Connecting CareKit to the Cloud

Session 239

Kelsey Dedoshka, Software Engineer

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Agenda

CareKit overview

Bridge API

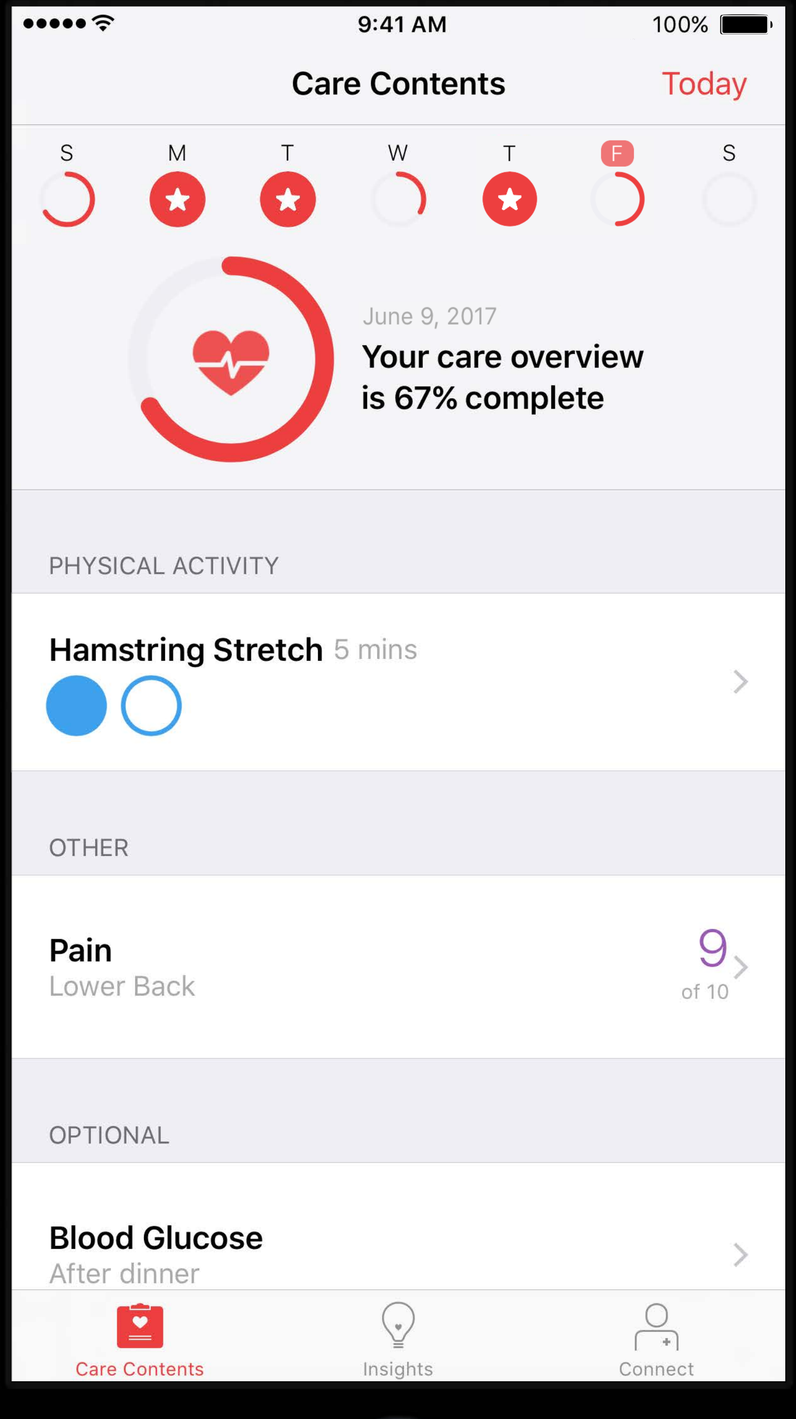
Demo

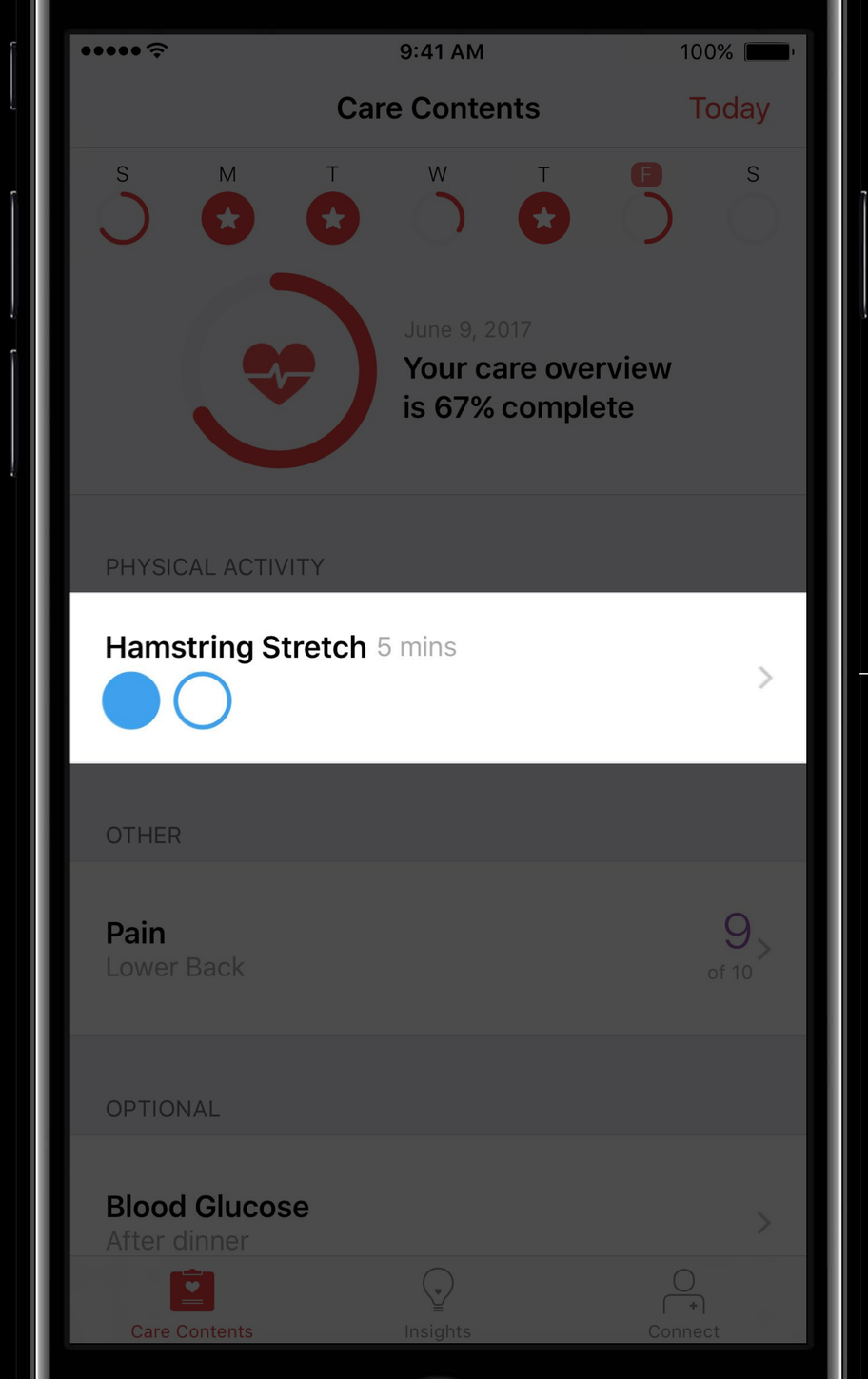
CareKit Overview

CareKit

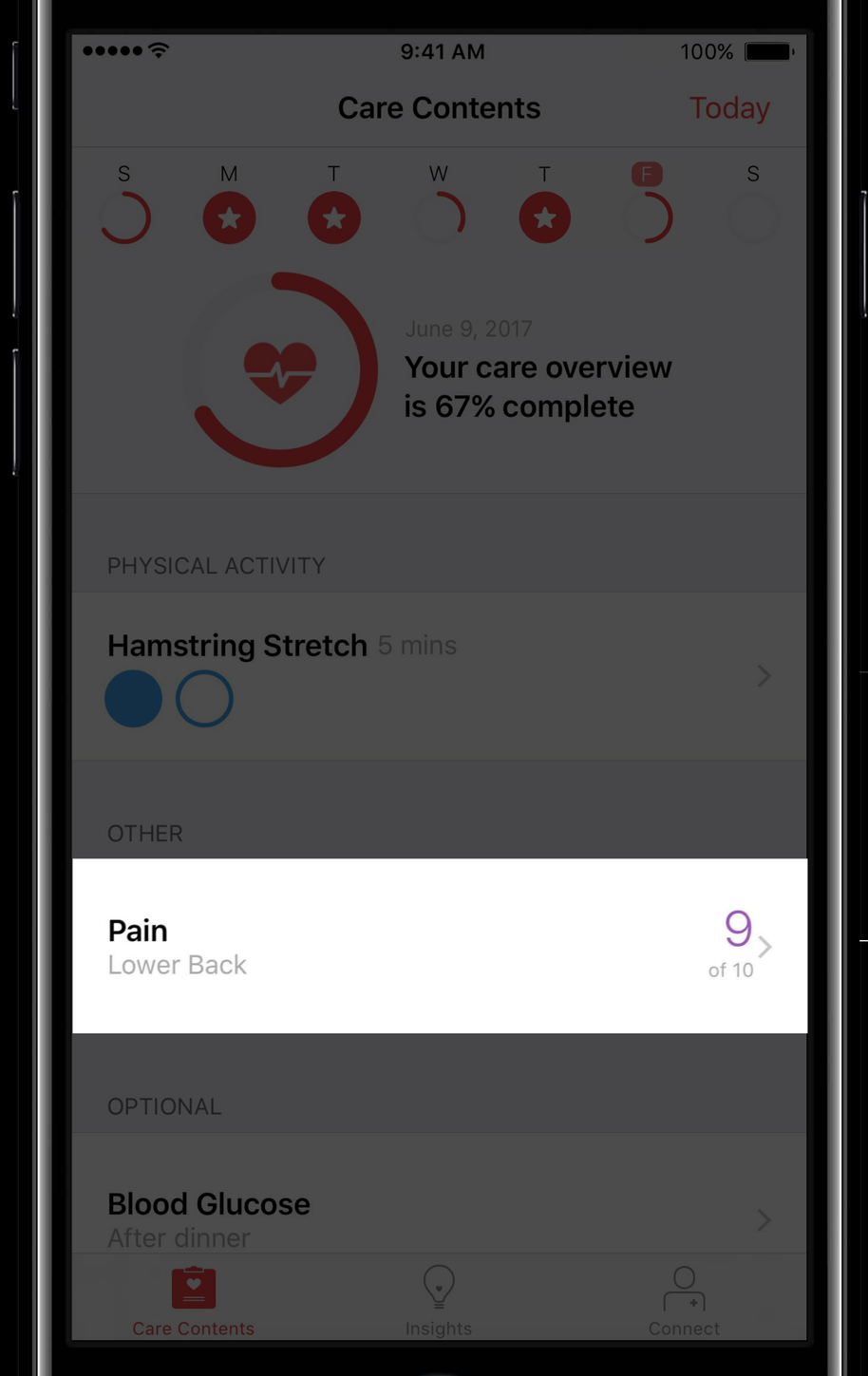
What’s New in CareKit and ResearchKit	WWDC 2017
Getting Started with CareKit	WWDC 2016

CareKit


9:41 AM
100%
Care Contents
Today
S
M
T
W
T
F
S
June 9, 2017
Your care overview is 67% complete
PHYSICAL ACTIVITY
Hamstring Stretch 5 mins
OTHER
Pain
Lower Back
9
of 10
OPTIONAL
Blood Glucose
After dinner
Care Contents
Insights
Connect

