

**Aumentando a área de superfície
do seu app com extensions**


```
public extension def cri {
```

```
}
```



What's a computer?

~~What's a computer?~~

What's an app?

11:26



1:10

-2:32

Like a Fire

SHINee — Why So Serious?: The Mi



Gui's Beats Studio³



11:36

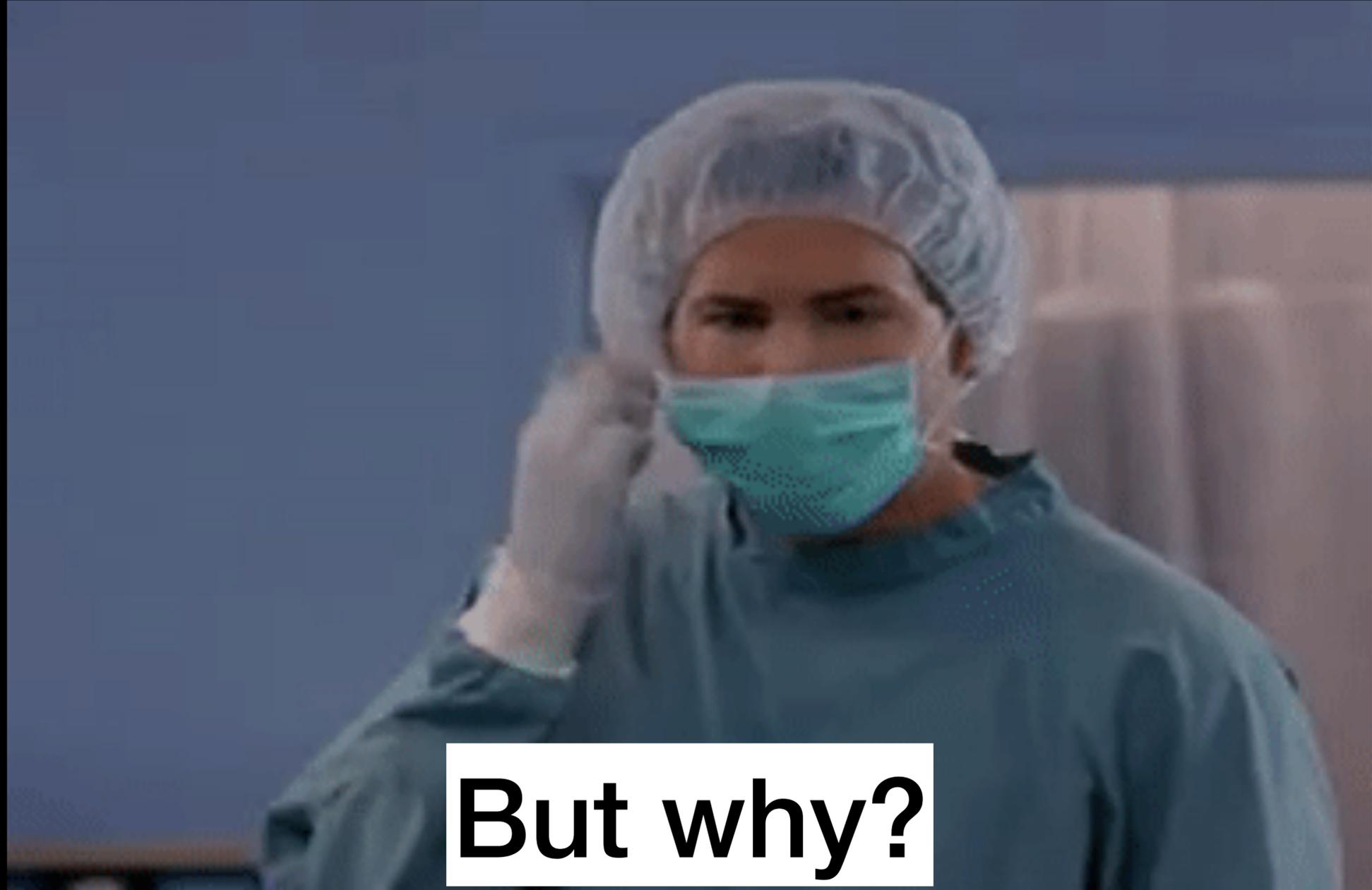


Ewerton >



iMessage





But why?

1. Chamar atenção da Apple

2. Melhorar experiência do usuário

**3. Aumentar engajamento
com o app = +\$**

4. Incentivo a modularização do código



Targets

Running Chuck on N84

Chuck

General Capabilities Resource Tags Info Build Settings Build Phases Build Rules

PROJECT

- Chuck

TARGETS

- Chuck
- ChuckUITests
- ChuckCore
- ChuckCoreTests

Identity

Display Name: Chuck

Bundle Identifier: br.com.guilhermerambo.Chuck

Version: 1.0

Build: 1

Signing

Automatically manage signing
Xcode will create and update profiles, app IDs, and certificates.

Team: GUILHERME RAMBO

Provisioning Profile: Xcode Managed Profile

Signing Certificate: iPhone Developer: Guilherme Rambo (6XE654FH...)

Deployment Info

Deployment Target: 11.0

Devices: iPhone

Main Interface:

Device Orientation: Portrait
 Upside Down
 Landscape Left
 Landscape Right

Status Bar Style: Default

Hide status bar
 Requires full screen

App Icons and Launch Images

App Icons Source: AppIcon

Launch Images Source: Use Asset Catalog...

Launch Screen File: LaunchScreen

Embedded Binaries

ChuckCore.framework ...in build/Debug-iphonios

- Chuck
 - Definitions
 - Metrics.swift
 - Fonts.swift
 - Colors.swift
 - Messages.swift
 - Bootstrap
 - AppDelegate.swift
 - Views
 - JokeTableViewCell.swift
 - BadgeView.swift
 - BadgeCollectionViewCell.swift
 - BadgeFlowLayout.swift
 - SelfSizingCollectionView.swift
 - Controllers
 - AppFlowController.swift
 - Extensions
 - UIViewController+Children.swift
 - Home
 - ListJokesViewController.swift
 - EmptyViewController.swift
 - Search
 - Transition
 - SearchTransition.swift
 - SearchPresentationDriver.swift
 - SearchViewController.swift
 - BadgesCollectionViewController.swift

Chuck

TARGETS

- Chuck
- ChuckUITests
- ChuckCore
- ChuckCoreTests

Identity

Display Name: Chuck
Bundle Identifier: br.com.guilhermerambo.Chuck
Version: 1.0
Build: 1

Signing

Automatically manage signing
Xcode will create and update provisioning profiles based on certificates.
Team: GUILHERME RAMBO
Provisioning Profile: Xcode Managed Profile
Signing Certificate: iPhone Developer: Guilherme Rambo

Deployment Info

Deployment Target: 11.0
Devices: iPhone
Main Interface:
Device Orientation: Portrait Upside Down

Frameworks

Running Chuck on N84

Chuck

General Capabilities Resource Tags Info Build Settings Build Phases Build Rules

PROJECT

- Chuck

TARGETS

- Chuck
- ChuckUITests
- ChuckCore
- ChuckCoreTests

Identity

Display Name: Chuck

Bundle Identifier: br.com.guilhermerambo.Chuck

Version: 1.0

Build: 1

Signing

Automatically manage signing
Xcode will create and update profiles, app IDs, and certificates.

Team: GUILHERME RAMBO

Provisioning Profile: Xcode Managed Profile

Signing Certificate: iPhone Developer: Guilherme Rambo (6XE654FH...)

Deployment Info

Deployment Target: 11.0

Devices: iPhone

Main Interface: [Dropdown]

Device Orientation: Portrait
 Upside Down
 Landscape Left
 Landscape Right

Status Bar Style: Default

Hide status bar
 Requires full screen

App Icons and Launch Images

App Icons Source: AppIcon

Launch Images Source: Use Asset Catalog...

