shortcut Type

"Book a $\{\text{type}\}$ for $\{\text{travelers}\}$ **people**"



Enum

flight

cruise

vacation package

Integer



Intents.strings

"Book a flight for $\{\text{travelers}\}$ **people**"

"Book a cruise for $\{\text{travelers}\}$ **people**"

"Book a vacation package for $\{\text{travelers}\}$ **people**"

Intent Definition File

Localizable content—strings

NEW

```
"KMTtgo-kHt4Xq" = "Your flight to ${destination} has been booked";

"n8LXB0" = "Book a travel item";

"eR1MXC-KvUV34" = "Book a vacation package for ${travelers} people";

"eR1MXC-kHt4Xq" = "Book a flight for ${travelers} people";

"KMTtgo-YTjLMB" = "Your expedition to ${destination} has been booked";

"eR1MXC-IWrRFh" = "Book a cruise for ${travelers} people";

"jTwUnf-IWrRFh" = "Book a cruise to ${destination} for ${travelers} people";

"eR1MXC-YTjLMB" = "Book a expedition for ${travelers} people";

"1wbT5A-IWrRFh" = "We were unable to book the cruise to ${destination}";

"jTwUnf-KvUV34" = "Book a vacation package to ${destination} for ${travelers} people";

"jTwUnf-kHt4Xq" = "Book a flight to ${destination} for ${travelers} people";

"1wbT5A-KvUV34" = "We were unable to book the vacation package to ${destination}";

"1wbT5A-kHt4Xq" = "We were unable to book the flight to ${destination}";

"KMTtgo-IWrRFh" = "Your cruise to ${destination} has been booked";

"jTwUnf-YTjLMB" = "Book a expedition to ${destination} for ${travelers} people";

"7u1n7a" = "You can use this action to book an item from our wide catalog of travel options";

"1wbT5A-YTjLMB" = "We were unable to book the expedition to ${destination}";
```