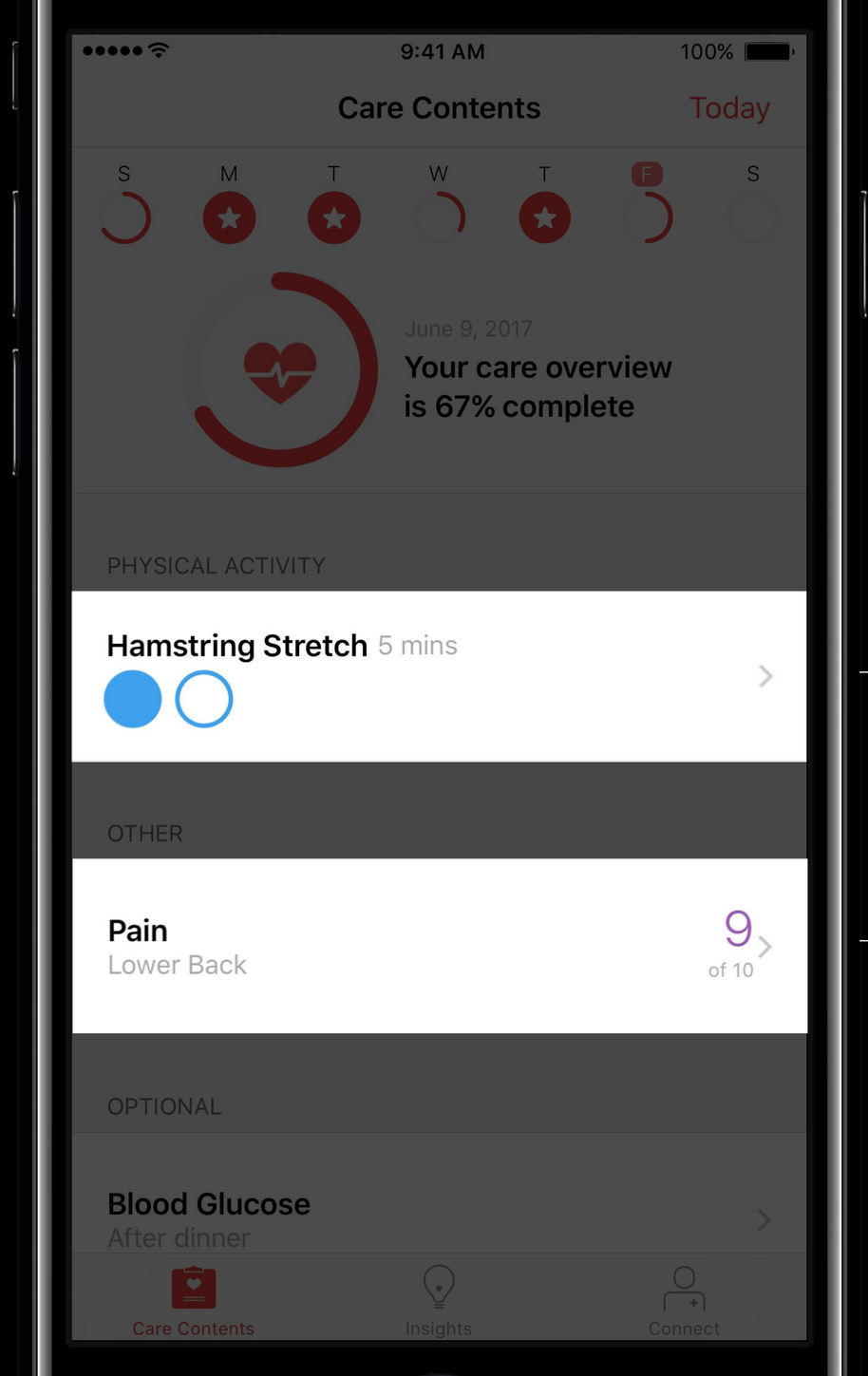


To-Do Intervention Activity



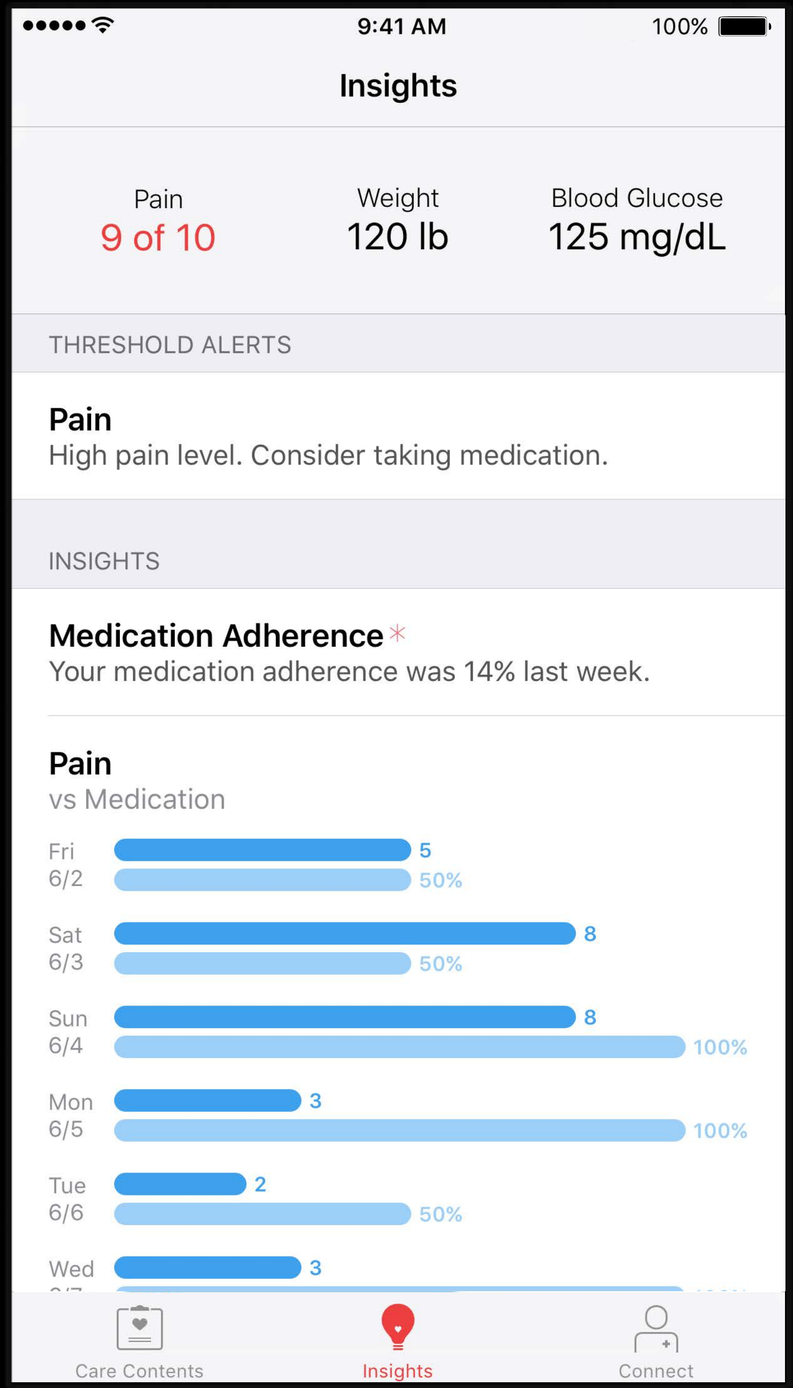
To-Do Intervention Activity

To-Do Assessment Activity

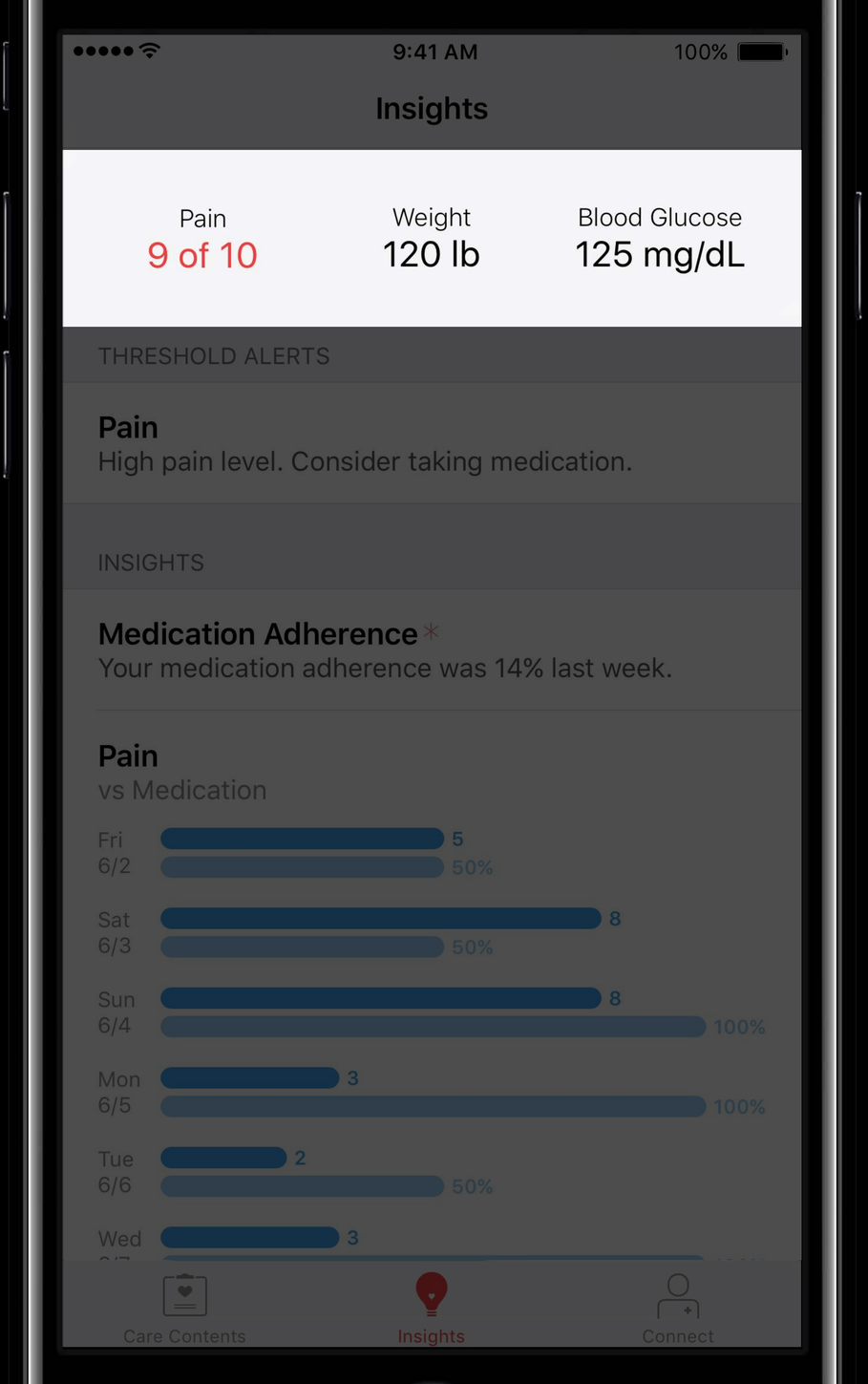


To-Do Intervention Activity

To-Do Assessment Activity

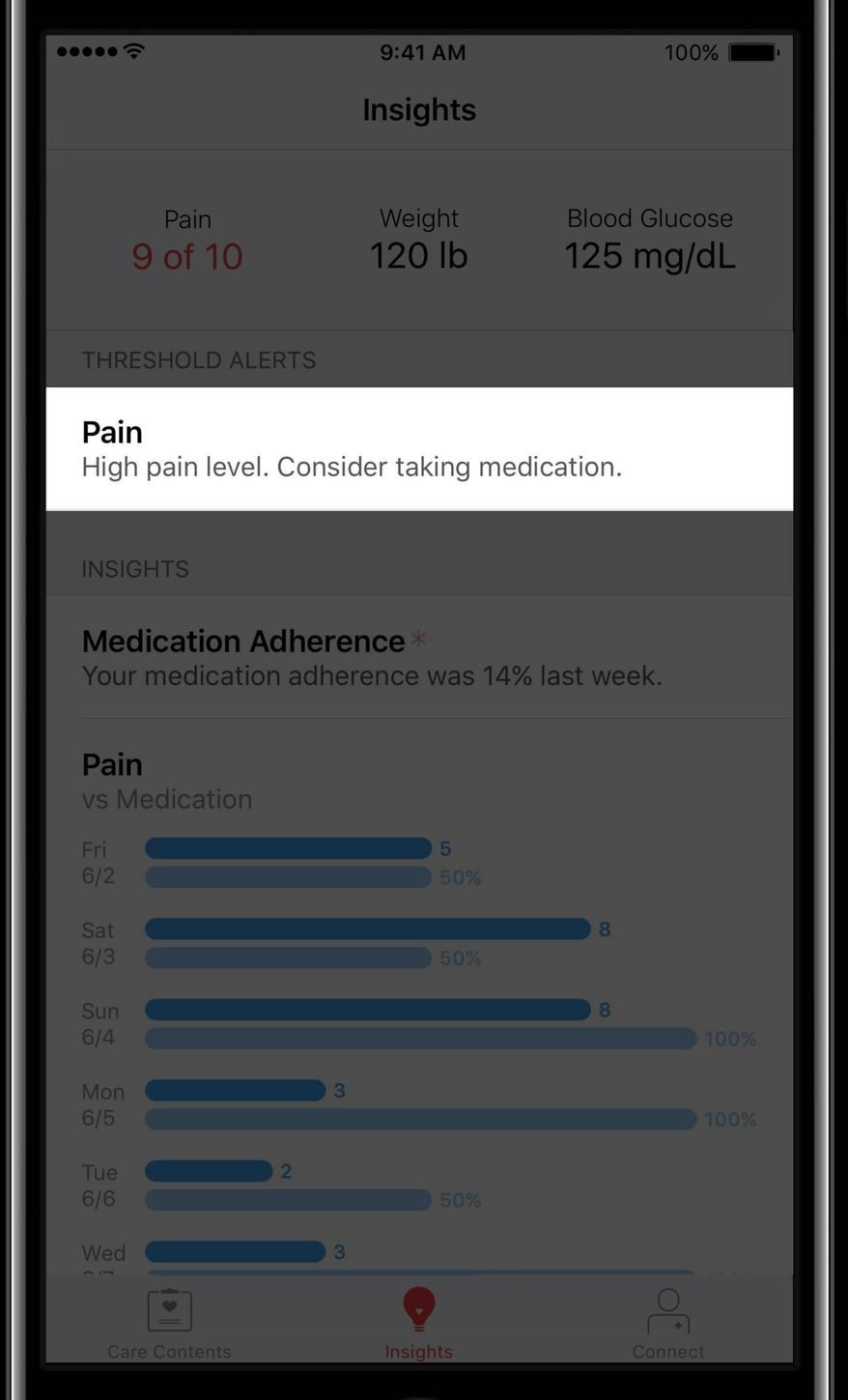

9:41 AM
100%
Insights
Pain
9 of 10
Weight
120 lb
Blood Glucose
125 mg/dL
THRESHOLD ALERTS
Pain
High pain level. Consider taking medication.
INSIGHTS
Medication Adherence
Your medication adherence was 14% last week.
Pain
vs Medication
Fri 6/2
5
50%
Sat 6/3
8
50%
Sun 6/4
8
100%
Mon 6/5
3
100%
Tue 6/6
2
50%
Wed
3
Care Contents
Insights
Connect