Launch Screen File: LaunchScreen

Embedded Binaries

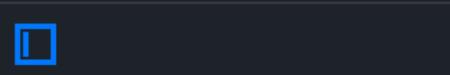
ChuckCore.framework ...in build/Debug-iphonios



Chuck

- Chuck
 - Definitions
 - Metrics.swift
 - Fonts.swift
 - Colors.swift
 - Messages.swift
 - Bootstrap
 - AppDelegate.swift
 - Views
 - JokeTableViewCell.swift
 - BadgeView.swift
 - BadgeCollectionViewCell.swift
 - BadgeFlowLayout.swift
 - SelfSizingCollectionView.swift
 - Controllers
 - AppFlowController.swift
 - Extensions
 - UIViewController+Children.swift
 - Home
 - ListJokesViewController.swift
 - EmptyViewController.swift
 - Search
 - Transition
 - SearchTransition.swift
 - SearchPresentationDriver.swift
 - SearchViewController.swift
 - BadgesCollectionViewController.swift
 - SearchSuggestionsViewController.swift
 - Resources

Chuck



PROJECT

Chuck

TARGETS

Chuck

ChuckUITests

ChuckCore

ChuckCoreTests

General

Capabilities

Resource Tags

Info

Build Settings

Build

Identity

Display Name Chuck

Bundle Identifier br.com.guilhermerambo.Chuck

Version 1.0

Build 1

Signing

Automatically manage signing

Xcode will create and update profiles, app IDs, and certificates.

Team GUILHERME RAMBO

Provisioning Profile Xcode Managed Profile

Signing Certificate iPhone Developer: Guilherme Rambo (6XE65...)

Deployment Info

Deployment Target 11.0

Devices iPhone

Main Interface

Device Orientation Portrait

Upside Down

Landscape Left

Landscape Right

App Groups

Running Chuck on N84

General Capabilities Resource Tags Info Build Settings Build Phases Build Rules

PROJECT
Chuck

TARGETS
Chuck
ChuckUITests
ChuckCore
ChuckCoreTests

Access WiFi Information OFF

App Groups ON

App Groups:
group.codes.rambo.Chuck
group.CY-3C6C1A5C-F76F-11E6-
group.CY-5B55CB74-3A46-11E7-9934-28CFE9164897.com.cydia.Exte

Steps:
Add the App Groups entitlement to your entitlements file
Add the App Groups feature to your App ID
Add App Groups to your App ID

Apple Pay OFF

Associated Domains OFF

AutoFill Credential Provider OFF

Background Modes OFF

ClassKit OFF

Data Protection OFF

Game Center OFF

HealthKit OFF

HomeKit OFF

Hotspot Configuration OFF

iCloud OFF

In-App Purchase OFF

General

Capabilities

Resource Tags

Info

Build Settings

Build Phases

Build Rules

▶️ 📶 Access WiFi Information

🔴 OFF

▼ 📁 App Groups

🟢 ON

App Groups:

- group.codes.rambo.Chuck
- group.CY-3C6C1A5C-F76F-11E6-
- group.CY-5B55CB74-3A46-11E7-9934-28CFE9164897.com.cydia.Exte

+ ↻

- Steps:
- ✓ Add the App Groups entitlement to your entitlements file
 - ✓ Add the App Groups feature to your App ID
 - ✓ Add App Groups to your App ID

▶️ 📄 Apple Pay

🔴 OFF

▶️ 🌐 Associated Domains

🔴 OFF

▶️ 🔑 AutoFill Credential Provider

🔴 OFF

▶️ 📄 Background Modes

🔴 OFF

▶️ ✅ ClassKit

🔴 OFF

▶️ 🔒 Data Protection

🔴 OFF

```
extension UserDefaults {  
    static var groupDefaults: UserDefaults {  
        return UserDefaults(suiteName: "group.codes.rambo.Chuck") ?? .standard  
    }  
}
```


Keychain Sharing

Running Chuck on N84

General Capabilities Resource Tags Info Build Settings Build Phases Build Rules

PROJECT
Chuck

TARGETS
Chuck
ChuckUITests
ChuckCore
ChuckCoreTests

Game Center OFF
HealthKit OFF
HomeKit OFF
Hotspot Configuration OFF
iCloud OFF
In-App Purchase OFF
Inter-App Audio OFF
Keychain Sharing ON
Keychain Groups: br.com.guilhermerambo.Chuck
Steps: ✓ Add the Keychain Sharing entitlement to your entitlements file
✓ Add the Keychain Sharing feature to your App ID
Maps OFF
Multipath OFF
Near Field Communication Tag Reading OFF
Network Extensions OFF
Personal VPN OFF
Push Notifications OFF

Filter

▶  Hotspot Configuration

▶  iCloud

▶  In-App Purchase

▶  Inter-App Audio

▼  Keychain Sharing

Keychain Groups:

+ -

Steps: ✓ Add the Keychain Sharing entitlement to your entitlements file
✓ Add the Keychain Sharing feature to your App ID

▶  Maps

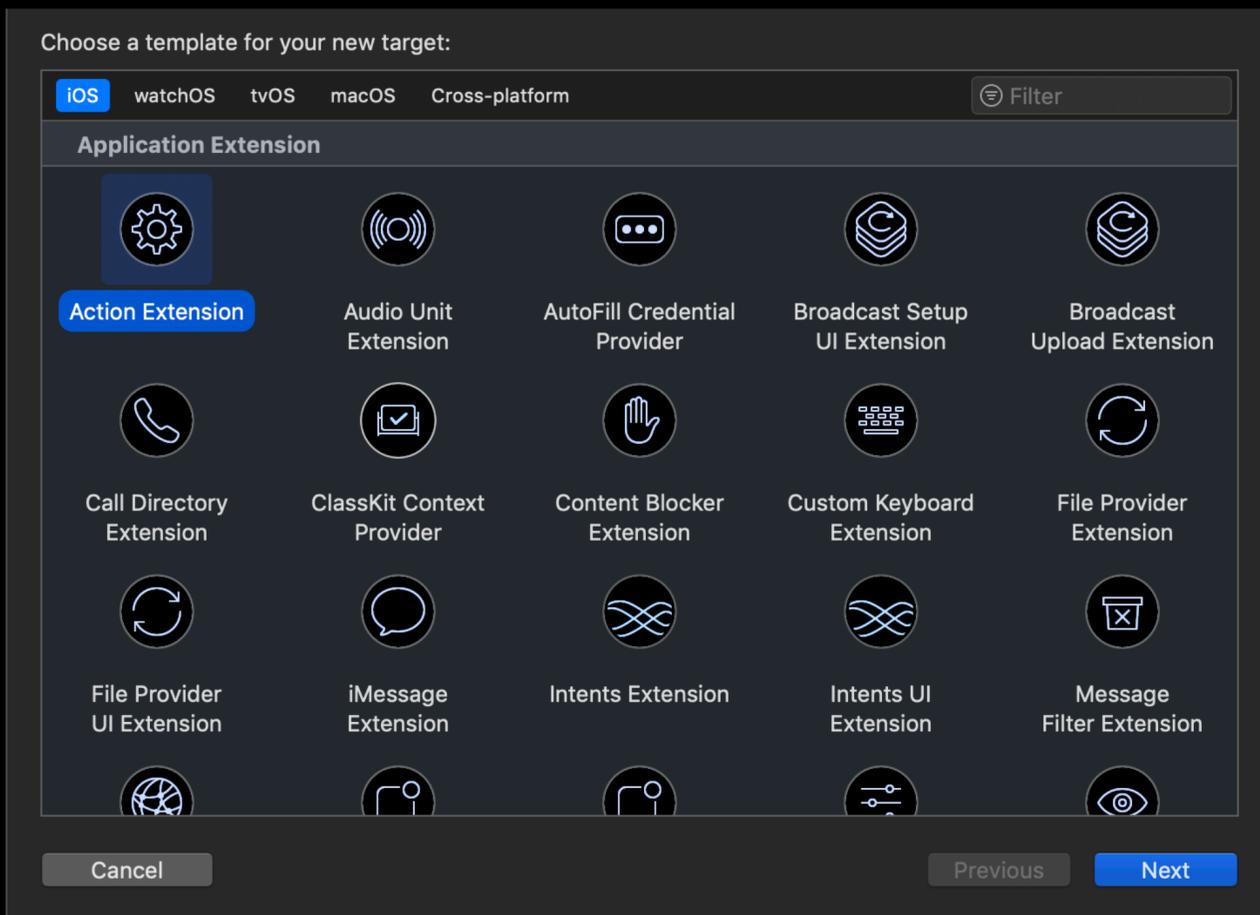
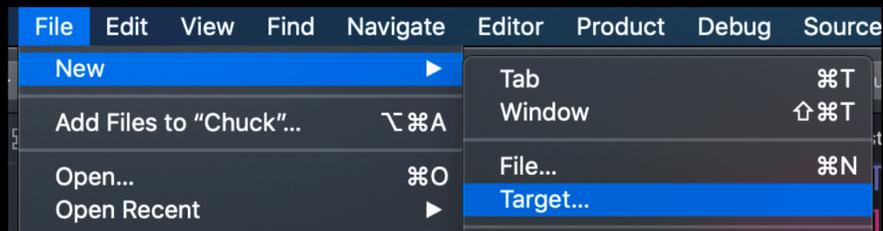
▶  Multipath