Intent Definition File

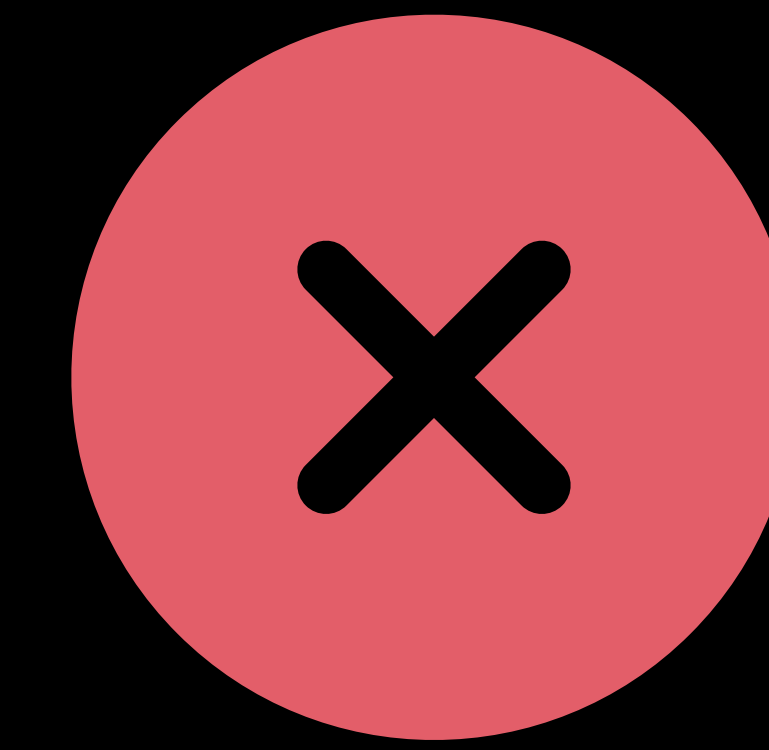
Localizable content—strings

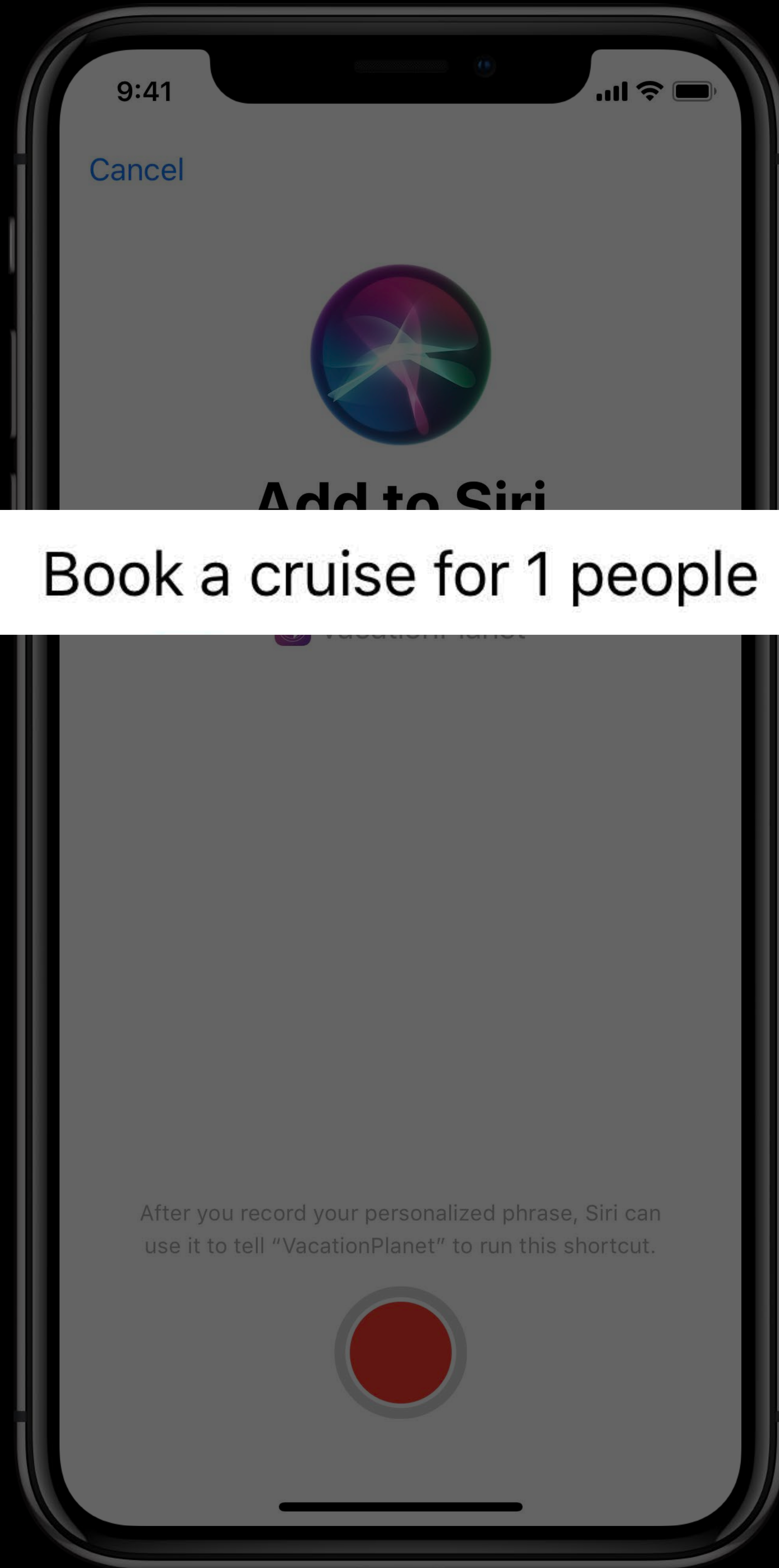
NEW

```
"KMTtgo-kHt4Xq" = "Your flight to ${destination} has been booked";  
  
"n8LXB0" = "Book a travel item";  
  
"eR1MXC-KvUV34" = "Book a vacation package for ${travelers} people";  
  
"eR1MXC-kHt4Xq" = "Book a flight for ${travelers} people";  
  
"KMTtgo-YTjLMB" = "Your expedition to ${destination} has been booked";
```