Widgets Threshold Alert



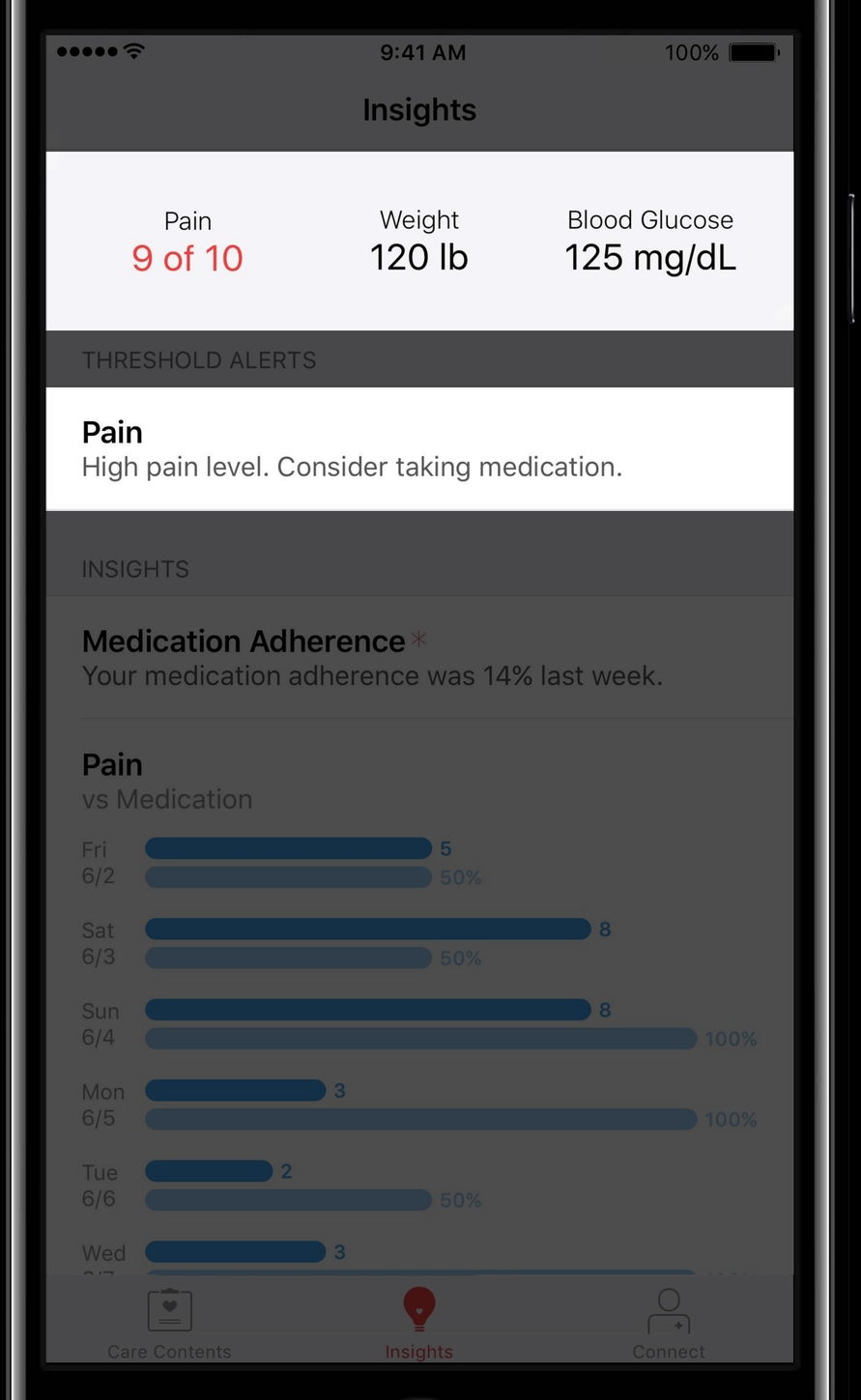
Widgets Threshold Alert

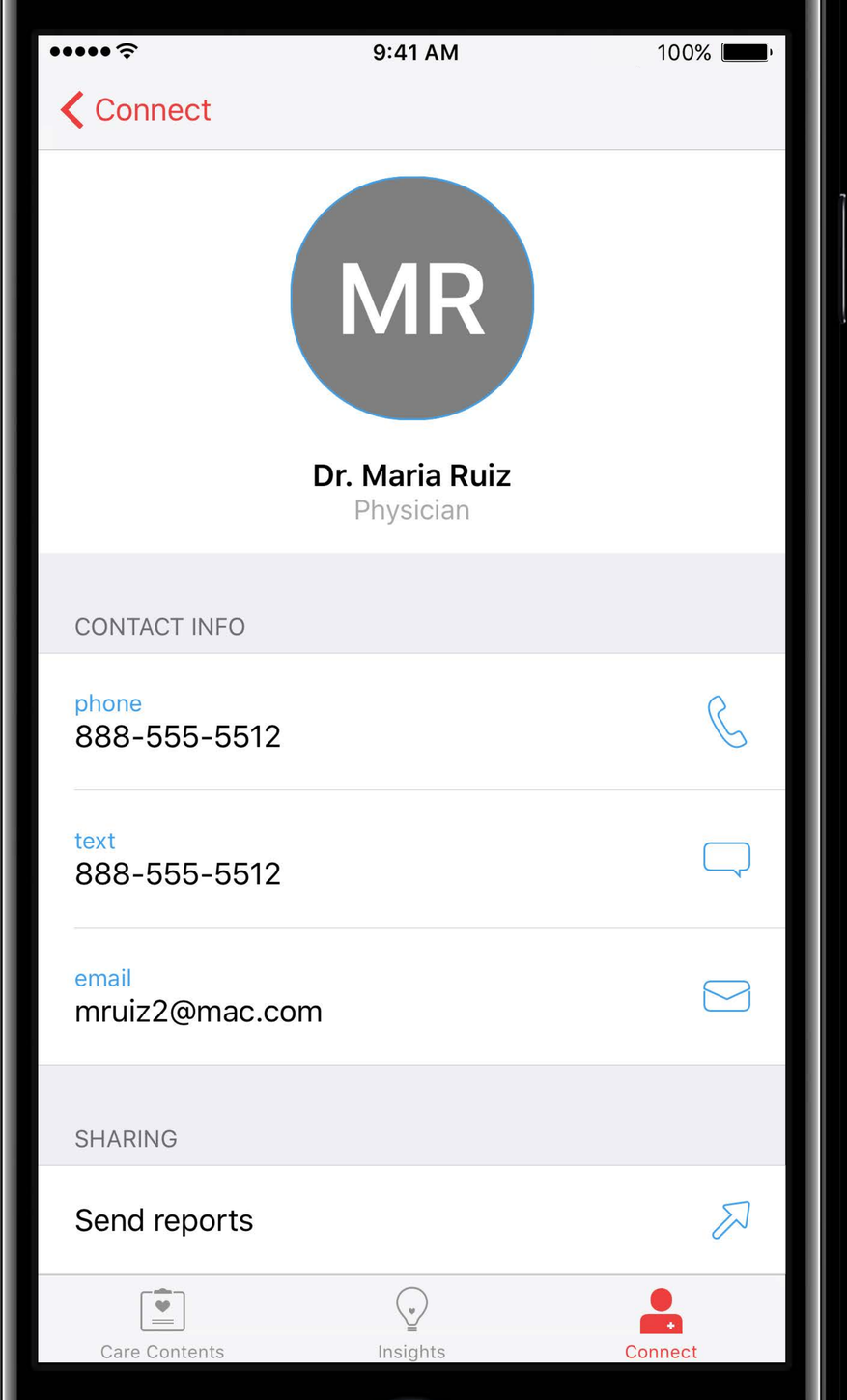
Text Threshold Alert

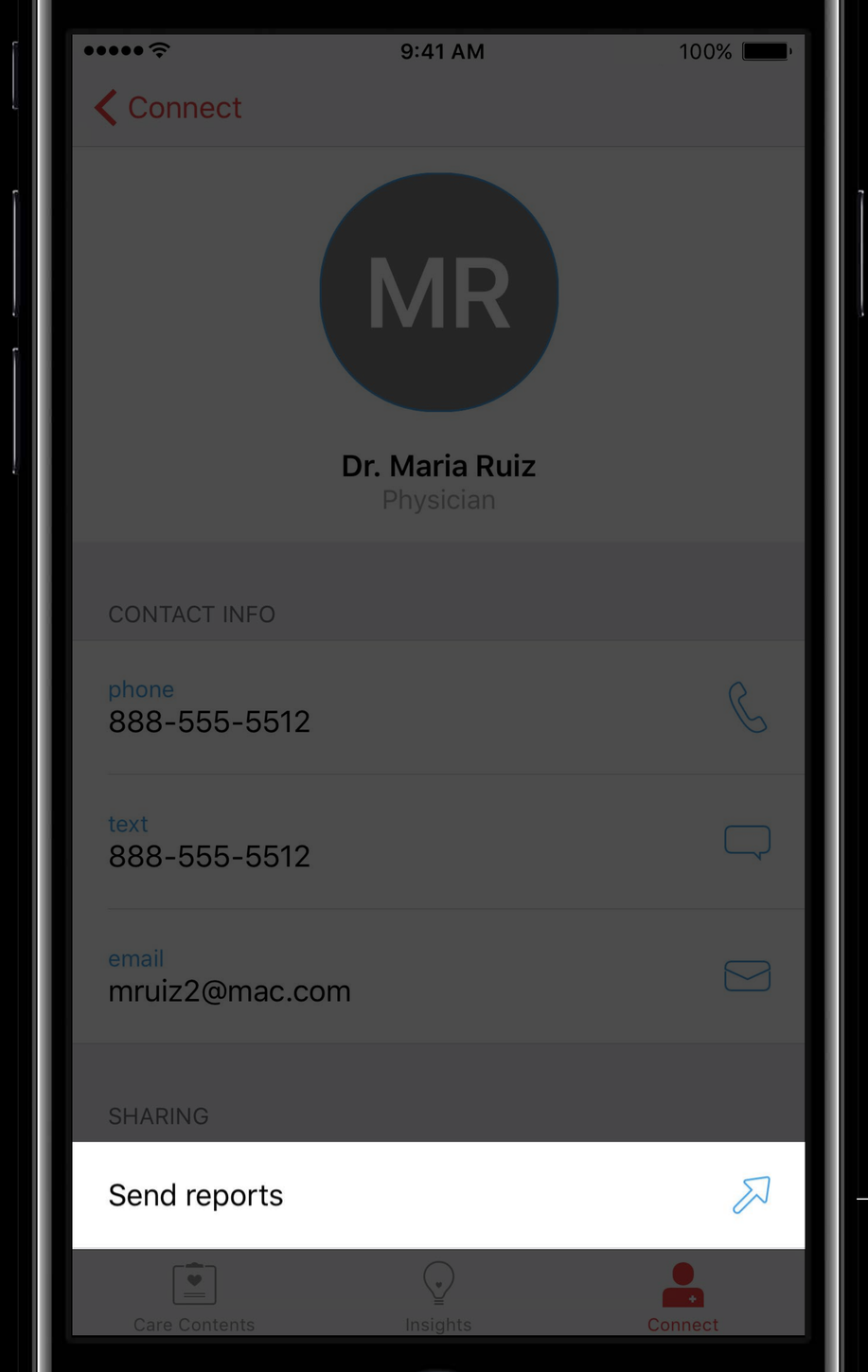


Widgets Threshold Alert

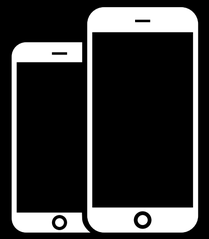
Text Threshold Alert



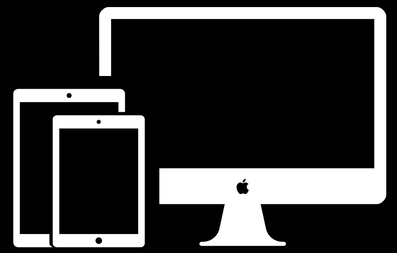

9:41 AM
100%
Connect
MR
Dr. Maria Ruiz
Physician
CONTACT INFO
phone
888-555-5512
text
888-555-5512
email
mruiz2@mac.com
SHARING
Send reports
Care Contents
Insights
Connect