▶  Near Field Communication Tag Reading

Dependências

Tipos de extensions

Action

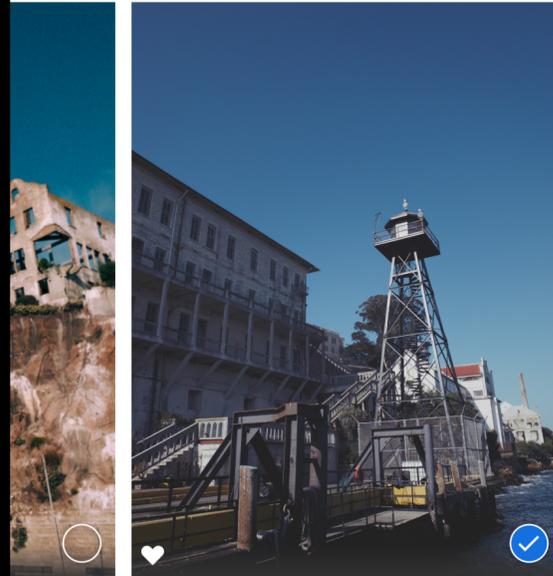


14:17



Cancel

1 Photo Selected



Tap to share with AirDrop



Gui
MacBook Pro



Gui
iPhone



Message



Mail



Shared
Albums



Add to Notes



Twitter



JSBox



Save in Keep

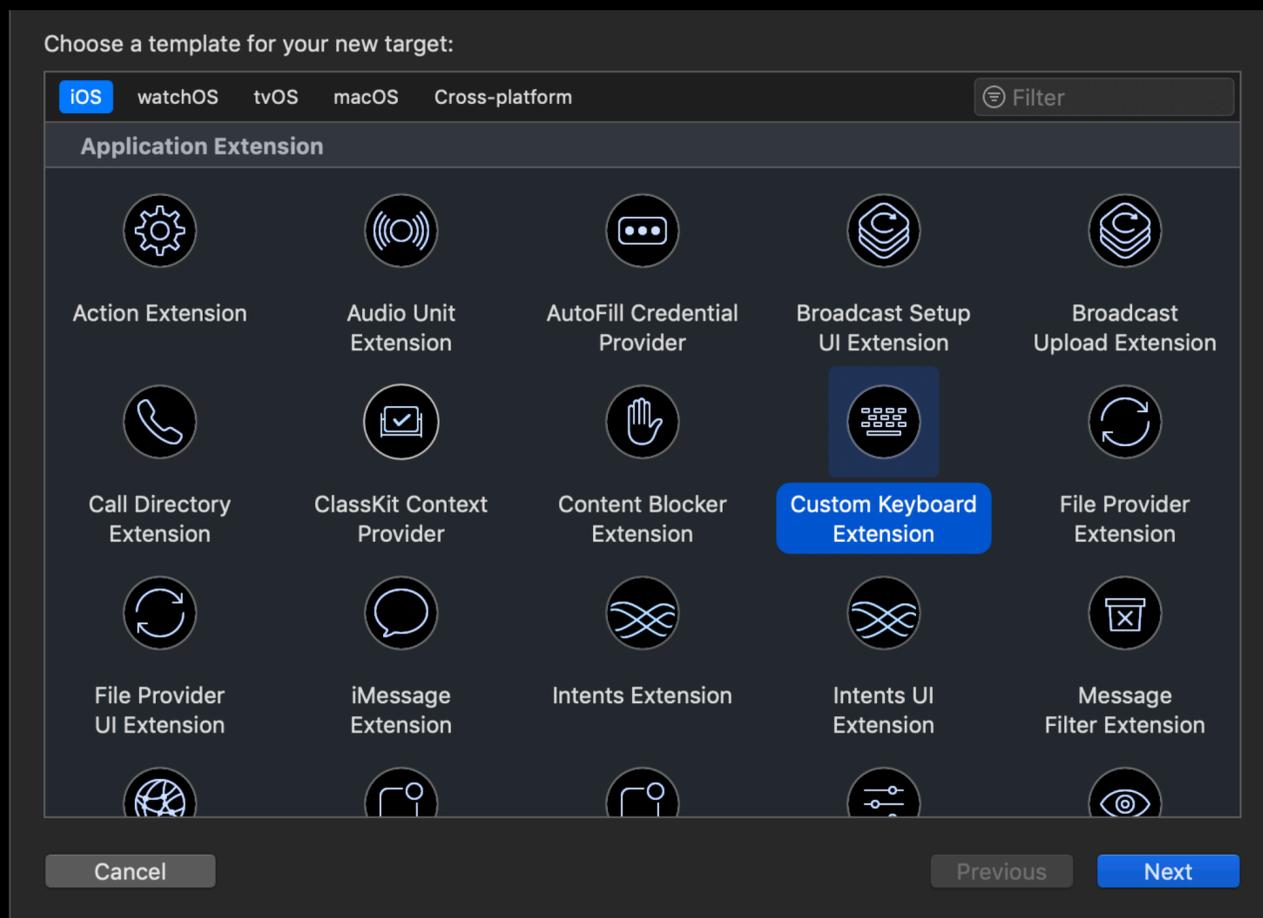
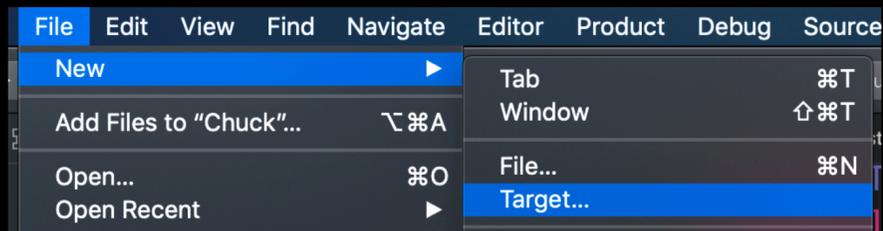