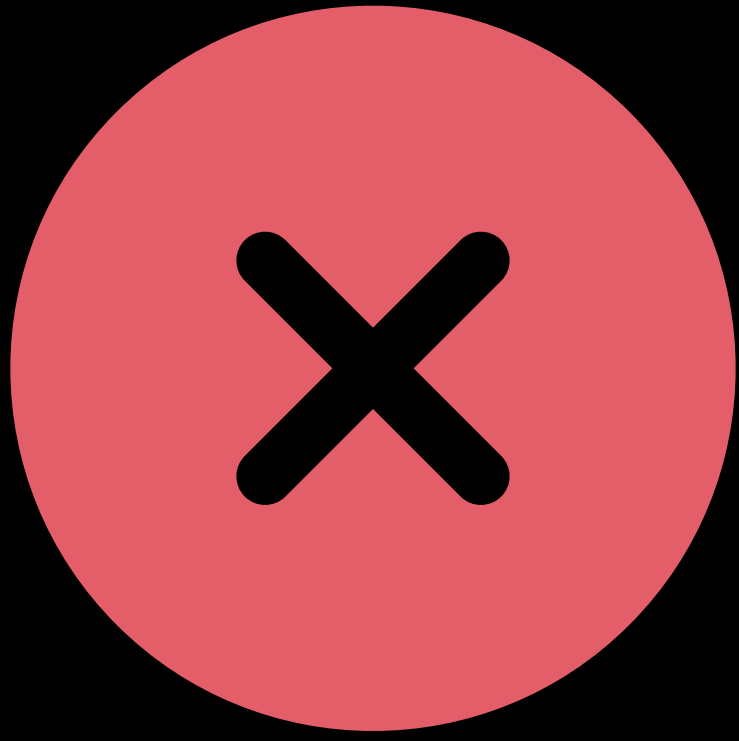
```
"eR1MXC-IWrRFh" = "Book a cruise for ${travelers} people";
```

```
"jTwUnf-IWrRFh" = "Book a cruise to ${destination} for ${travelers} people";  
  
"eR1MXC-YTjLMB" = "Book a expedition for ${travelers} people";  
  
"1wbT5A-IWrRFh" = "We were unable to book the cruise to ${destination}";  
  
"jTwUnf-KvUV34" = "Book a vacation package to ${destination} for ${travelers} people";  
  
"jTwUnf-kHt4Xq" = "Book a flight to ${destination} for ${travelers} people";  
  
"1wbT5A-KvUV34" = "We were unable to book the vacation package to ${destination}";  
  
"1wbT5A-kHt4Xq" = "We were unable to book the flight to ${destination}";  
  
"KMTtgo-IWrRFh" = "Your cruise to ${destination} has been booked";  
  
"jTwUnf-YTjLMB" = "Book a expedition to ${destination} for ${travelers} people";  
  
"7u1n7a" = "You can use this action to book an item from our wide catalog of travel options";  
  
"1wbT5A-YTjLMB" = "We were unable to book the expedition to ${destination}";
```



Book a cruise for 1 people



Intent Definition File

Localizable content—stringsdict

▼ Strings Dictionary		Dictionary	(8 items)
▼ Book a cruise for \${travelers} people	⌵	Dictionary	(2 items)
NSStringLocalizedFormatKey		String	Book a cruise for %#@travelers@
▼ travelers		Dictionary	(4 items)
NSStringFormatSpecTypeKey		String	NSStringPluralRuleType
NSStringFormatValueTypeKey		String	d
one		String	%d person
other		String	%d people
▶ Book a flight for \${travelers} people	⌵	Dictionary	(2 items)
▼ Book a expedition for \${travelers} people	⌵	Dictionary	(2 items)
NSStringLocalizedFormatKey		String	Book an expedition for %#@travelers@
▶ travelers		Dictionary	(4 items)
▶ Book a vacation package for \${travelers} people	⌵	Dictionary	(2 items)
▶ Book a cruise to \${destination} for \${travelers} people	⌵	Dictionary	(2 items)

Intent Definition File

Localizable content—stringsdict

▼ Strings Dictionary		Dictionary	(8 items)
▼ Book a cruise for \${travelers} people	⌵	Dictionary	(2 items)
NSStringLocalizedFormatKey		String	Book a cruise for %#@travelers@
▼ travelers		Dictionary	(4 items)
NSStringFormatSpecTypeKey		String	NSStringPluralRuleType
NSStringFormatValueTypeKey		String	d
one		String	%d person
other		String	%d people
▶ Book a flight for \${travelers} people	⌵	Dictionary	(2 items)
▼ Book a expedition for \${travelers} people	⌵	Dictionary	(2 items)
NSStringLocalizedFormatKey		String	Book an expedition for %#@travelers@
▶ travelers		Dictionary	(4 items)
▶ Book a vacation package for \${travelers} people	⌵	Dictionary	(2 items)
▶ Book a cruise to \${destination} for \${travelers} people	⌵	Dictionary	(2 items)