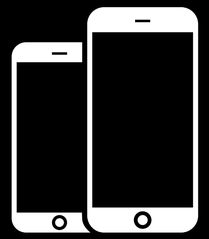
Share Data PDF



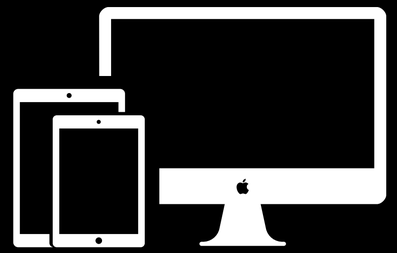
CareKit
Patient Apps



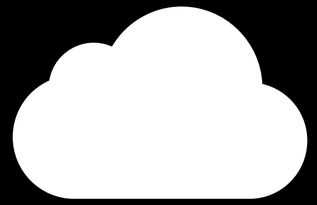
CareKit
Care Team Apps

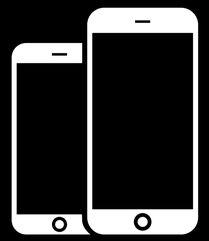


CareKit
Patient Apps

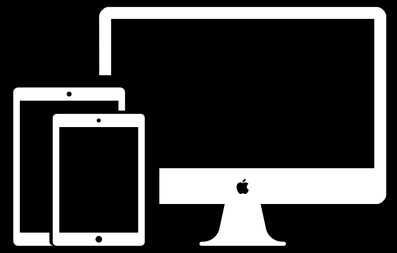


CareKit
Care Team Apps

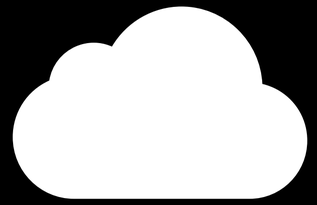


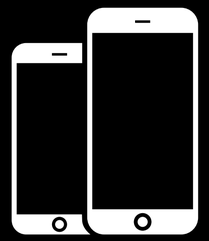


CareKit
Patient Apps

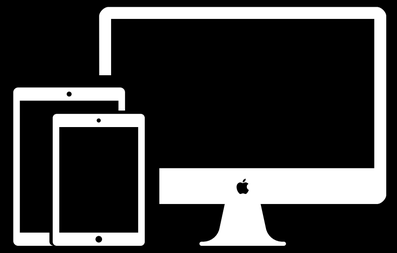


CareKit
Care Team Apps

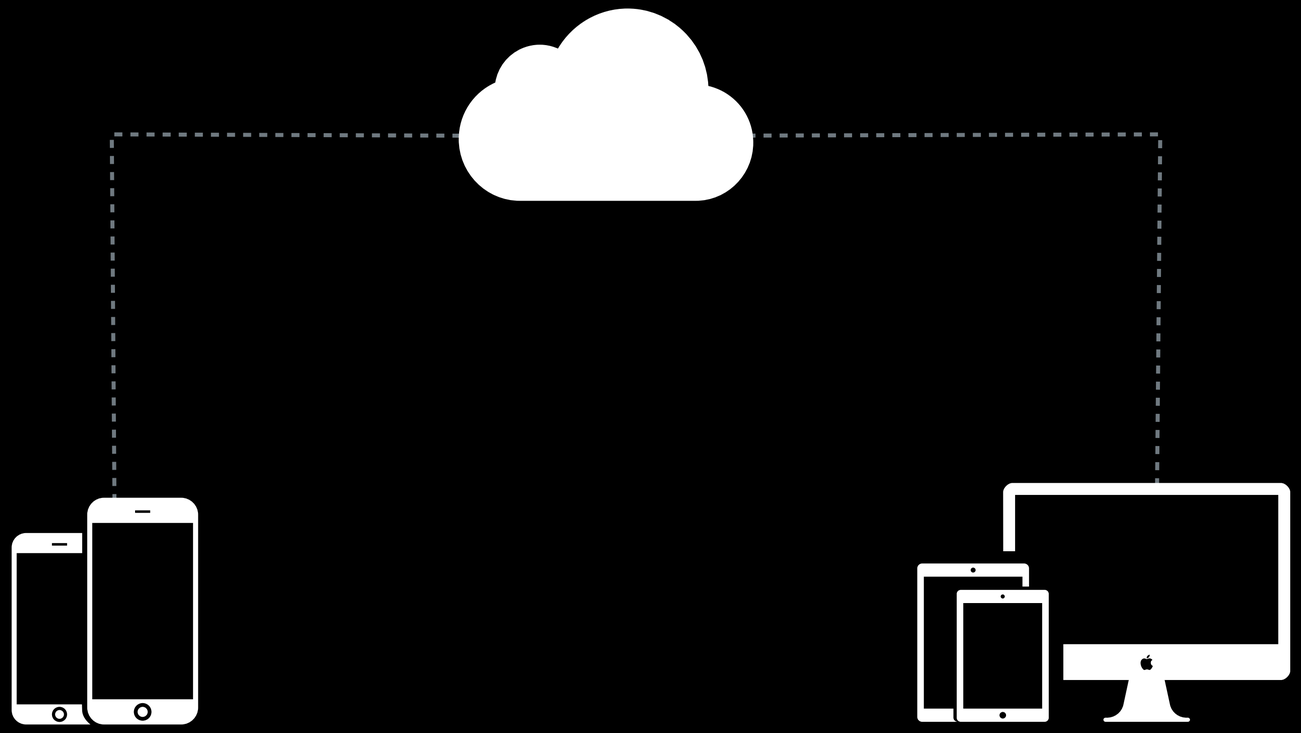




CareKit
Patient Apps



CareKit
Care Team Apps



CareKit
Patient Apps

CareKit
Care Team Apps

Framework Additions

Framework Additions

Hooks directly in the framework

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Hooks directly in the framework

