Code Generation in Swift

SwiftGen & Sourcery

Demo

SwiftGen

Code Generation Principles

Template

Input Resource
Assets Catalog
Fonts
Storyboards
…

Parser

Internal
Representation
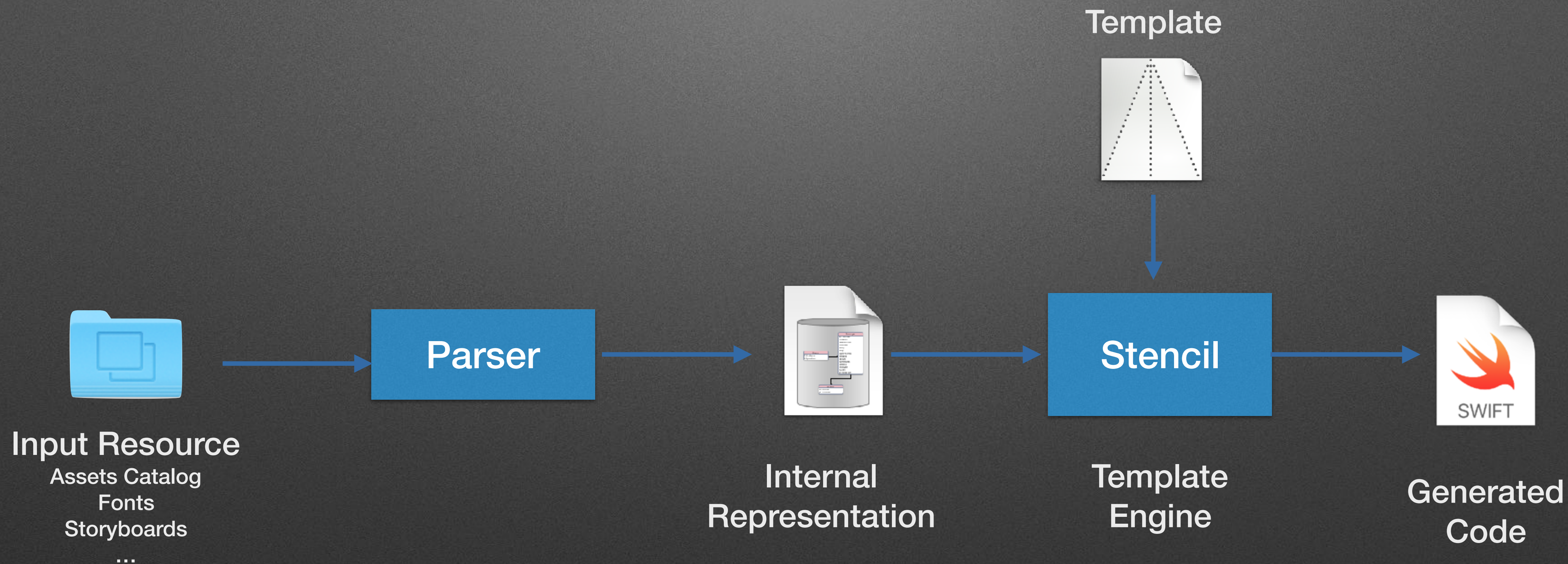
Stencil

Template
Engine

Generated
Code

SWIFT

Code Generation Principles
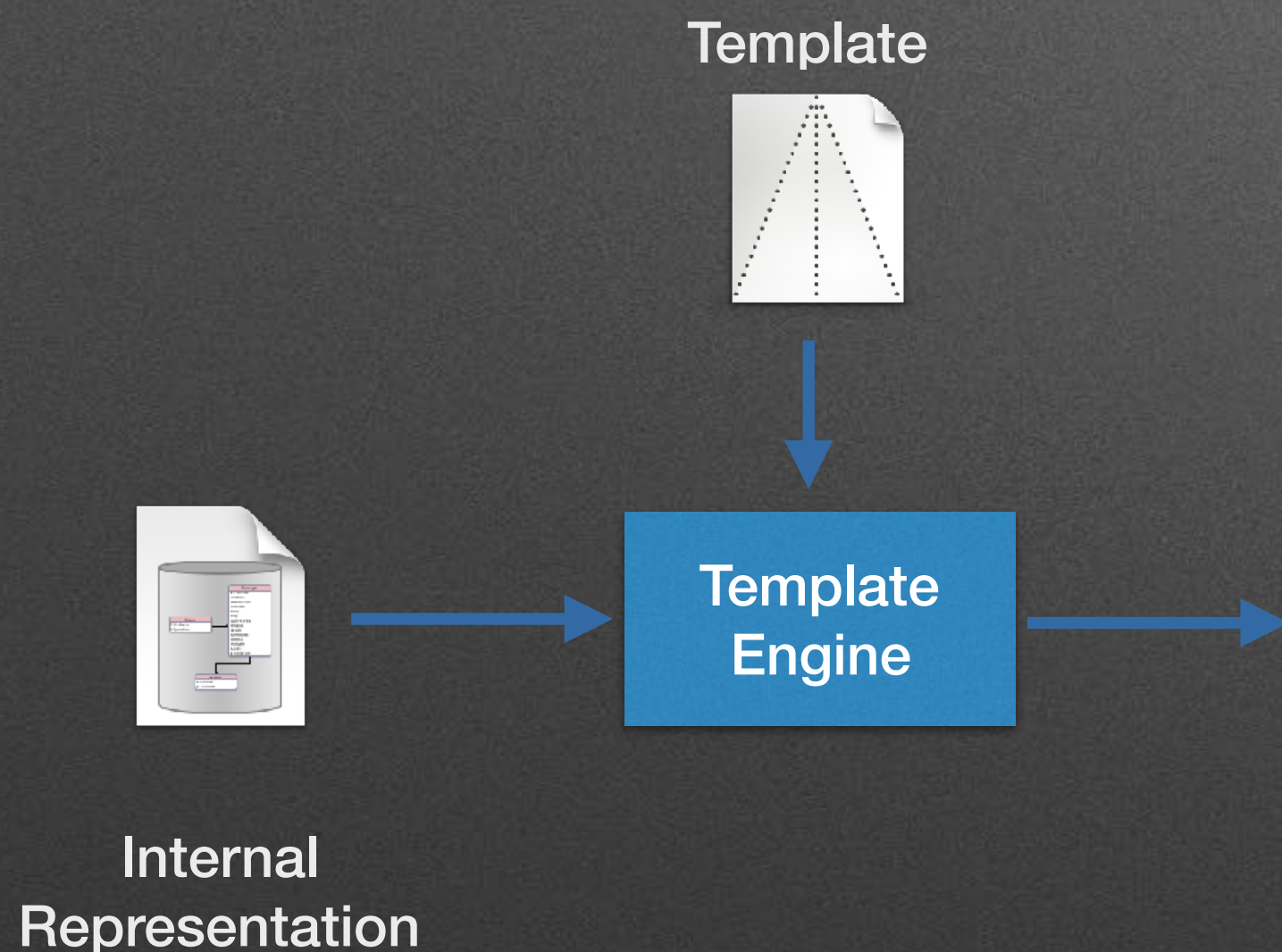
```json
{
    "images": [
        "Apple",
        "Banana",
        "Orange",
        "Some-Pears"
    ]
}
```

Internal Representation

```
enum Assets: String {
    {% for image in images %}
    case {{image|swiftIdentifier|lowerFirstWord}} = "{{image}}"
    {% endfor %}

    var image: UIImage {
        return UIImage(asset: self)
    }
}


extension UIImage {
    convenience init!(asset: Assets) {
        self.init(named: asset.rawValue)
    }
}
```