Intent Definition File

Localizable content—stringsdict

▼ Strings Dictionary	Dictionary	(8 items)
▼ Book a cruise for \${travelers} people	Dictionary	(2 items)
NSStringLocalizedFormatKey	String	Book a cruise for %#@travelers@
▼ travelers	Dictionary	(4 items)
NSStringFormatSpecTypeKey	String	NSStringPluralRuleType
NSStringFormatValueTypeKey	String	d
one	String	%d person
other	String	%d people
▶ Book a flight for \${travelers} people	Dictionary	(2 items)
▼ Book a expedition for \${travelers} people	Dictionary	(2 items)
NSStringLocalizedFormatKey	String	Book an expedition for %#@travelers@
▶ travelers	Dictionary	(4 items)
▶ Book a vacation package for \${travelers} people	Dictionary	(2 items)
▶ Book a cruise to \${destination} for \${travelers} people	Dictionary	(2 items)

Intent Definition File

Localizable content—stringsdict

▼ Strings Dictionary	Dictionary	(8 items)
▼ Book a cruise for \${travelers} people	Dictionary	(2 items)
NSStringLocalizedFormatKey	String	Book a cruise for %#@travelers@
▼ travelers	Dictionary	(4 items)
NSStringFormatSpecTypeKey	String	NSStringPluralRuleType
NSStringFormatValueTypeKey	String	d
one	String	%d person
other	String	%d people
▶ Book a flight for \${travelers} people	Dictionary	(2 items)
▼ Book a expedition for \${travelers} people	Dictionary	(2 items)
NSStringLocalizedFormatKey	String	Book an expedition for %#@travelers@
▶ travelers	Dictionary	(4 items)
▶ Book a vacation package for \${travelers} people	Dictionary	(2 items)
▶ Book a cruise to \${destination} for \${travelers} people	Dictionary	(2 items)