Improve the data pipeline

Framework Additions

Hooks directly in the framework

Improve the data pipeline

Allows for data sharing

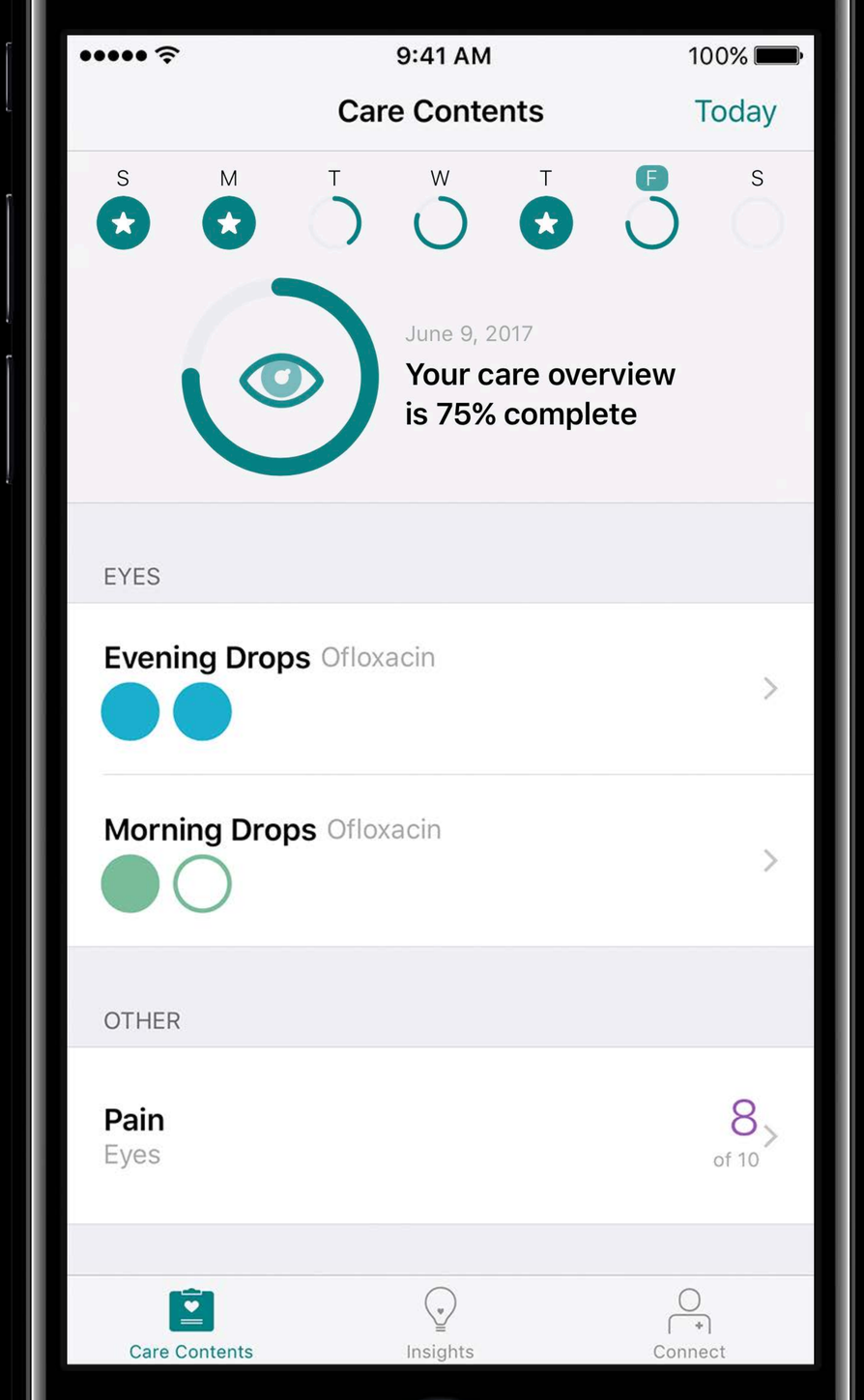
Use Case

Eye surgery

Use Case

Eye surgery

Antibiotic eye drops

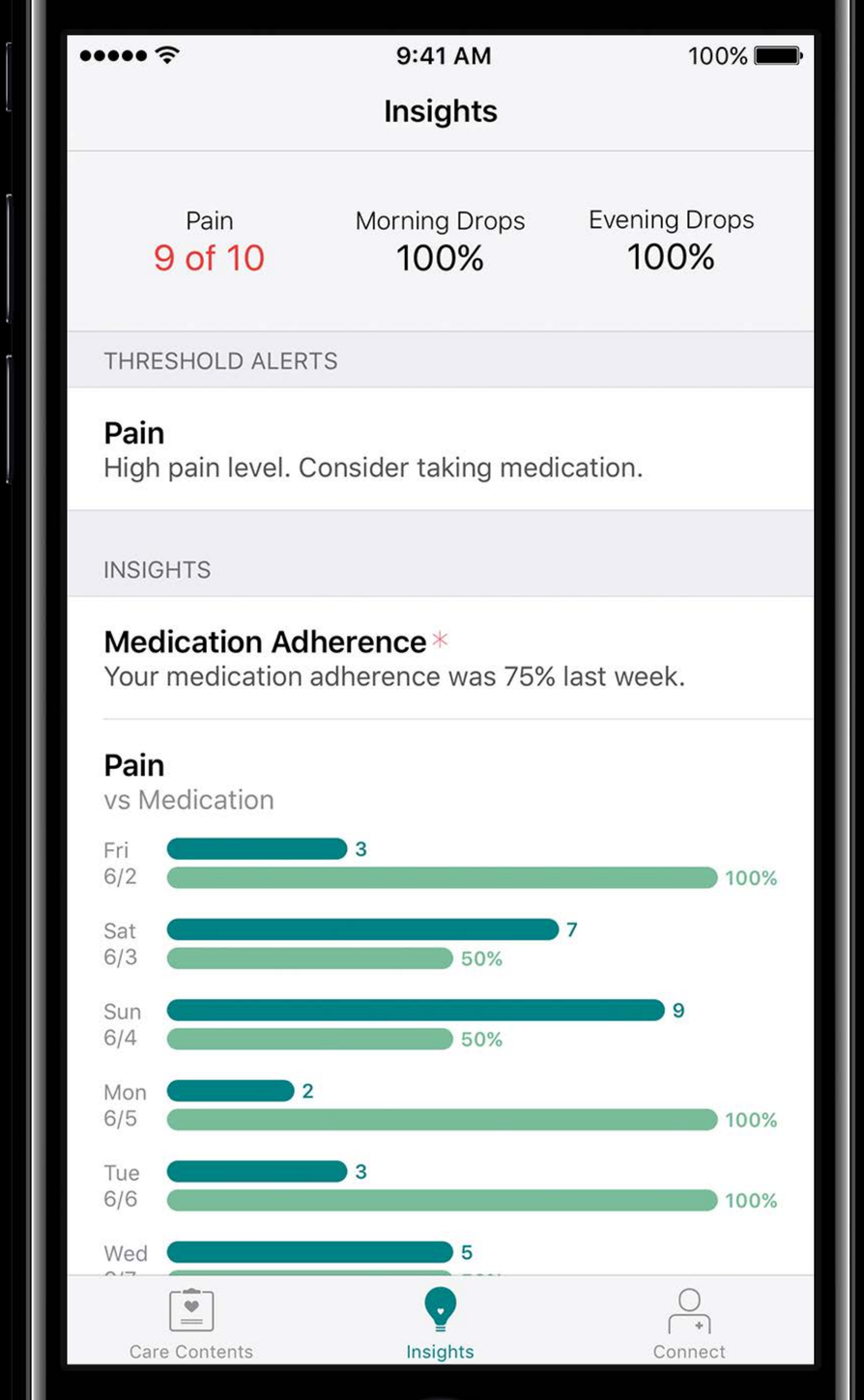


Use Case

Eye surgery

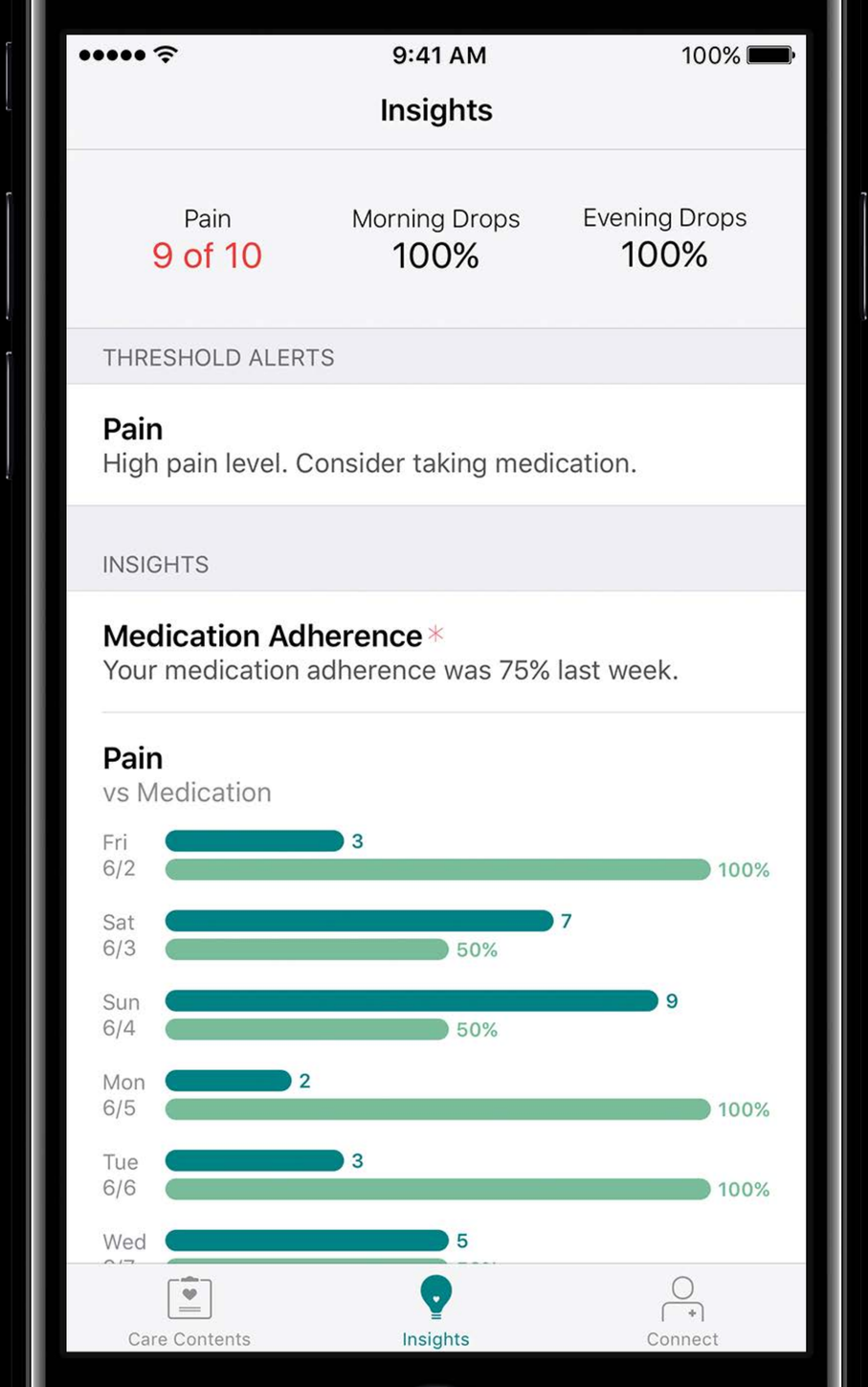
Antibiotic eye drops

Check eye-drop compliance



Use Case

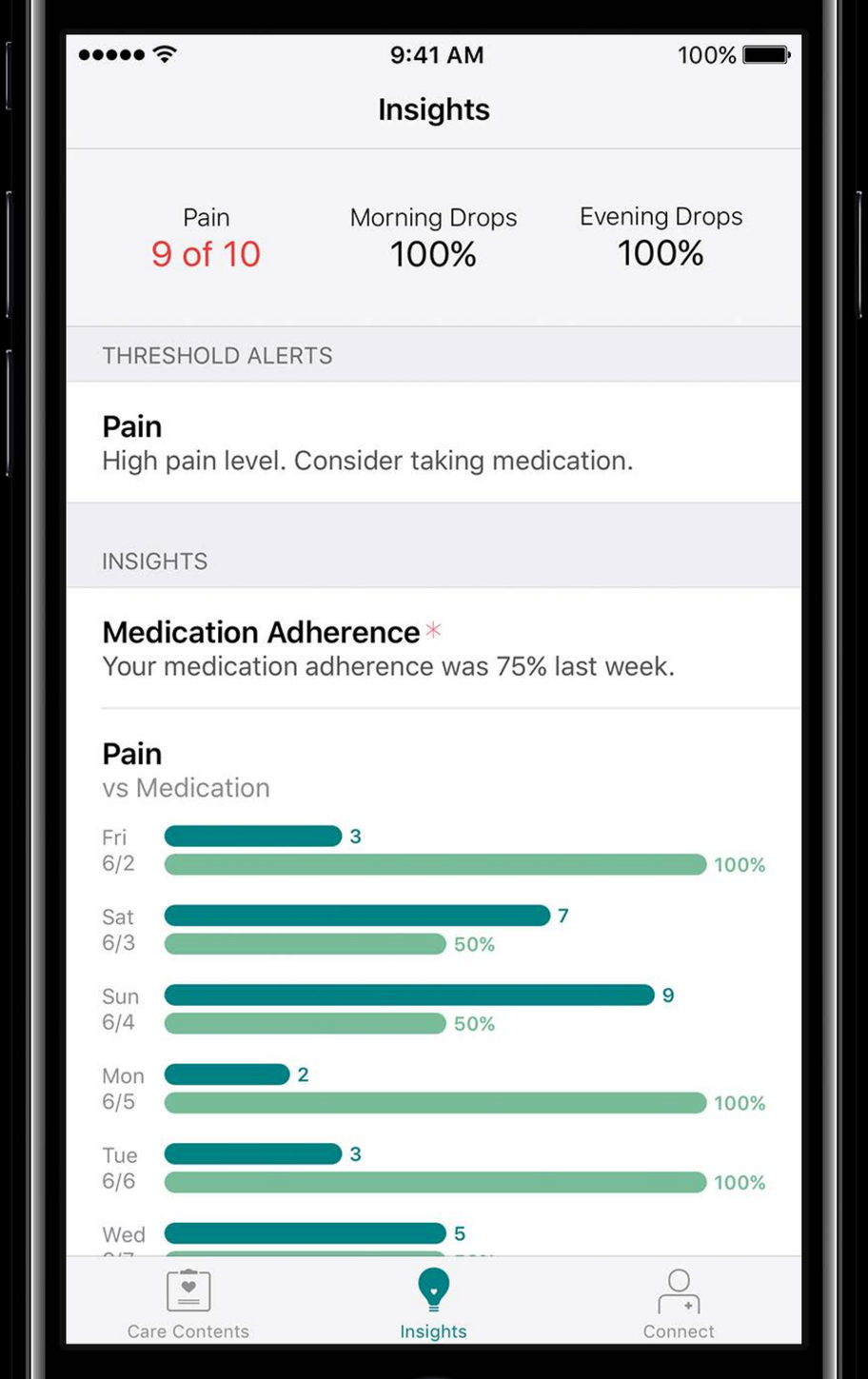
Eye surgery



Use Case

Eye surgery

Eye-drop adherence

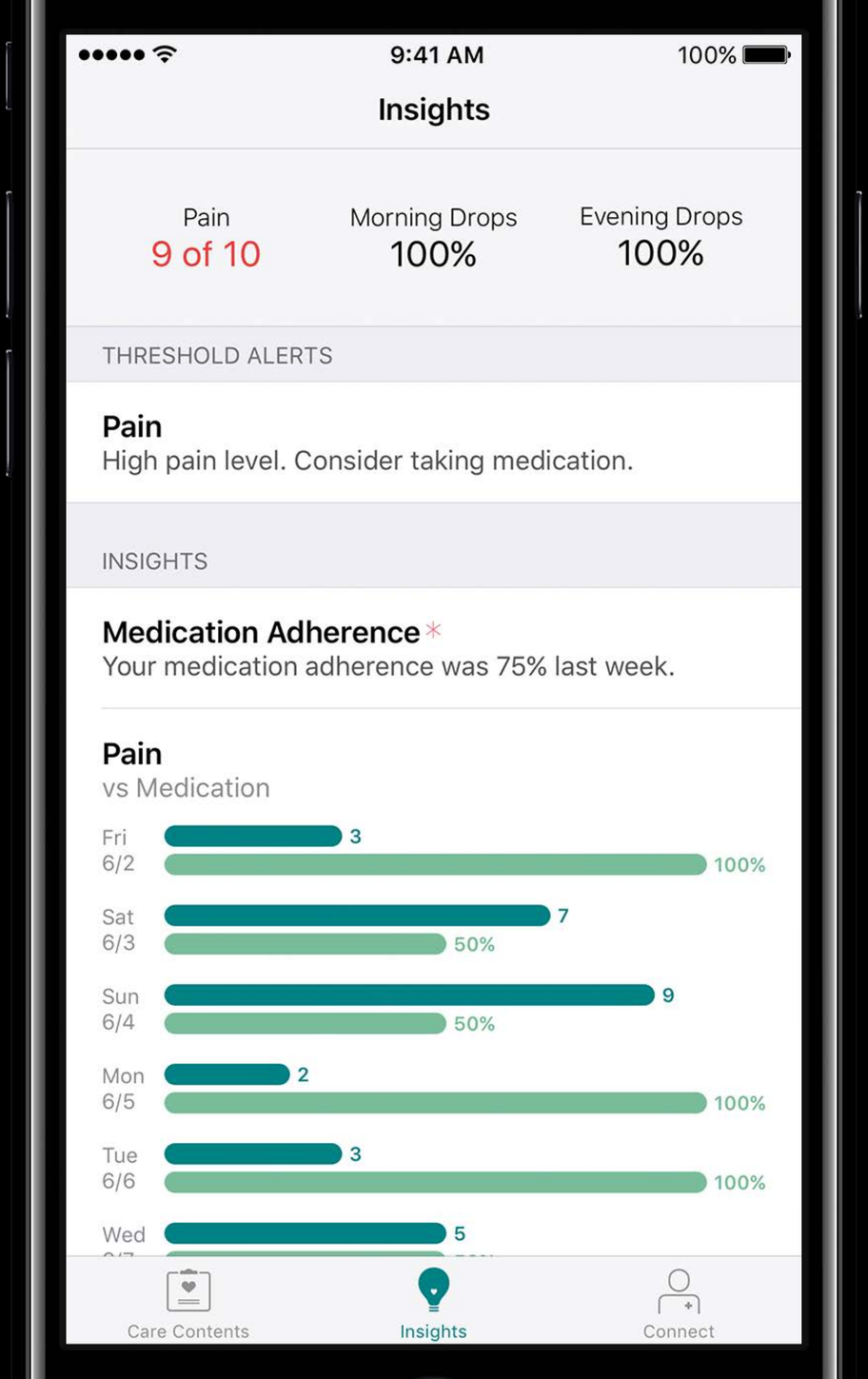


Use Case

Eye surgery

Eye-drop adherence

Care team monitors results



Use Case

Eye surgery

Eye-drop adherence

Care team monitors results

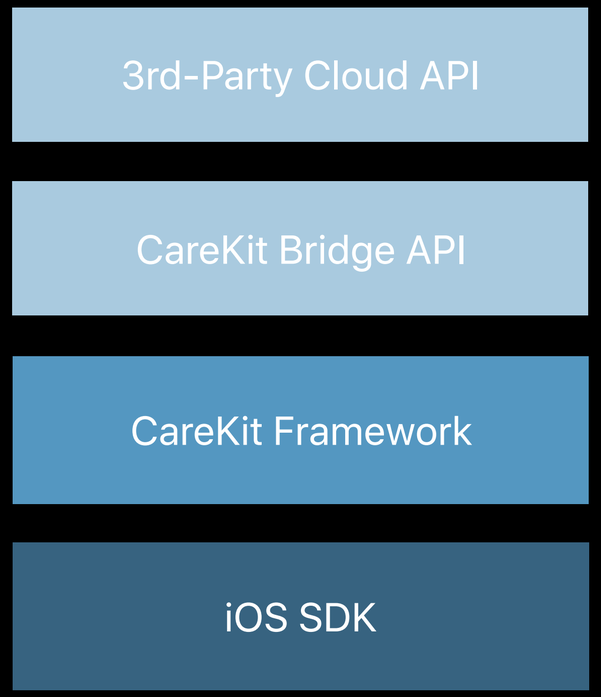
Showcases data syncing

NEW

Bridge API

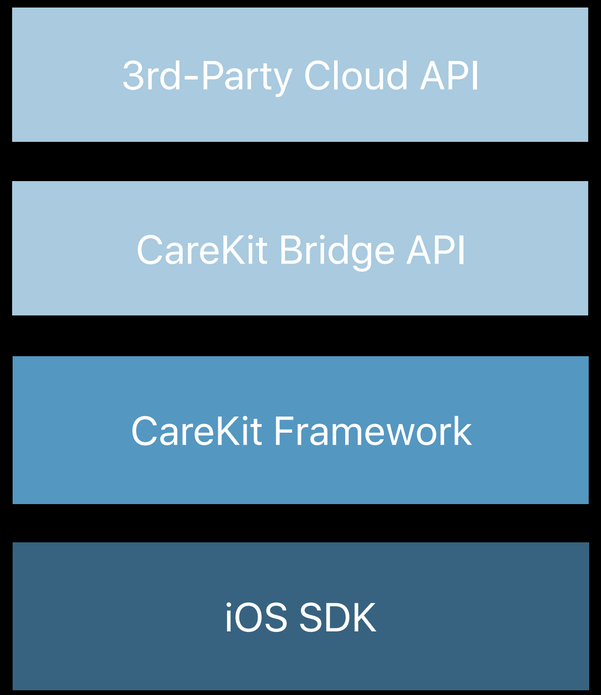
Kelsey Dedoshka, Software Engineer

Bridge API


3rd-Party Cloud API
CareKit Bridge API
CareKit Framework
iOS SDK

Bridge API

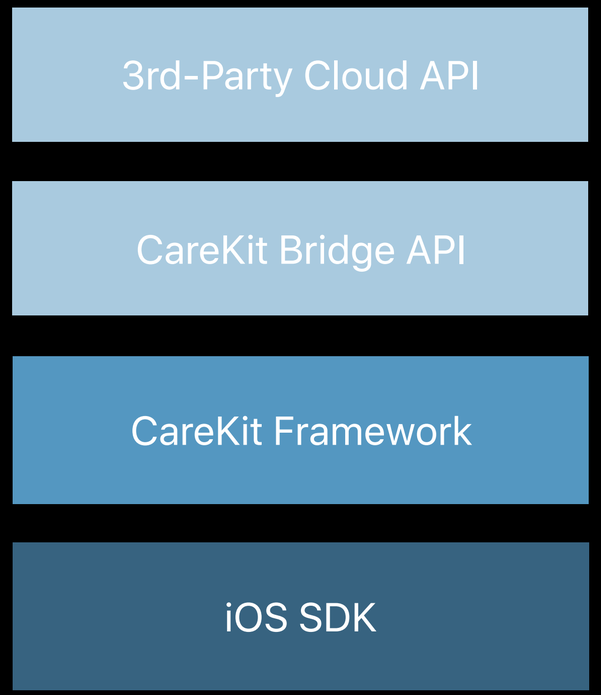
Abstract cloud API



Bridge API