Template

Code Generation Principles

Template

Template Engine

Internal Representation

```swift
enum Assets: String {
   case apple = "Apple"
   case banana = "Banana"
   case orange = "Orange"
   case somePears = "Some-Pears"

   var image: UIImage {
      return Image(asset: self)
   }
}


extension UIImage {
   convenience init!(asset: Assets) {
      self.init(named: asset.rawValue)
   }
}
```
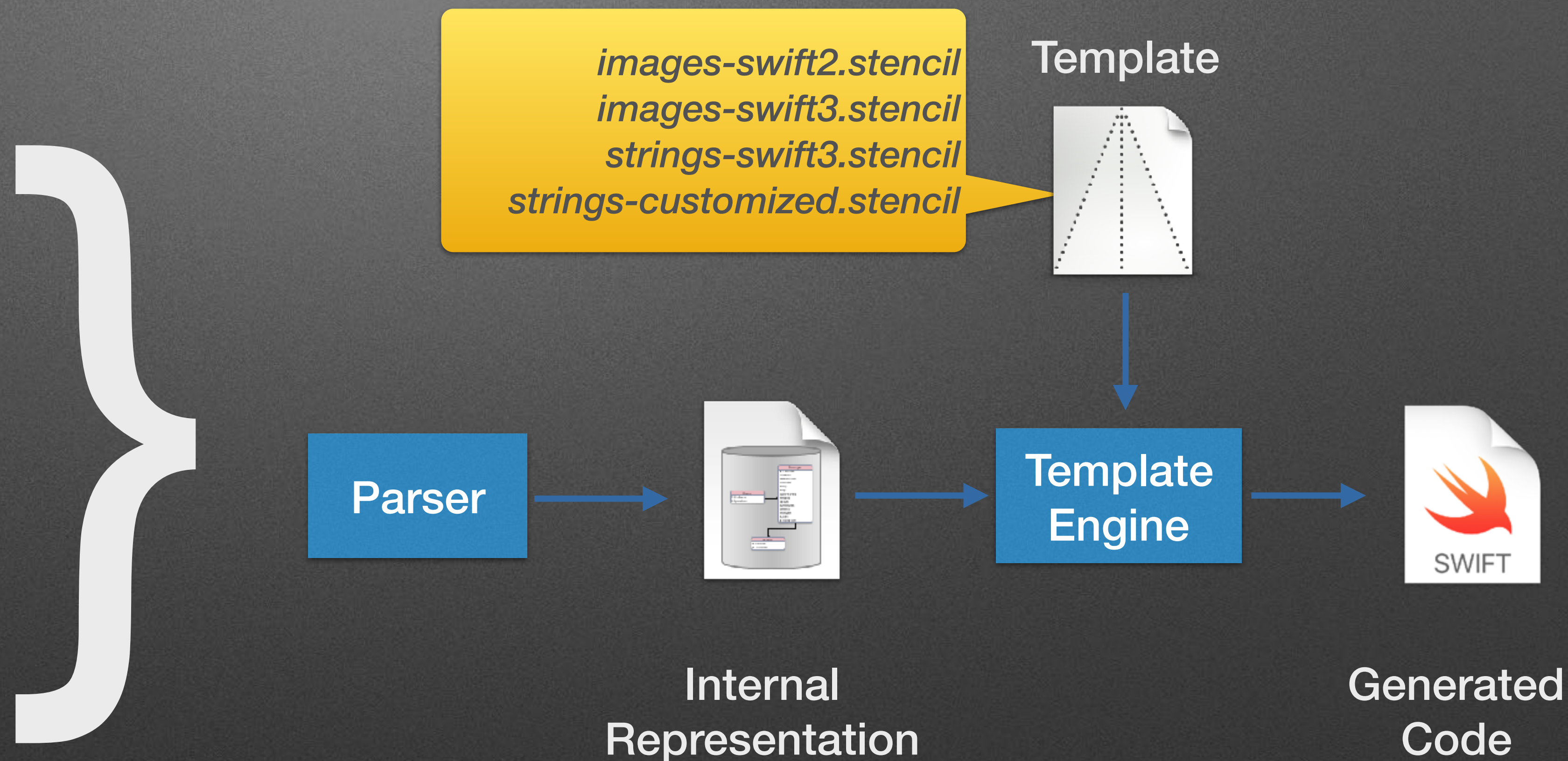
```swift
let img = UIImage(asset: .banana)
```
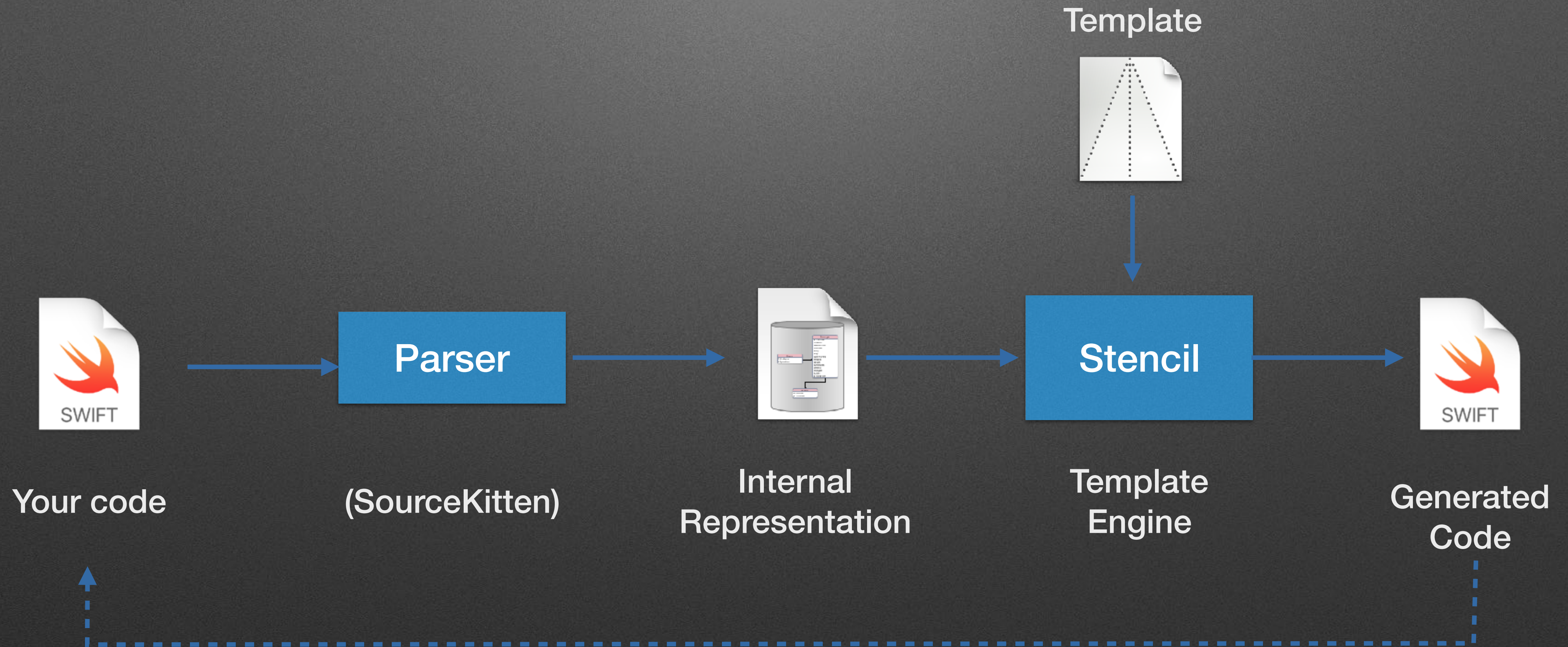
Call site