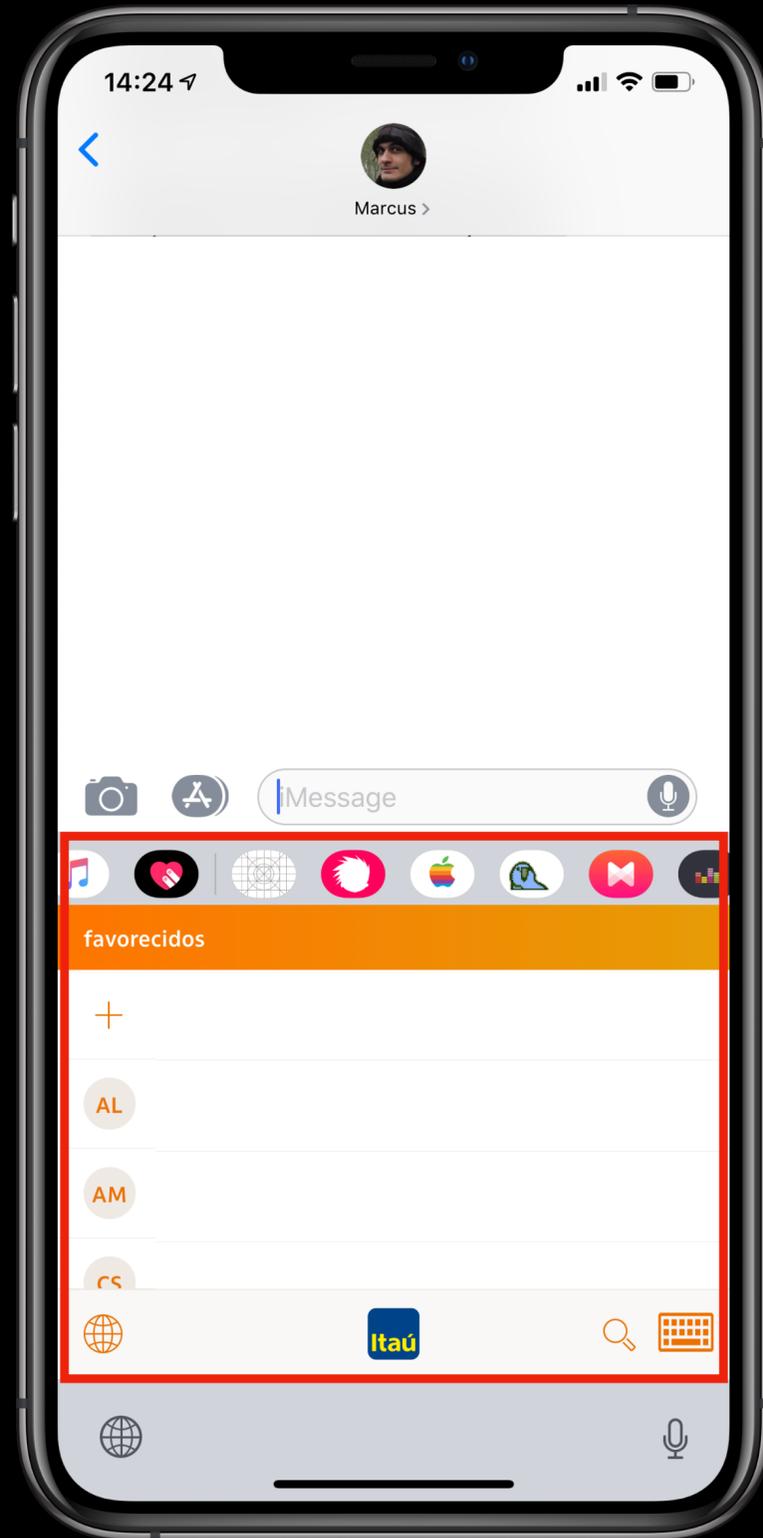
Import
to VSCO



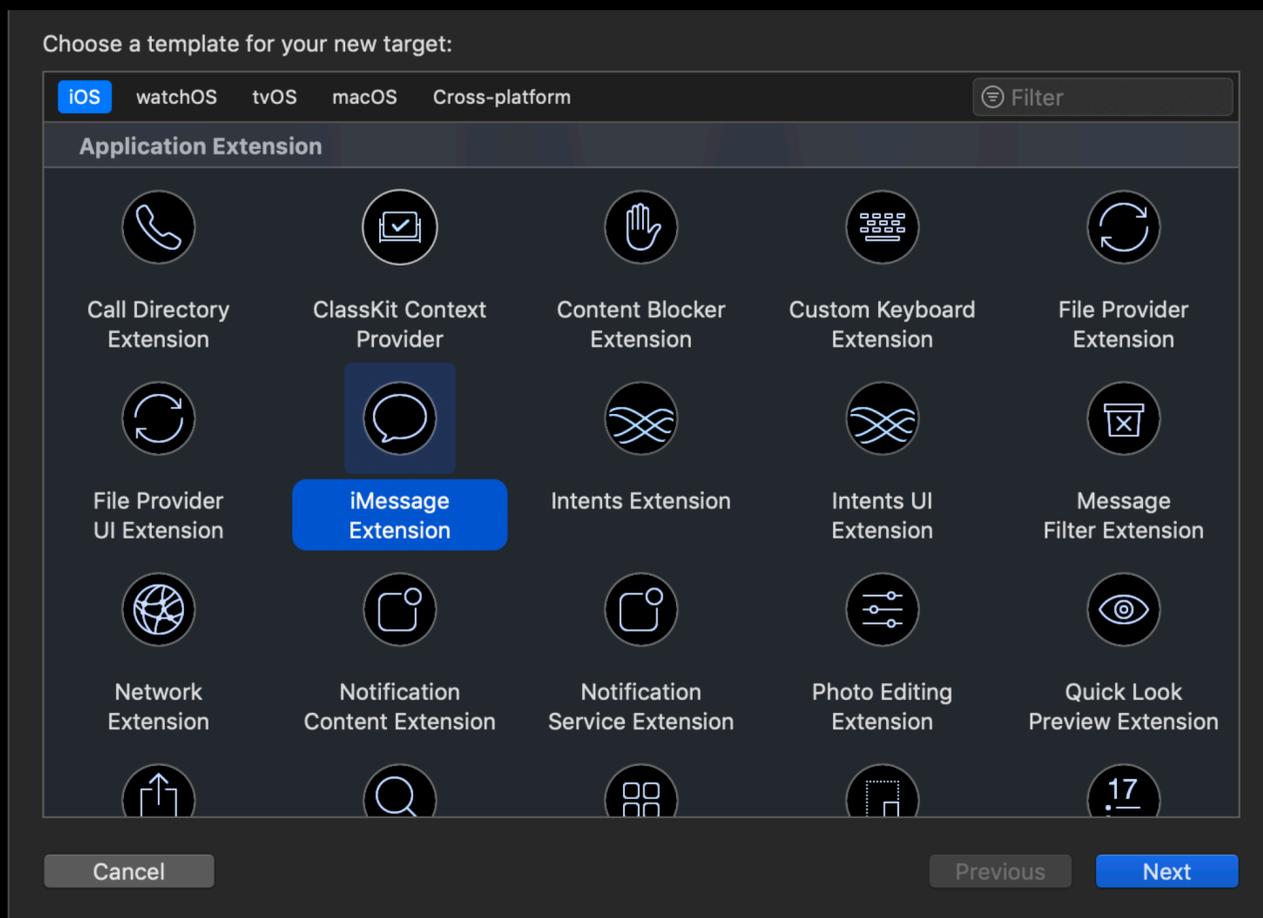
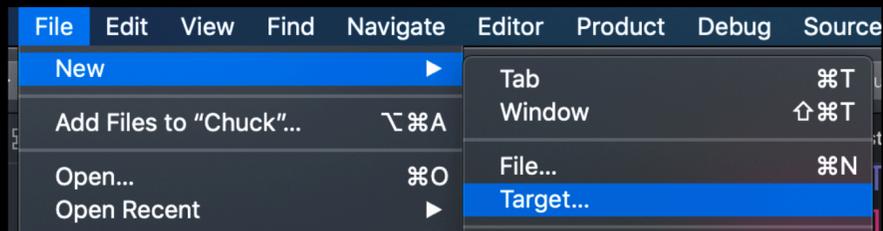
Save as Draft

Custom Keyboard





iMessage



14:42



Peixe Urbano



26 FAVORITOS



Cinemark: Ingresso para o Cinema. Es...
Cinemark: Ingresso para o Cinema

R\$ 14,90



Las Leñas Parrilla Uruguayo: Chivito d...
Chivito de Punta com Chope e Pudim de Leite para 2 pessoas

R\$ 69,00



Freguesia Bar: Sequência de Ostras p...
Sequência de Ostras para 2 Pessoas. Sabor irresistível!

R\$ 99,90



Las Leñas Parrilla Uruguayo: Entrecot...
Entrecot com Molho de Queijo, Acompanhamentos e Sobremesa

R\$ 39,00



Meat Hamburgueria: Hambúguer Mea...
Hambúguer Meat Costela Bacon ou Meat Tradicional com Fritas