Abstract cloud API

Seamless integration

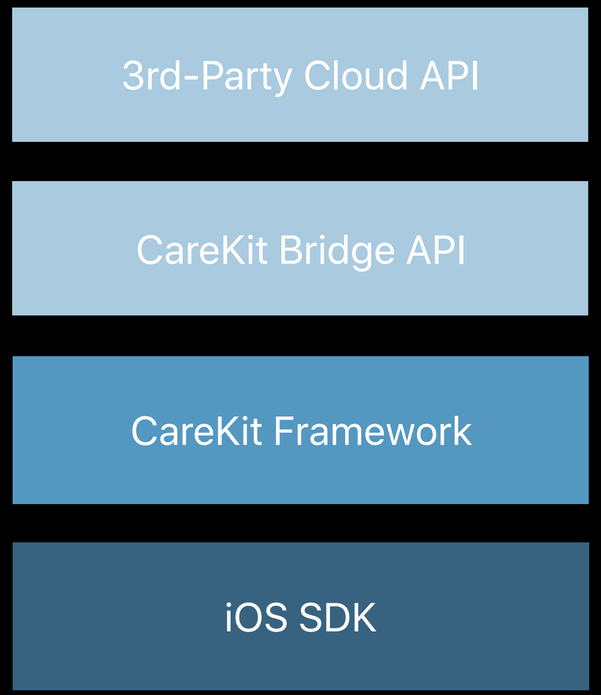


Bridge API

Abstract cloud API

Seamless integration

Based upon CareKit schema



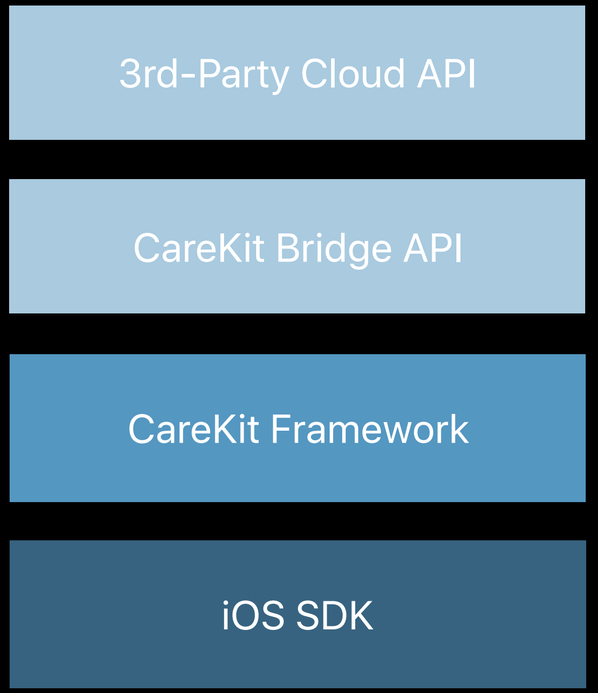
Bridge API

Abstract cloud API

Seamless integration

Based upon CareKit schema

Provides necessary hooks



Bridge API

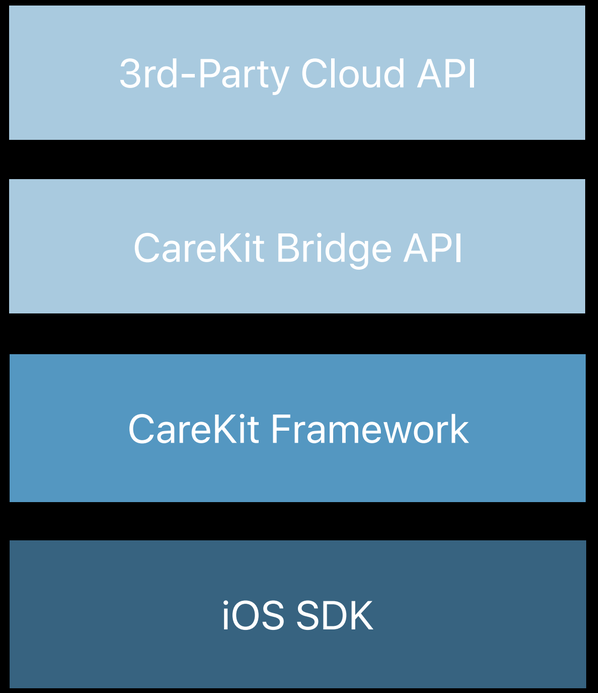
Abstract cloud API

Seamless integration

Based upon CareKit schema

Provides necessary hooks

Delegate functions



Bridge API

Abstract cloud API

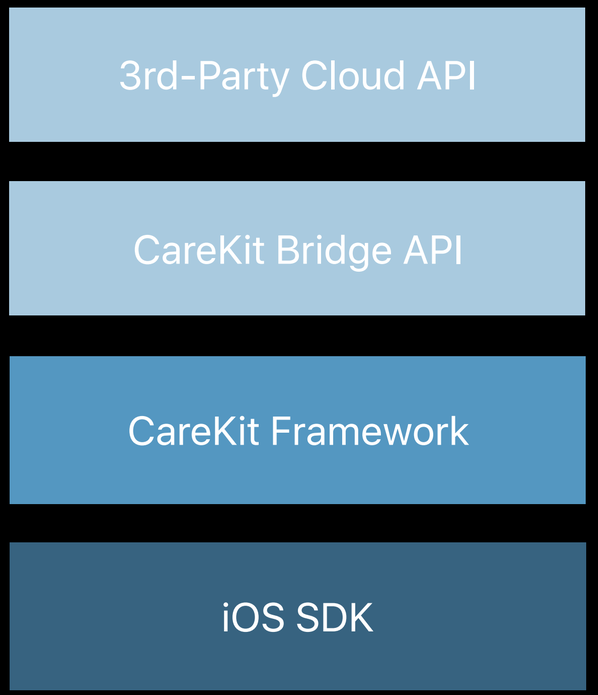
Seamless integration

Based upon CareKit schema

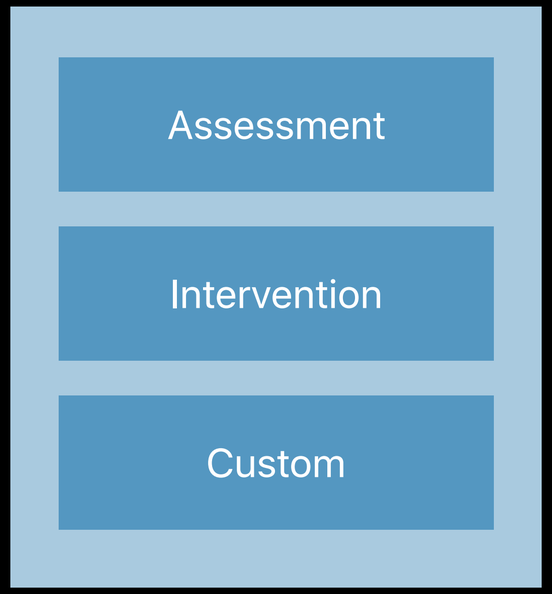
Provides necessary hooks

Delegate functions

UI Modules

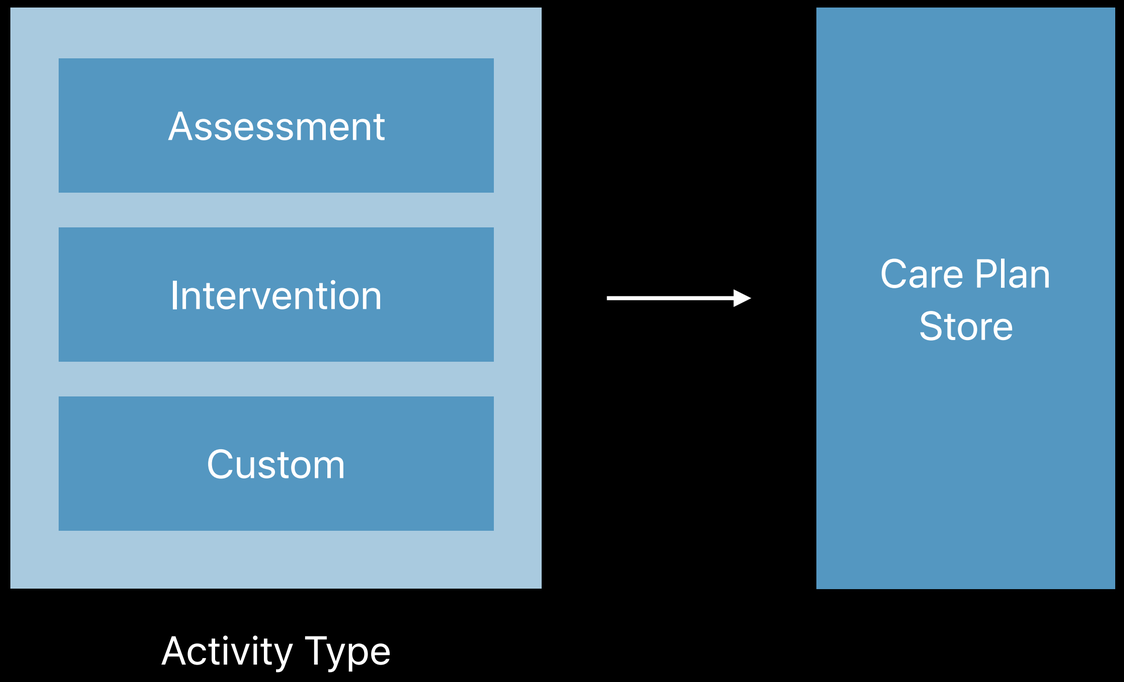


How It Works

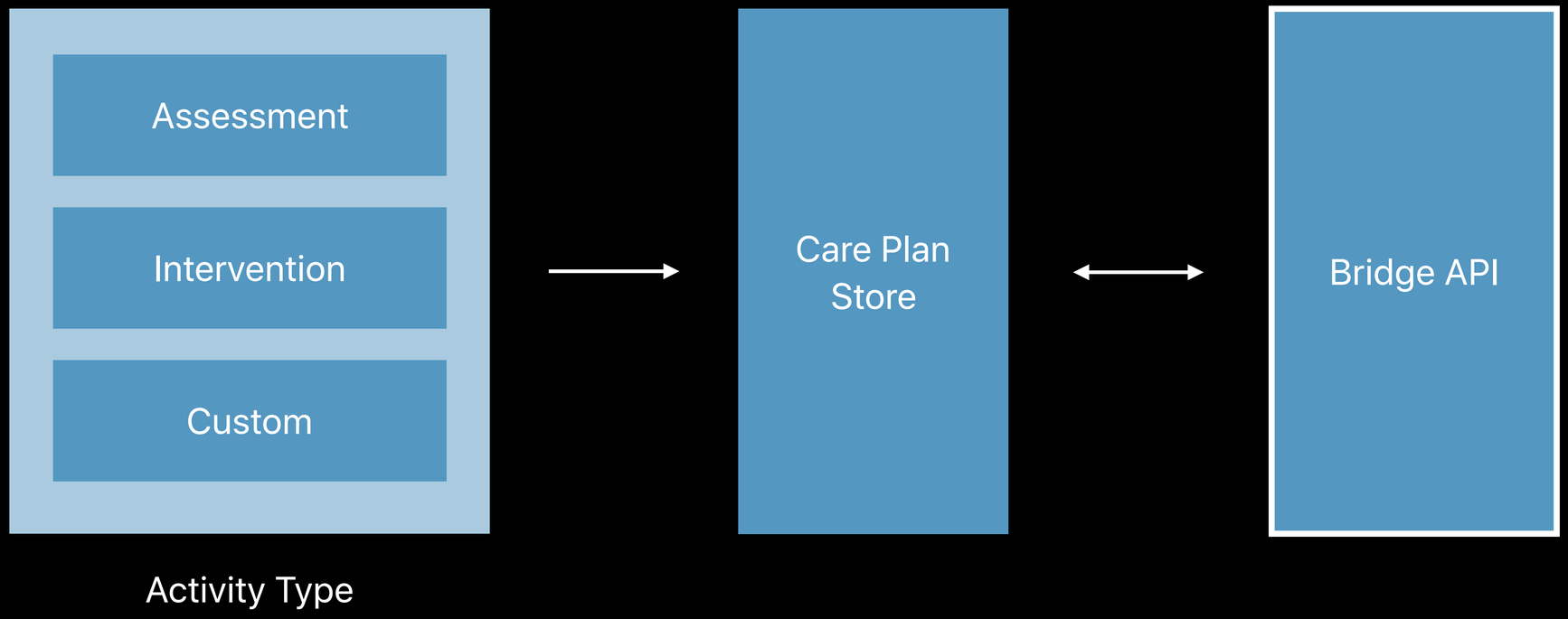


Activity Type

How It Works


Assessment
Intervention
Custom
Activity Type
Care Plan
Store

How It Works


Assessment
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Custom