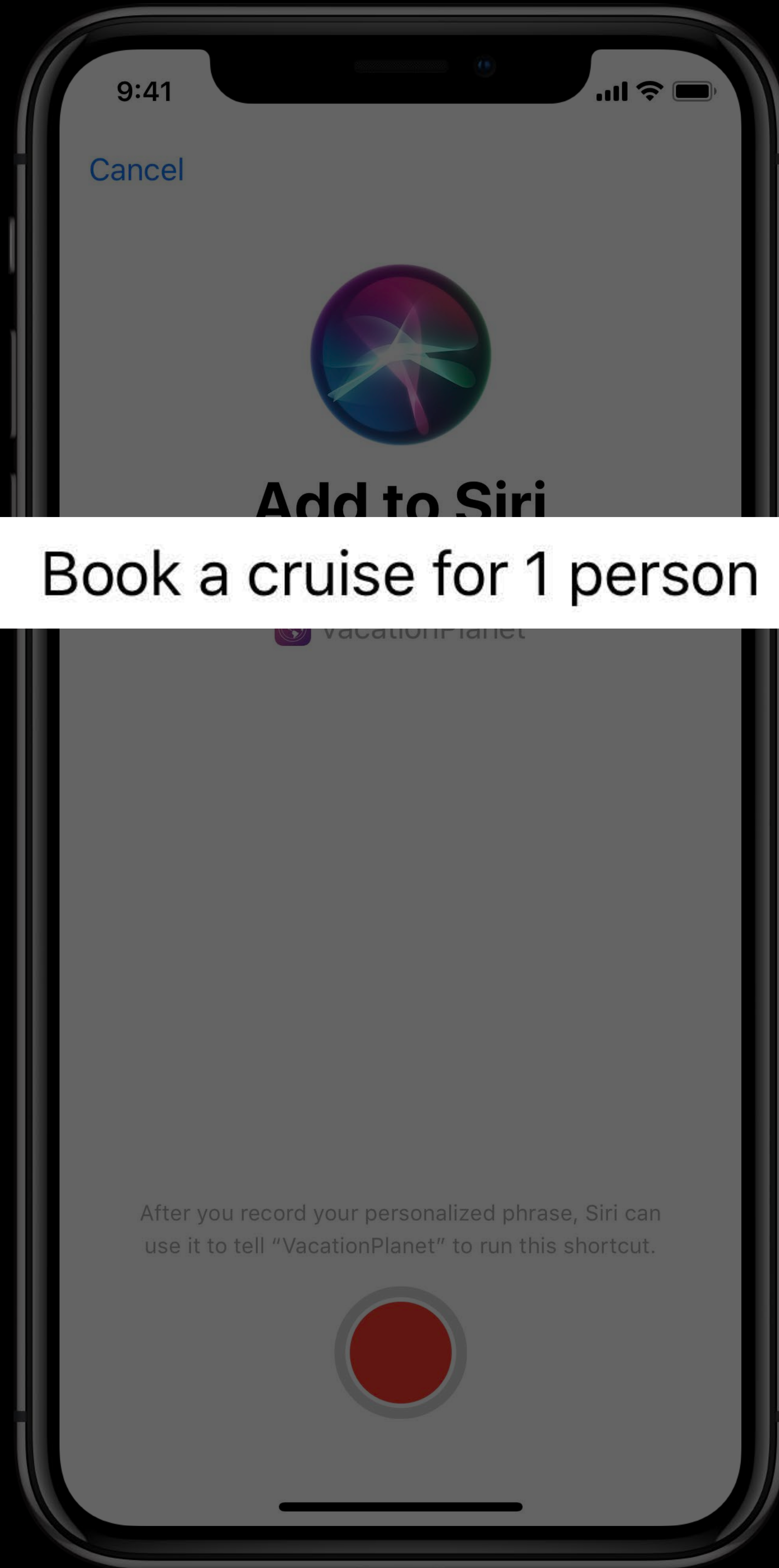
Intent Definition File

Localizable content—stringsdict

▼ Strings Dictionary	Dictionary	(8 items)
▼ Book a cruise for \${travelers} people	Dictionary	(2 items)
NSStringLocalizedFormatKey	String	Book a cruise for %#@travelers@
▼ travelers	Dictionary	(4 items)
NSStringFormatSpecTypeKey	String	NSStringPluralRuleType
NSStringFormatValueTypeKey	String	d
one	String	%d person
other	String	%d people
▶ Book a flight for \${travelers} people	Dictionary	(2 items)
▼ Book a expedition for \${travelers} people	Dictionary	(2 items)
NSStringLocalizedFormatKey	String	Book an expedition for %#@travelers@
▶ travelers	Dictionary	(4 items)
▶ Book a vacation package for \${travelers} people	Dictionary	(2 items)
▶ Book a cruise to \${destination} for \${travelers} people	Dictionary	(2 items)



After you record your personalized phrase, Siri can use it to tell "VacationPlanet" to run this shortcut.