R\$ 23,90



Mix Sushi: Combinado de Comida Jap...
Combinado de Comida Japonesa com Chope

R\$ 59,90



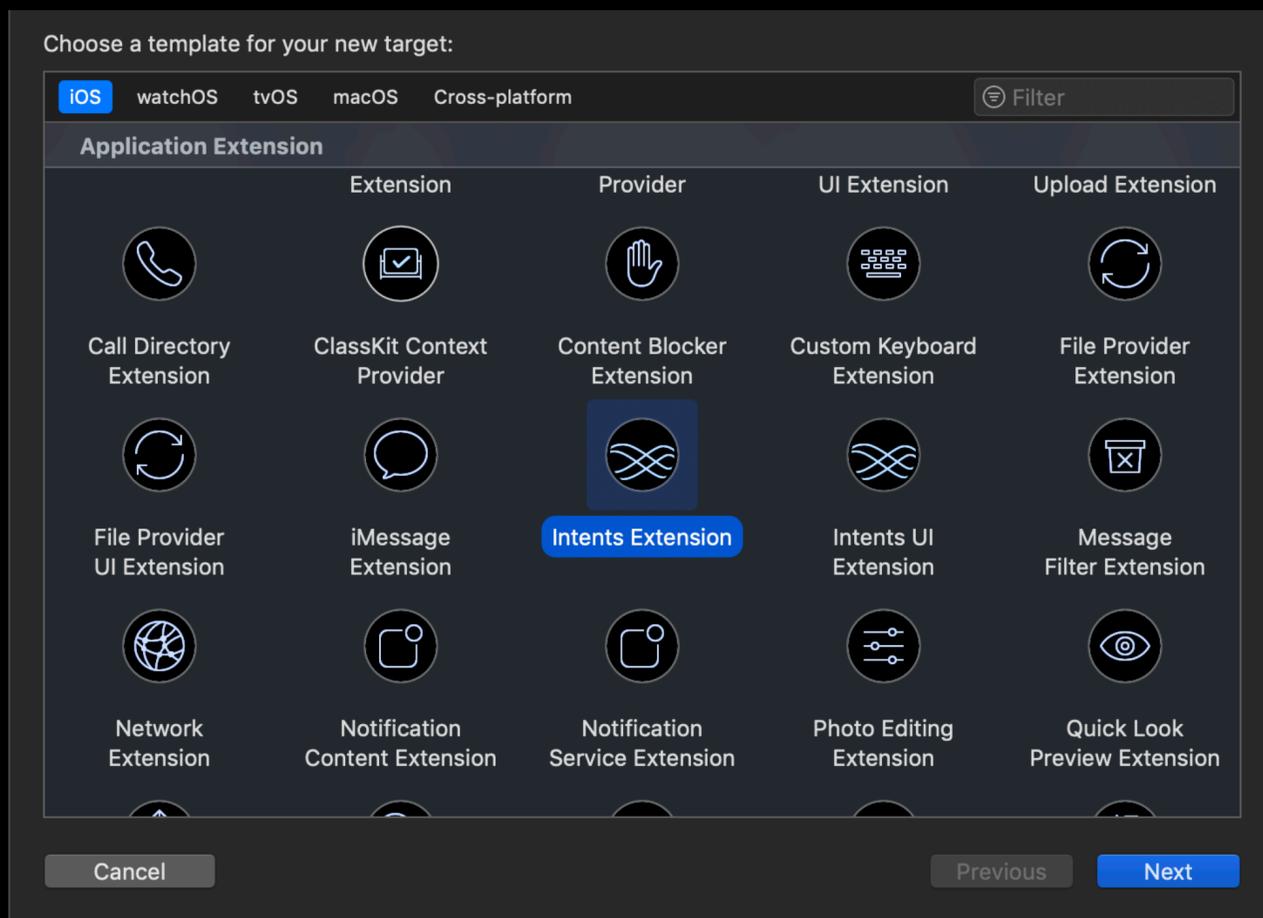
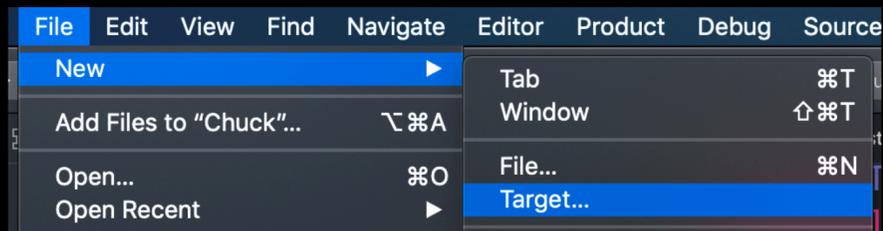
Frontera - 3 Lojas: Buffet Liberado co...
Buffet Liberado com Rodízio de Pizzas Doces e Salgadas

R\$ 22,90



Bicicleta Gts Feel Aro 29, Freio a Disc...
Bicicleta Gts Feel Aro 29, Freio a Disco, 21 Velocidades

Intents + IntentsUI



16:56



Order Chocolate Shake

Tap to Edit >

Ready to order with Milkshakr?

MILKSHAKR



Chocolate Shake R\$12.99

✓

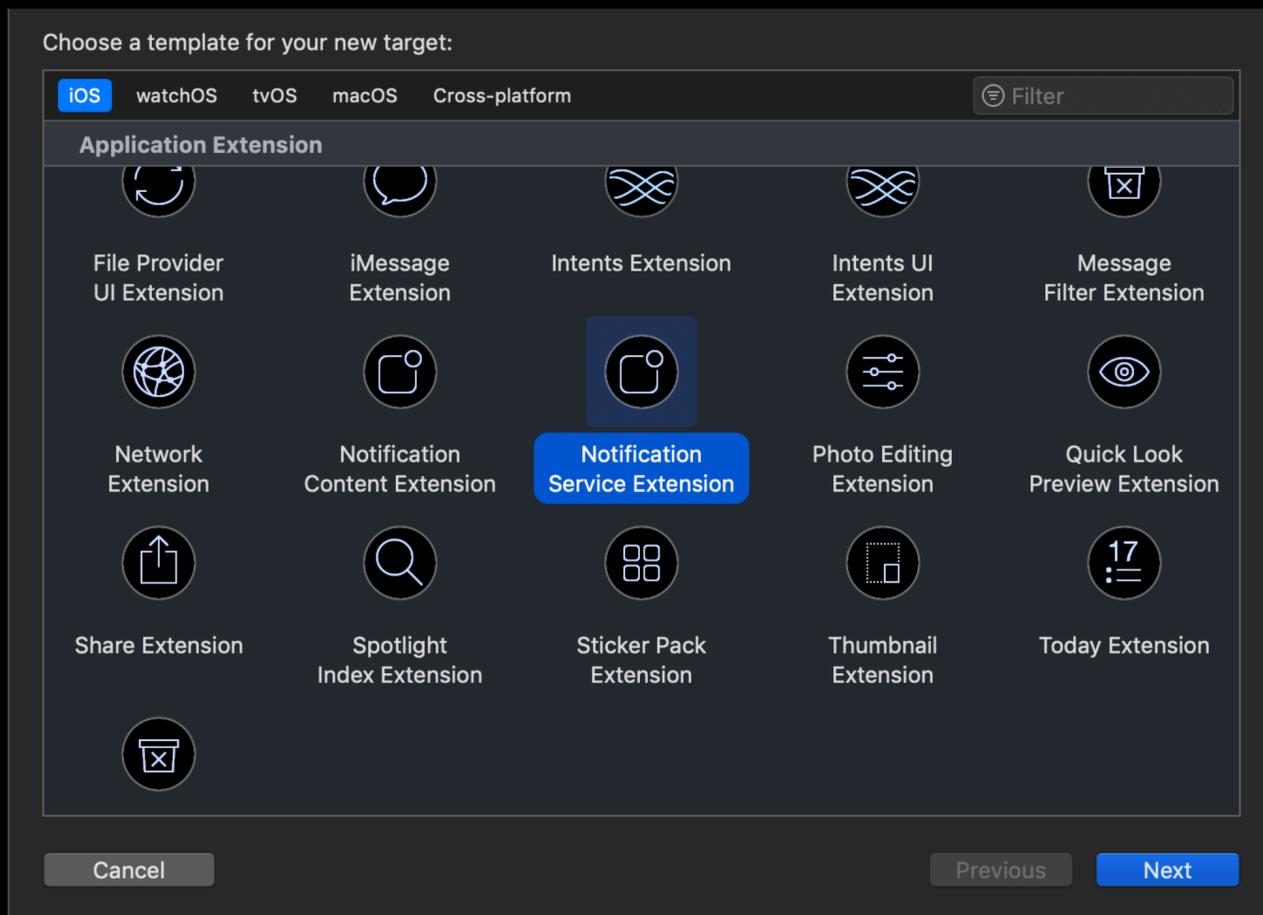
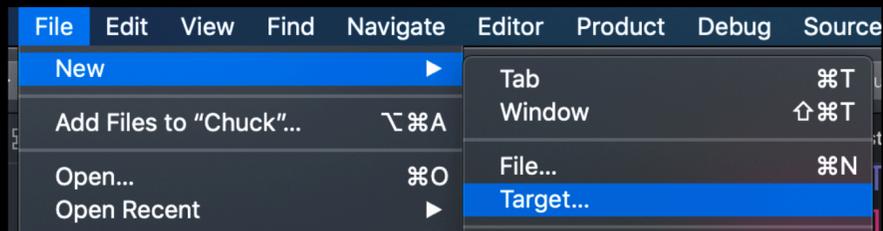
Yeah