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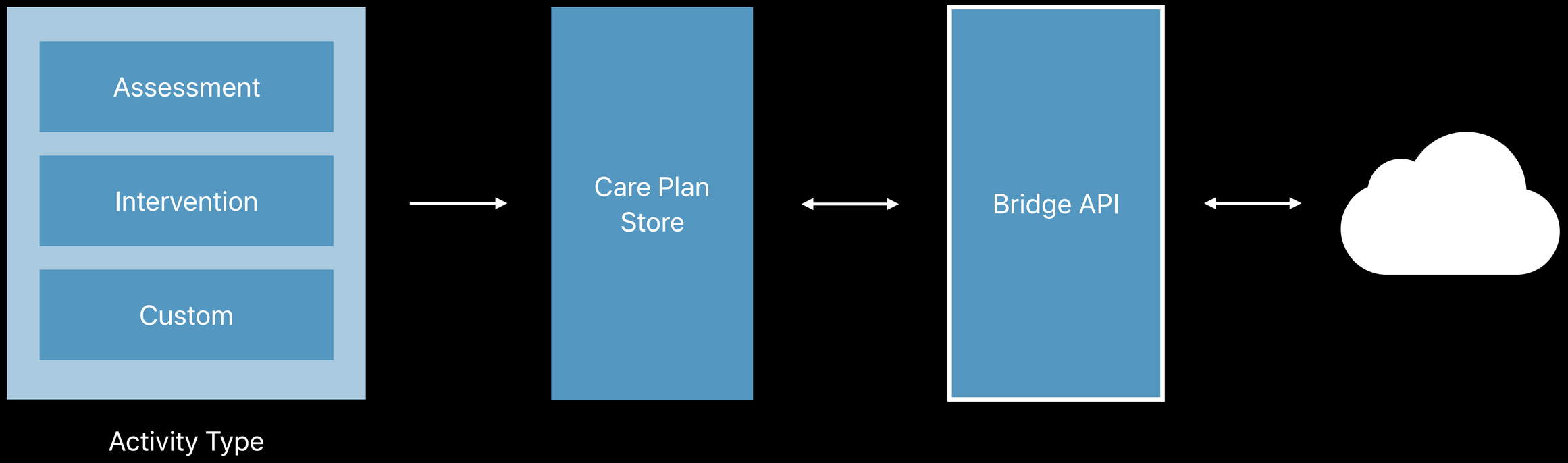
Bridge API

How It Works


Assessment
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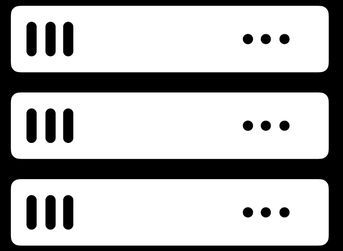
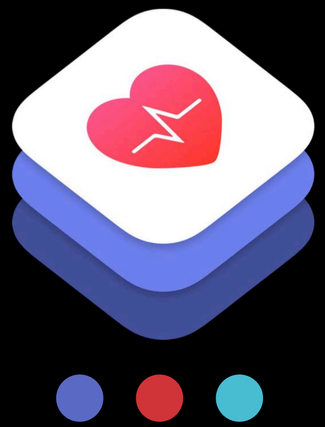
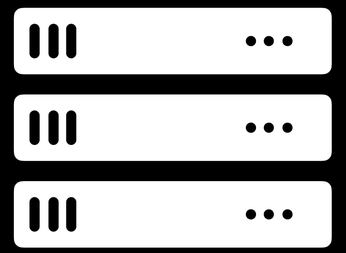
Custom
Activity Type
Care Plan Store
Bridge API







```
// Bridge API handling Activity updates
_cloudBridgeDelegate?.carePlanStoreActivityListDidChange?(self)


// Bridge API handling Event updates
_cloudBridgeDelegate?.carePlanStore?(self, didReceiveUpdateOf: copiedEvent)
```

```
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// Bridge API handling Event updates
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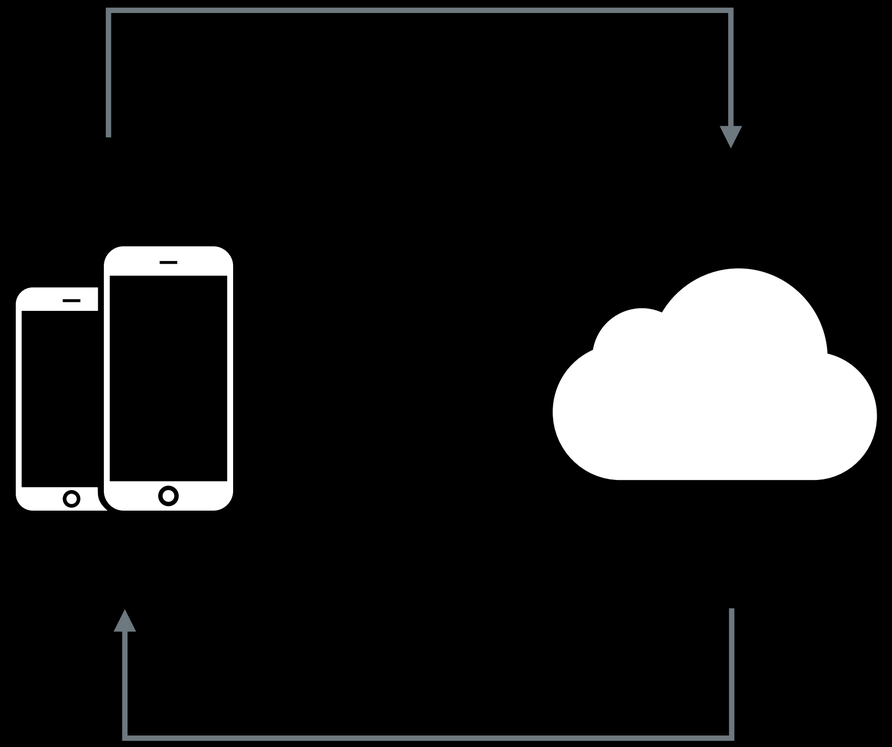
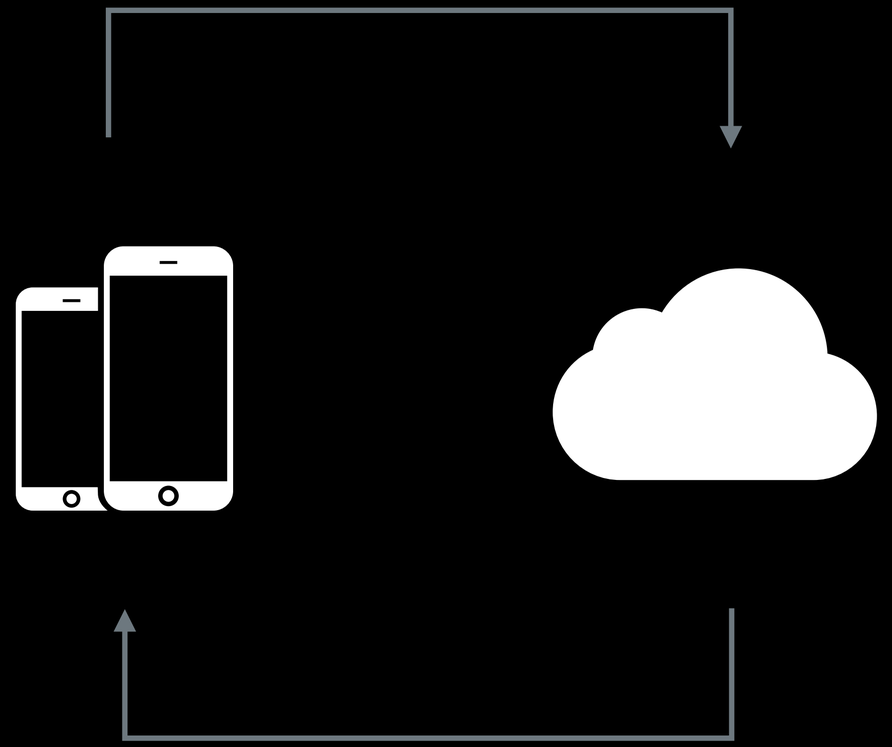
Cloud Solutions



Cloud Solutions

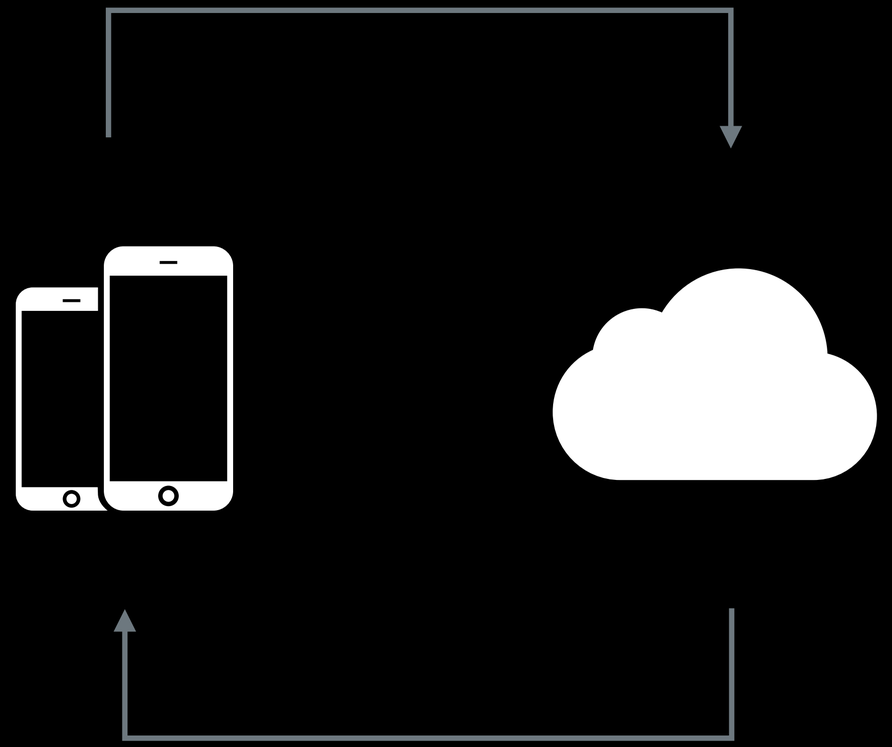
Custom



Cloud Solutions

Custom

Medable

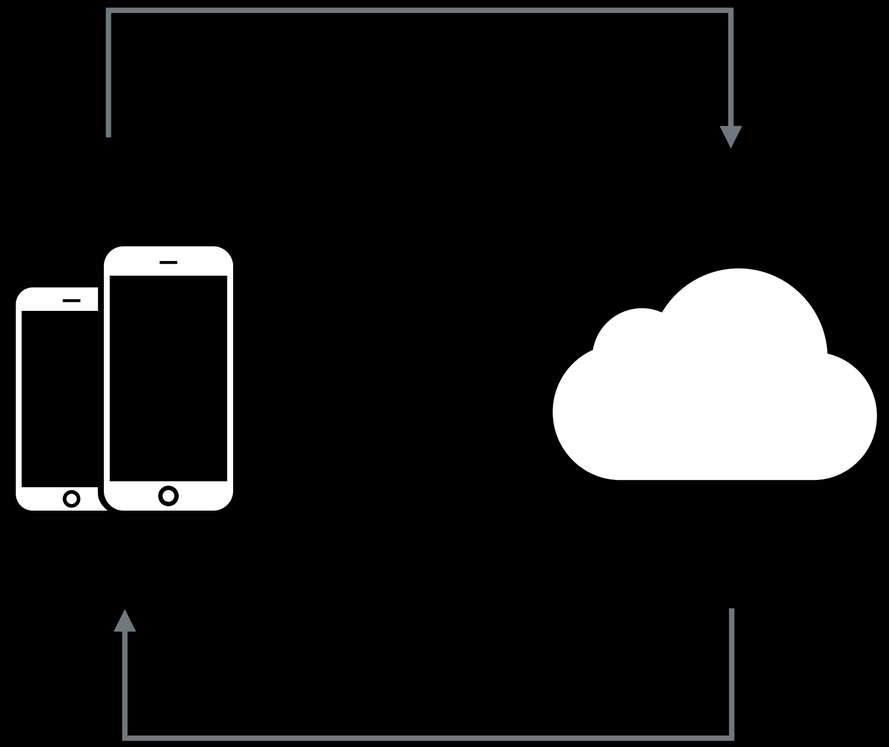


Cloud Solutions

Custom

Medable

CloudMine



Example

Medable