Generated Code

Candidates

- Asset Catalogs

- Localizable.strings

- Custom Fonts

- Storyboard names

- Storyboard scenes

- Segues identifiers

- … JSON? Plist?…

}

images-swift2.stencil
images-swift3.stencil
strings-swift3.stencil
strings-customized.stencil

Template

Parser

Internal
Representation

Template
Engine

SWIFT

Generated
Code

MetaProgramming

Template

Your code → **Parser** → Internal Representation → **Stencil** → Generated Code

(SourceKitten)

Template Engine

Demo

Sourcery

Going Further

- Building an API Client using Sourcery Annotations

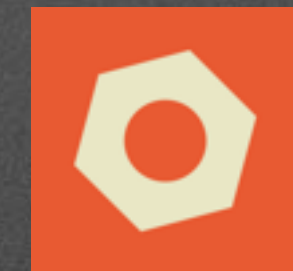 - littlebitesofcocoa.com/295-building-an-api-client-with-sourcery-key-value-annotations

- Generate JSON Parsing code

  - github.com/Liquidsoul/Sourcery-AutoJSONSerializable

Going Further

- **Krzysztof's talk at CraftConf**

  - « Type-safe meta programming in Swift? Lets talk about Sourcery »

  - Friday 4:35pm, Platform 2

- **Improve SwiftGen**

  - We love contrbutors! ❤️

  - A lot of very interesting ideas pending implementation

Create pull request

Hello, I'm Olivier

🎩 ✨

🐦 @aligatr

🖋 alisoftware.github.io

🐙 github.com/AliSoftware (OHHTTPStubs, Reusable, …)

🤖 github.com/SwiftGen/SwiftGen

📱 github.com/krzysztofzablocki/Sourcery