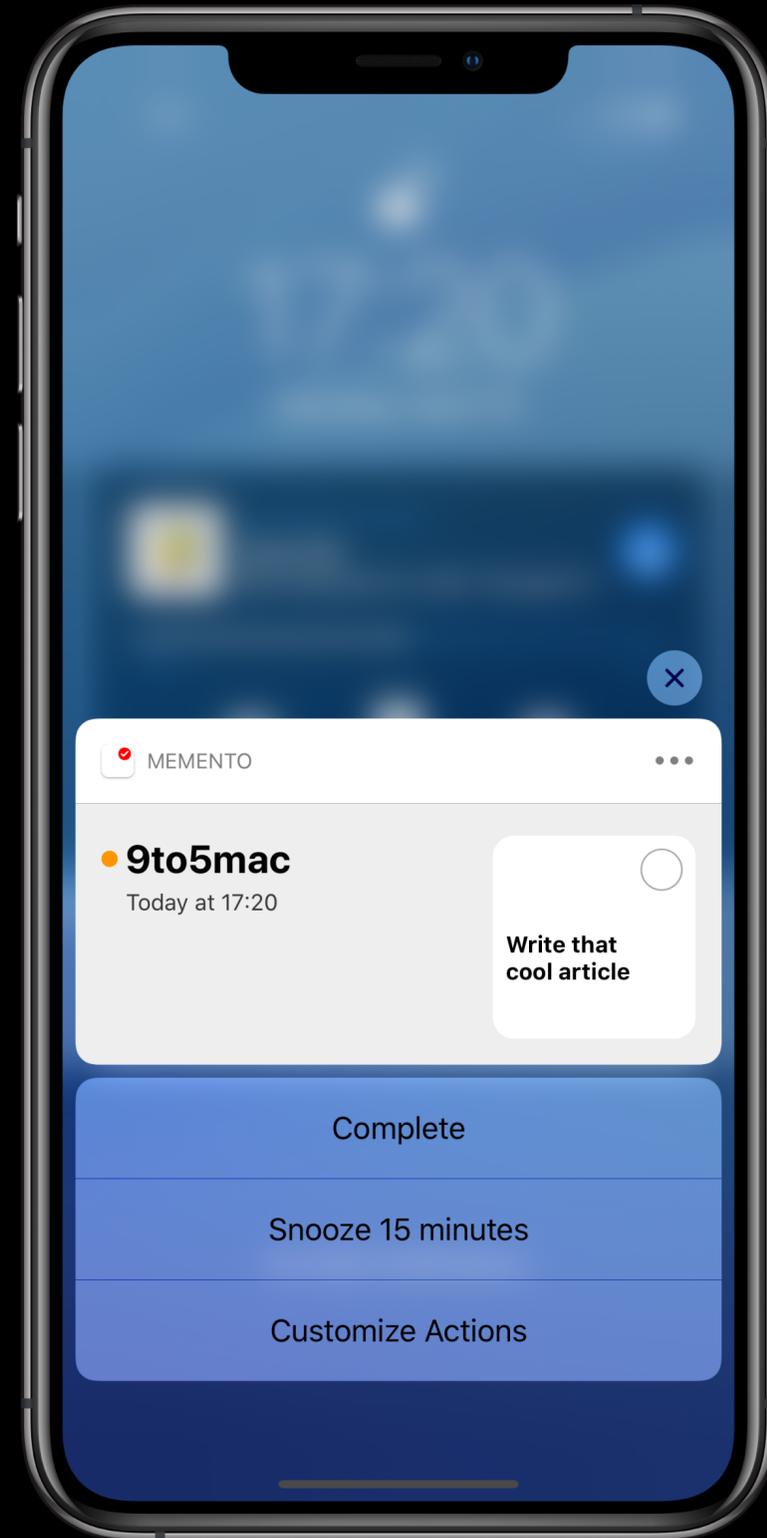
Tap to Edit >

OK. Ordering with Milkshakr.

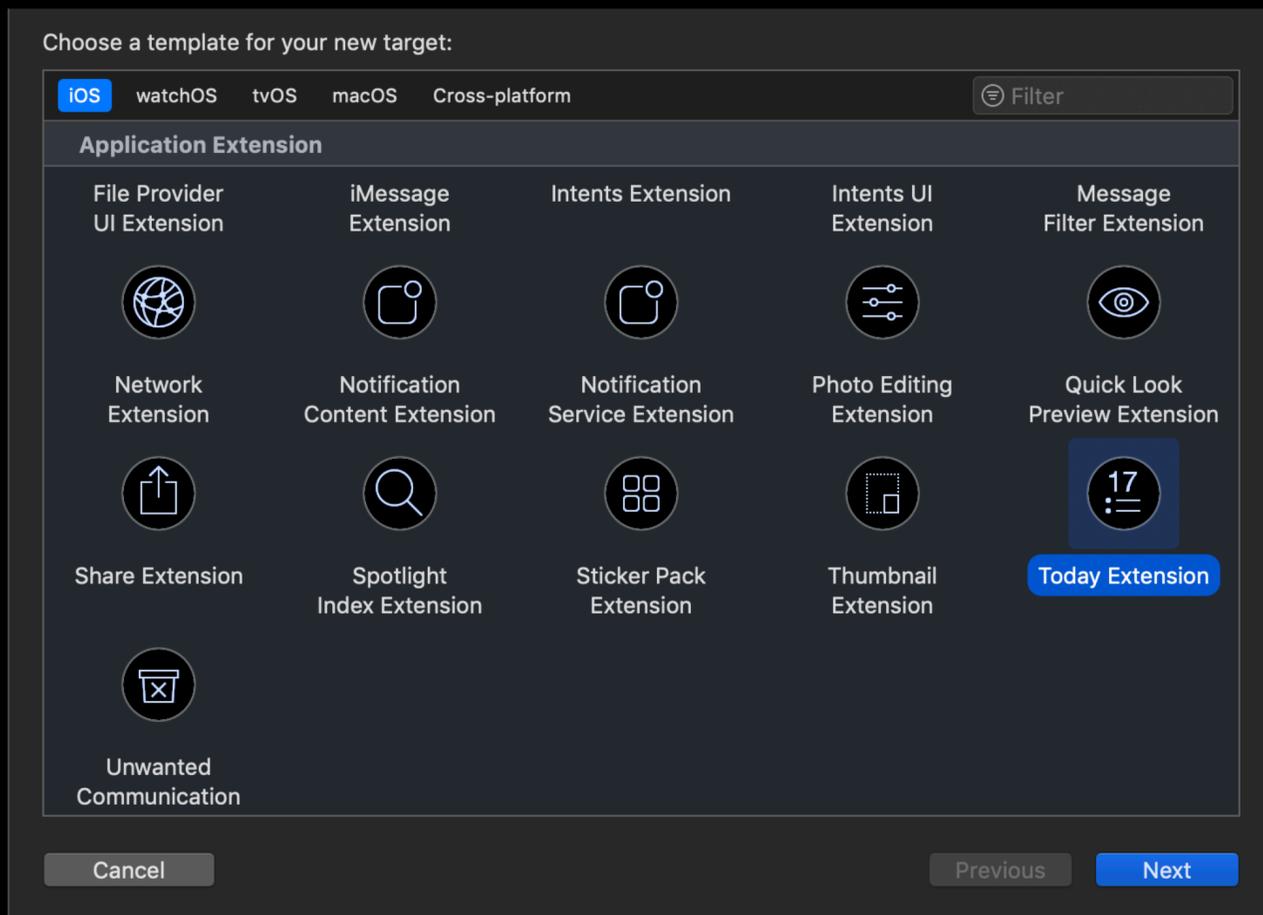
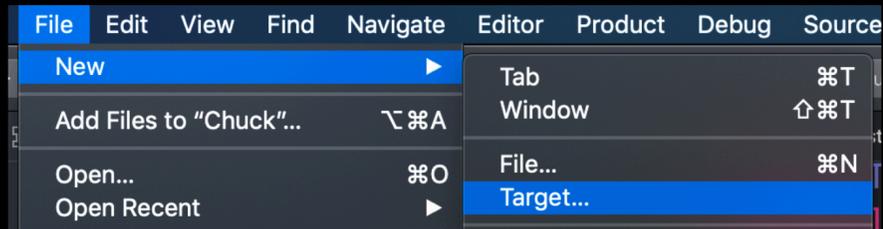