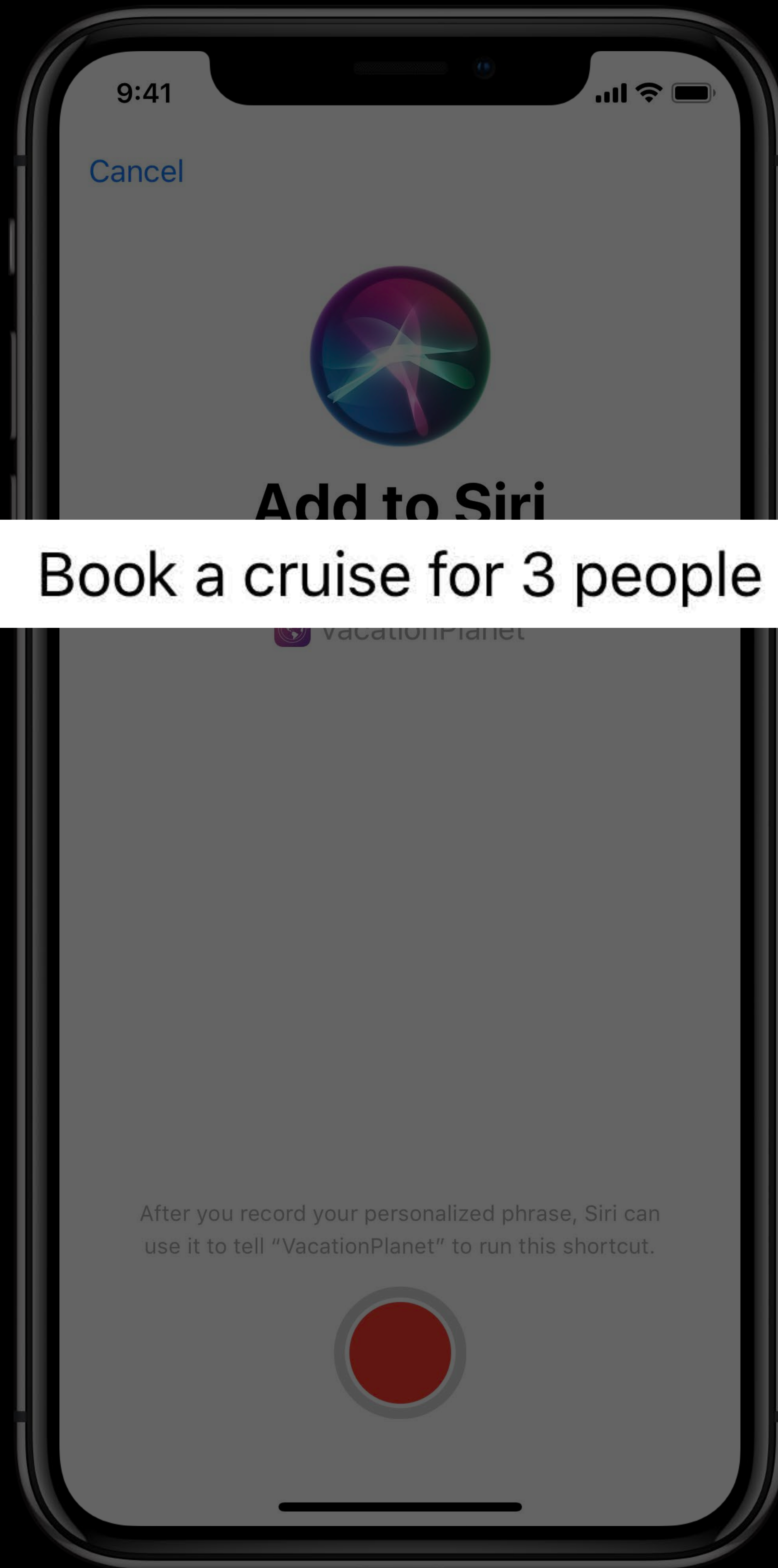


Book a cruise for 1 person





After you record your personalized phrase, Siri can use it to tell "VacationPlanet" to run this shortcut.



Book a cruise for 3 people



Deferred Localized Intents String

Localization happens when the string is presented to the user

Deferred Localized Intents String

Localization happens when the string is presented to the user

Used when preparing the intent for donation

Deferred Localized Intents String

Localization happens when the string is presented to the user

Used when preparing the intent for donation

```
intent.suggestedInvocationPhrase = NSString.deferredLocalizedString(with: "Go to Mars!")
```


Siri Shortcuts Localization

Xcode combines Shortcut types and enums when generating `.strings` file

Siri Shortcuts Localization

Xcode combines Shortcut types and enums when generating `.strings` file

`.strings` and/or `.stringsdict` are used to localize Shortcuts

Siri Shortcuts Localization

Xcode combines Shortcut types and enums when generating `.strings` file

`.strings` and/or `.stringsdict` are used to localize Shortcuts

Use `deferredLocalizedIntentString` API for donated intents

Siri Shortcuts Localization

Strings defined in `.stringsdict` file are preferred at runtime

Siri Shortcuts Localization

Strings defined in `.stringsdict` file are preferred at runtime

Use strings or strings IDs as Localized String Key

Demo

Intent definition

Vivian Robison, Software Engineer

Summary

Chris Hanson, Software Engineer

Summary

Xcode Localization Catalogs are our new standard for localization

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- Support for all localizable resources

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Summary

Xcode Localization Catalogs are our new standard for localization

- Support for all localizable resources
- Flexibility to provide context for localizers

Siri Shortcuts are easy to localize

- Base localization with `.strings` files
- Use `.stringsdict` files where appropriate

Summary

Xcode Localization Catalogs are our new standard for localization

- Support for all localizable resources
- Flexibility to provide context for localizers

Siri Shortcuts are easy to localize

- Base localization with `.strings` files
- Use `.stringsdict` files where appropriate
- Use deferred localized strings in code

More Information

<https://developer.apple.com/wwdc18/404>

 **WWDC18**