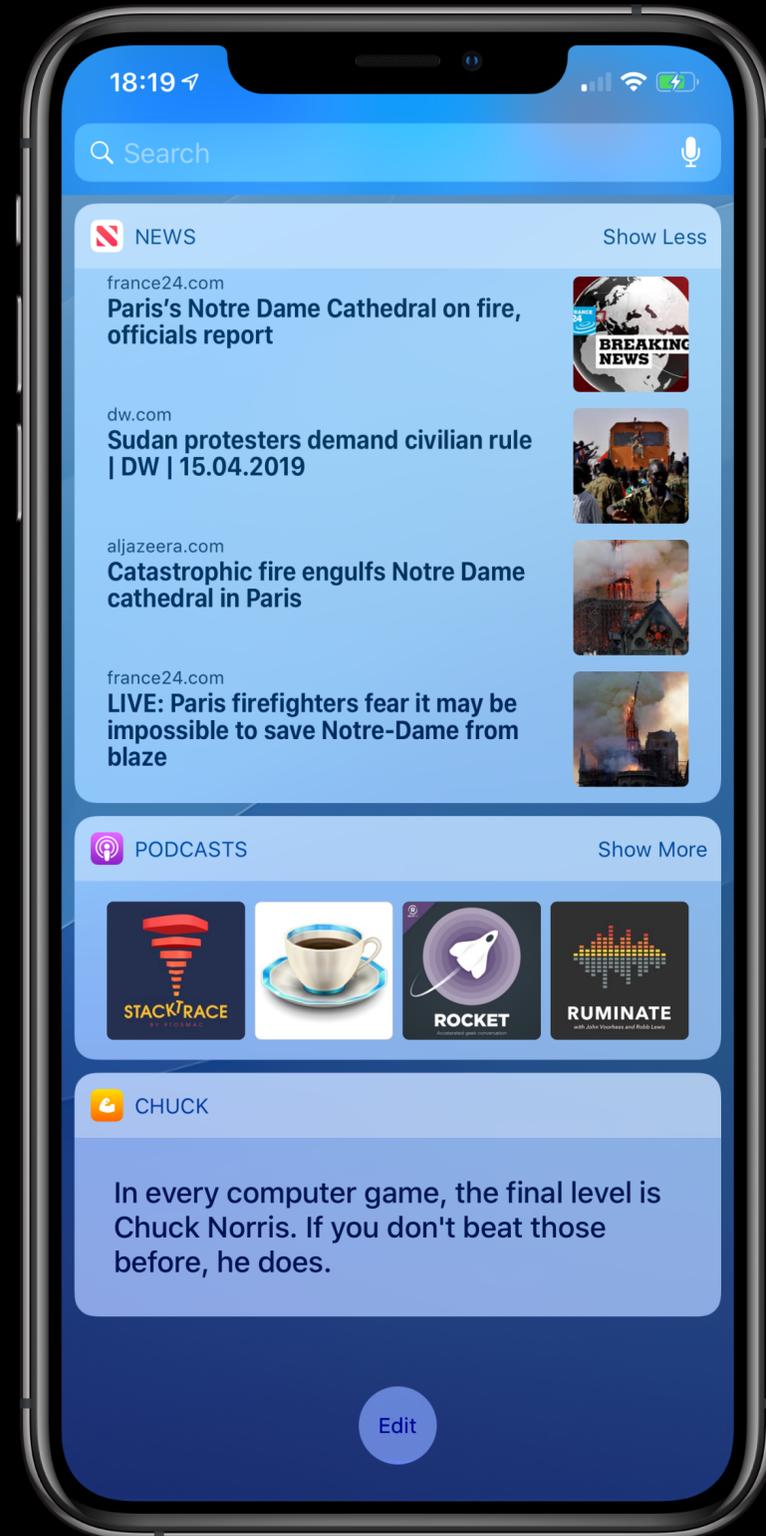
Notification Service + Content





Today







Demo

Debugging tips & tricks

os_log

WARNING

AY 7:36

Console (4 messages)

Now Activities Clear Reload Info Share

SUBSYSTEM ▾ CutenessIntents

All Messages Errors and Faults Save

Devices	Type	Time	Process	Category	Message
rambomp2	●	15:15:10.729076	CutenessIntents	ShowChibiIntentHandler	handle(intent:completion:)
D33	●	15:15:11.289028	CutenessIntentsUI	IntentViewController	viewDidLoad()
N84	●	15:15:11.335913	CutenessIntentsUI	IntentViewController	All UI initialization steps went fine, generating image...
	●	15:15:11.420340	CutenessIntentsUI	IntentViewController	Image generated successfully!

Guilherme's Apple Watch

J320

John's iPhone

D22

Reports

- Mac Analytics Data
- System Reports
- User Reports
- system.log
- ~/Library/Logs
- /Library/Logs
- /var/log

CutenessIntentsUI Volatile

Subsystem: CutenessIntents Category: IntentViewController [Details](#) 2019-04-22 15:15:11.335913

```
All UI initialization steps went fine, generating image...
```

Console (4 messages)



Share



SUBSYSTEM ▾

CutenessIntents

Save

	Process	Category	Message
29076	CutenessIntents	ShowChibiIntentHandler	handle(intent:completion:)
39028	CutenessIntentsUI	IntentViewController	viewDidLoad()
35913	CutenessIntentsUI	IntentViewController	All UI initialization steps went fine, generating image...
20340	CutenessIntentsUI	IntentViewController	Image generated successfully!

Attach to process

Debug Source Control Window Help

- Pause $\text{^} \text{⌘} \text{Y}$
- Continue To Current Line $\text{^} \text{⌘} \text{C}$
- Step Over F6
- Step Into F7
- Step Out F8
- Step Over Instruction $\text{^} \text{F6}$
- Step Over Thread $\text{^} \text{⏏} \text{F6}$
- Step Into Instruction $\text{^} \text{F7}$
- Step Into Thread $\text{^} \text{⏏} \text{F7}$

- Capture GPU Frame
- Capture GPU Scope ▶
- GPU Overrides ▶
- Simulate Location ▶
- Simulate Background Fetch ▶
- Simulate UI Snapshot
- View Debugging ▶

- Deactivate Breakpoints $\text{⌘} \text{Y}$
- Breakpoints ▶

- Debug Workflow ▶

- Attach to Process by PID or Name... $\text{^} \text{⌘} \text{A}$**
- Attach to Process ▶
- Detach from Chibi Studio

PID or Process Name ⚠

The debugger will wait for processes that aren't running.

Debug Process As Me (inside) root
Use this option to debug a root process.

Toolchain

Malloc Stack Enable Logging (Live Allocations)

Chibi Studio > N84 2 Running CutenessIntentsUI on N84

Chibi Studio > CutenessIntentsUI > IntentViewController.swift > configureView(for:of:interactiveBehavior:context:completion:)

```
63
64     guard let chibi = ChibiLibrary.shared.chibiLibraryItem(with: id) else {
65         os_log("Unable to find chibi with ID %@", log: self.log, type: .error, identifier)
66
67         completion(false, parameters, self.desiredSize)
68
69         return
70     }
71
72     os_log("All UI initialization steps went fine, generating image...", log: self.log, type: .info)
73
74     ChibiImageGenerator.shared.generateImage(with: desiredSize, for: chibi, ignoreCache: false)
75     guard let self = self else { return }
76
77     guard let image = image else {
78         os_log("Failed to generate chibi image.", log: self.log, type: .error)
79
80         completion(false, parameters, self.desiredSize)
81
```

CutenessIntentsUI > Thread 1 > 0 IntentViewController.configureView(for:of:interactiveBehavior:context:completion:)

```
(lldb) po chibi
<CutenessCore.ChibiLibraryItem: 0x2814c9ea0> (entity: ChibiLibraryItem; id:
    0xcc9132429f47b0b7
    <x-coredata://E7F8767D-4438-4F0F-BB8C-BEBDC59238C3/ChibiLibraryItem/p9> ; data: <fault>)
```

(lldb) |

All Output ⌵ Filter

Device logs

Window Help

Minimize ⌘M
Zoom

Rename Tab... ⌘⇧T
Show Previous Tab ⌘⇧←
Show Next Tab ⌘⇧→
Move Tab to New Window
Merge All Windows

Developer Documentation ⌘⇧0
Welcome to Xcode ⌘⇧1
Devices and Simulators ⌘⇧2
Organizer ⌘⇧O

Show Touch Bar ⌘⇧8

Bring All to Front

Chibi Studio — IntentViewController.swift

✓ Milkshakr — IntentViewController.swift

Devices Simulators

Connected

N84

Disconnected

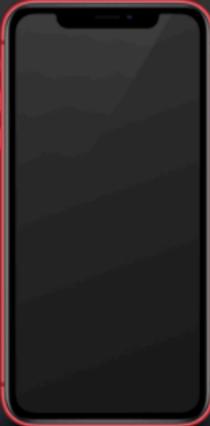
TV

N84

iOS 12.3 (16F5129d)
Model: iPhone XR
Capacity: 55,08 GB (6,3 GB available)

Show as run destination
 Connect via network

Take Screenshot
View Device Logs
Open Console



PAIRED WATCHES

Name	Model	watchOS	Identifier

INSTALLED APPS

Name	Version	Identifier

+ Filter

This Device All Logs

Process	Type	Date/Time
CacheDeleteDaily	Crash	15/04/19 16:
Chibi Studio	Crash	19/04/19 17:
CutenessIntents	Crash	22/04/19 15:
CutenessIntents	Crash	22/04/19 14:
CutenessIntentsUI	Crash	22/04/19 15:
CutenessIntentsUI	Crash	22/04/19 14:
Instagram	Crash	21/04/19 22:
Instagram	Crash	20/04/19 20:
Instagram	Crash	19/04/19 21:
Instagram	Crash	16/04/19 20:
MobileNotes	Crash	16/04/19 12:
MobileNotes	Crash	16/04/19 12:
MobileSafari	Crash	18/04/19 18:
NotificationService	Crash	22/04/19 12:
NotificationService	Crash	21/04/19 20:
NotificationService	Crash	21/04/19 20:
NotificationService	Crash	21/04/19 20:
NotificationService	Crash	19/04/19 20:

```

Incident Identifier: D4F0F7BD-7DBA-46A5-8C1C-85D8F8ABC407
CrashReporter Key: 84b993e1dd6da77f7034e4b52cd8e705ad67022b
Hardware Model: iPhone11,8
Process: CutenessIntents [9955]
Path: /private/var/containers/Bundle/Application/849FDD53-E336-4AD0-8F3A-CD90E73DAB8D/Chibi Studio.app/PlugIns/CutenessIntents.appex/CutenessIntents
Identifier: br.com.guilhermerambo.Chibi-Studio.CutenessIntents
Version: 632 (2.0)
Code Type: ARM-64 (Native)
Role: Unspecified
Parent Process: launchd [1]
Coalition: br.com.guilhermerambo.Chibi-Studio.CutenessIntents [10445]

Date/Time: 2019-04-22 15:20:39.4256 -0300
Launch Time: 2019-04-22 15:20:39.1319 -0300
OS Version: iPhone OS 12.3 (16F5129d)
Baseband Version: 1.05.01
Report Version: 104

Exception Type: EXC_BREAKPOINT (SIGTRAP)
Exception Codes: 0x0000000000000001, 0x000000023fc99f94
Termination Signal: Trace/BPT trap: 5
Termination Reason: Namespace SIGNAL, Code 0x5
Terminating Process: exc handler [9955]
Triggered by Thread: 2

Thread 0:
0  libsystem_kernel.dylib 0x0000000210930c78 mach_msg_trap + 8
1  CoreFoundation 0x0000000210d3830c __CFRunLoopServiceMachPort + 240
2  CoreFoundation 0x0000000210d32fb0 __CFRunLoopRun + 1344
3  CoreFoundation 0x0000000210d32750 CFRunLoopRunSpecific + 452
4  Foundation 0x000000021171253c -[NSRunLoop+ 34108 (NSRunLoop) runMode:beforeDate:] + 304
5  Foundation 0x000000021174ee40 -[NSRunLoop+ 282176 (NSRunLoop) run] + 92
6  libxpc.dylib 0x00000002109f57b4 _xpc_objc_main + 520
7  libxpc.dylib 0x00000002109f81ec xpc_main + 180
8  Foundation 0x0000000211750e98 +[NSXPCListener serviceListener] + 0
9  PlugInKit 0x0000000216f8e2d4 0x216f7b000 + 78548
10 PlugInKit 0x0000000216f8e0e8 0x216f7b000 + 78056
11 PlugInKit 0x0000000216f8e658 0x216f7b000 + 79448
12 Foundation 0x000000021192e838 NSExtensionMain + 68
13 libdyld.dylib 0x00000002107f0ffc start + 4

Thread 1:
0  libsystem_pthread.dylib 0x00000002109b9dc0 start_wqthread + 0

Thread 2 Crashed:
0  libswiftCore.dylib 0x000000023fc99f94 specialized_assertionFailure+ 2338708 (:_:file:line:flags:) + 364
1  libswiftCore.dylib 0x000000023fa8a19c _assertionFailure+ 176540 (:_:file:line:flags:) + 36
2  CutenessCore 0x00000001049351f0 0x1048bc000 + 496112
3  CutenessIntents 0x00000001045365b4 0x104530000 + 26036
4  CutenessIntents 0x0000000104536f5c 0x104530000 + 28508
5  Intents 0x000000021c2c277c __50-[INExtensionContext handleIntent:withCompletion:]_block_invoke.
    
```

Done

```
22/04/19 14: Exception Type: EXC_BREAKPOINT (SIGTRAP)
Exception Codes: 0x0000000000000001, 0x000000023fc99f94
22/04/19 14: Termination Signal: Trace/BPT trap: 5
22/04/19 14: Termination Reason: Namespace SIGNAL, Code 0x5
22/04/19 14: Terminating Process: exc handler [9955]
22/04/19 14: Triggered by Thread: 2
22/04/19 15: Thread 0:
22/04/19 14: 0  libsystem_kernel.dylib 0x0000000210930c78 mach_msg_trap + 8
22/04/19 14: 1  CoreFoundation 0x0000000210d3830c __CFRunLoopServiceMachPort + 240
22/04/19 14: 2  CoreFoundation 0x0000000210d32fb0 __CFRunLoopRun + 1344
22/04/19 14: 3  CoreFoundation 0x0000000210d32750 CFRunLoopRunSpecific + 452
22/04/19 14: 4  Foundation 0x000000021171253c -[NSRunLoop+ 34108 (NSRunLoop) runMode:beforeDate
22/04/19 14: 5  Foundation 0x000000021174ee40 -[NSRunLoop+ 282176 (NSRunLoop) run] + 92
22/04/19 14: 6  libxpc.dylib 0x00000002109f57b4 _xpc_objc_main + 520
22/04/19 14: 7  libxpc.dylib 0x00000002109f81ec xpc_main + 180
21/04/19 22: 8  Foundation 0x0000000211750e98 +[NSXPCListener serviceListener] + 0
20/04/19 20: 9  PlugInKit 0x0000000216f8e2d4 0x216f7b000 + 78548
19/04/19 21: 10 PlugInKit 0x0000000216f8e0e8 0x216f7b000 + 78056
16/04/19 20: 11 PlugInKit 0x0000000216f8e658 0x216f7b000 + 79448
16/04/19 20: 12 Foundation 0x000000021192e838 NSExtensionMain + 68
16/04/19 20: 13 libdyld.dylib 0x00000002107f0ffc start + 4
16/04/19 12: Thread 1:
16/04/19 12: 0  libsystem_pthread.dylib 0x00000002109b9dc0 start_wqthread + 0
18/04/19 18: Thread 2 Crashed:
22/04/19 12: 0  libswiftCore.dylib 0x000000023fc99f94 specialized_assertionFailure+ 2338708 (:_:file:
21/04/19 20: 1  libswiftCore.dylib 0x000000023fa8a19c _assertionFailure+ 176540 (:_:file:line:flags:)
21/04/19 20: 2  CutenessCore 0x00000001049351f0 0x1048bc000 + 496112
21/04/19 20: 3  CutenessIntents 0x00000001045365b4 0x104530000 + 26036
21/04/19 20: 4  CutenessIntents 0x0000000104536f5c 0x104530000 + 28508
10/04/19 20: 5  Intents 0x000000021c2c277c __50-[INExtensionContext handleIntent:withComple
```

Resumo

**Extensions são boas para você,
para o seu usuário
e para a sua empresa**

**Ter o app modularizado ajuda
no desenvolvimento**

**Menos dependências
= mais fácil**

Referências

github.com/insidegui/Chuck

bit.ly/appextensionstdc

Obrigado!

@_inside

9to5mac.com

rambo.codes