```
// Start the Cloud Service and Establish Login Connection
Medable.start()

MDCKCloudBridge.login(withEmail: wwdcEmail, password: wwdcPassword, verificationToken: nil)
{ bridge, fault in
    if fault {
        // Handle Fault
        ...
    } else {
        // Access bridge for logged in user
        ...
    }
}
```

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        ...
    }
}
```

```
// Retrieve User Connections
MDCKCloudBridge.listStoreConnections {(connections, hasMore, fault) in
    if fault {
        // Handle Fault
        ...
    } else {
        connections.forEach { connection in
            switch connection.state {
                // Handle connections
                ...
            }
        }
    }
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```

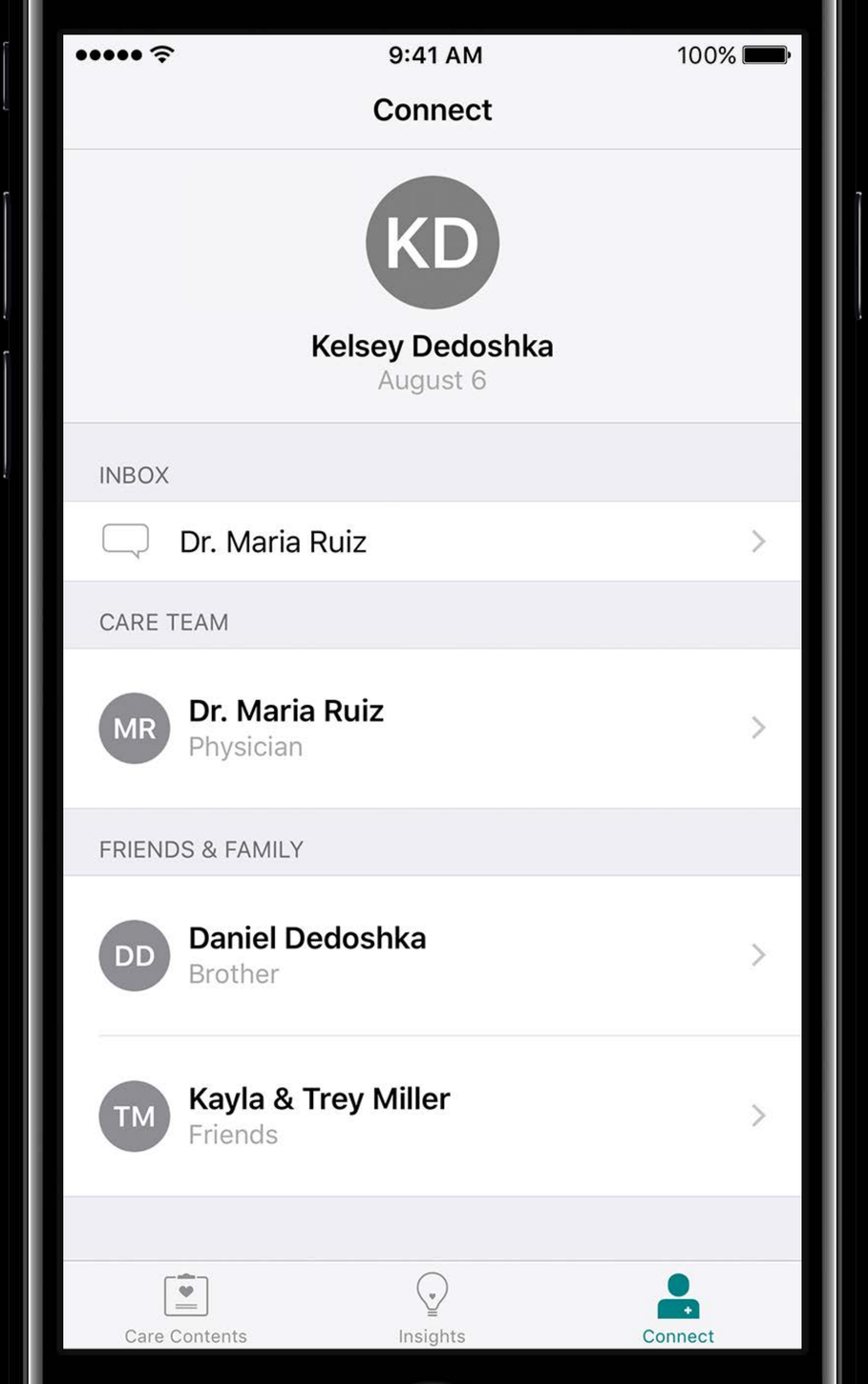
Care Card

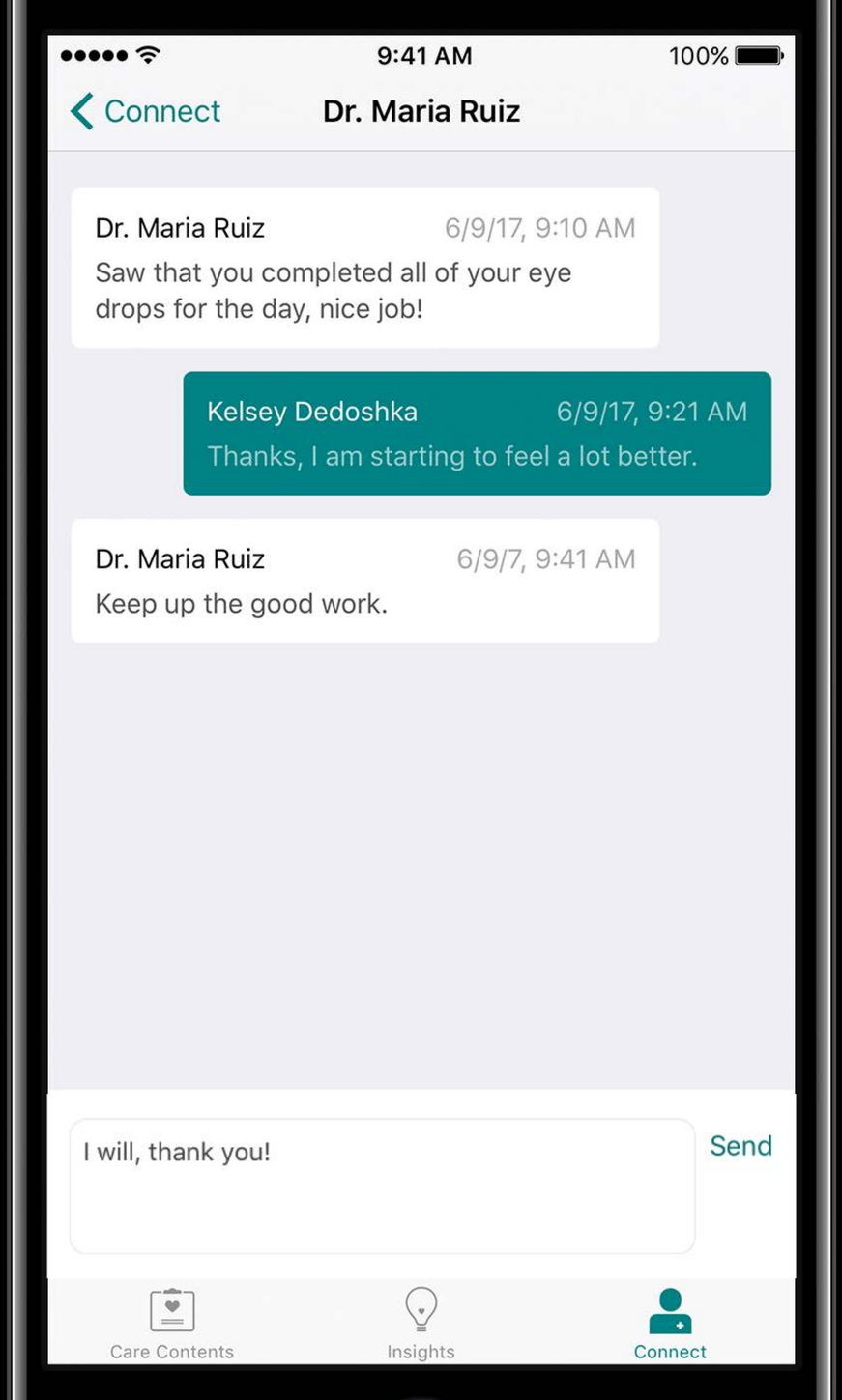
Symptom Tracker

Insights

Connect

Connect


9:41 AM
100%
Connect
KD
Kelsey Dedoshka
August 6
INBOX
Dr. Maria Ruiz
CARE TEAM
MR
Dr. Maria Ruiz
Physician
FRIENDS & FAMILY
DD
Daniel Dedoshka
Brother
TM
Kayla & Trey Miller
Friends
Care Contents
Insights
Connect


9:41 AM
100%
Connect
Dr. Maria Ruiz
Dr. Maria Ruiz
6/9/17, 9:10 AM
Saw that you completed all of your eye drops for the day, nice job!
Kelsey Dedoshka
6/9/17, 9:21 AM
Thanks, I am starting to feel a lot better.
Dr. Maria Ruiz
6/9/7, 9:41 AM
Keep up the good work.
I will, thank you!
Send
Care Contents
Insights
Connect

```swift
// return the number of messages for the selected contact
func connectViewControllerNumber(ofConnectMessageItems viewController:
    OCKConnectViewController, careTeamContact: OCKContact) -> Int {
    ...
}

// return the message item for the selected inbox
func connectViewController(_ viewController: OCKConnectViewController, connectMessageItemAt
    index: Int, careTeamContact contact: OCKContact) -> OCKConnectMessageItem {
    ...
}

// utilize the bridge API and cloud solution to send a secure message
func connectViewController(_ viewController: OCKConnectViewController, didSendConnectMessage
    message: String, careTeamContact: OCKContact) {
    ...
}
```

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func connectViewControllerNumber(ofConnectMessageItems viewController:
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    message: String, careTeamContact: OCKContact) {
    ...
}
```

```
// conversation created - perform any necessary updates
mdBridge.createConversation(withMessage: message, targets: [carePlan.targetId]) { id, fault in
    if fault == nil {
        ...
    }
})

// send new message - perform any necessary updates
mdBridge.sendMessage(message, withConversationId: convoId, callback: { message, fault in
    if fault == nil {
        ...
    }
})
```

```
// conversation created – perform any necessary updates
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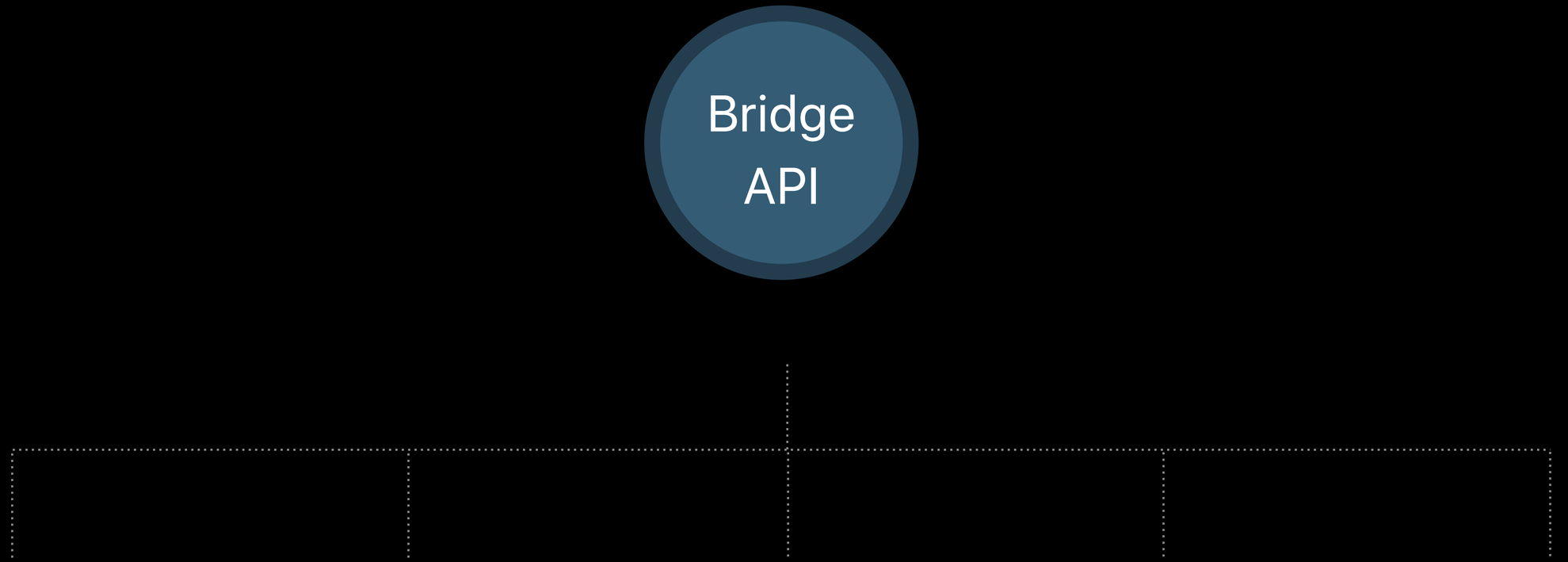
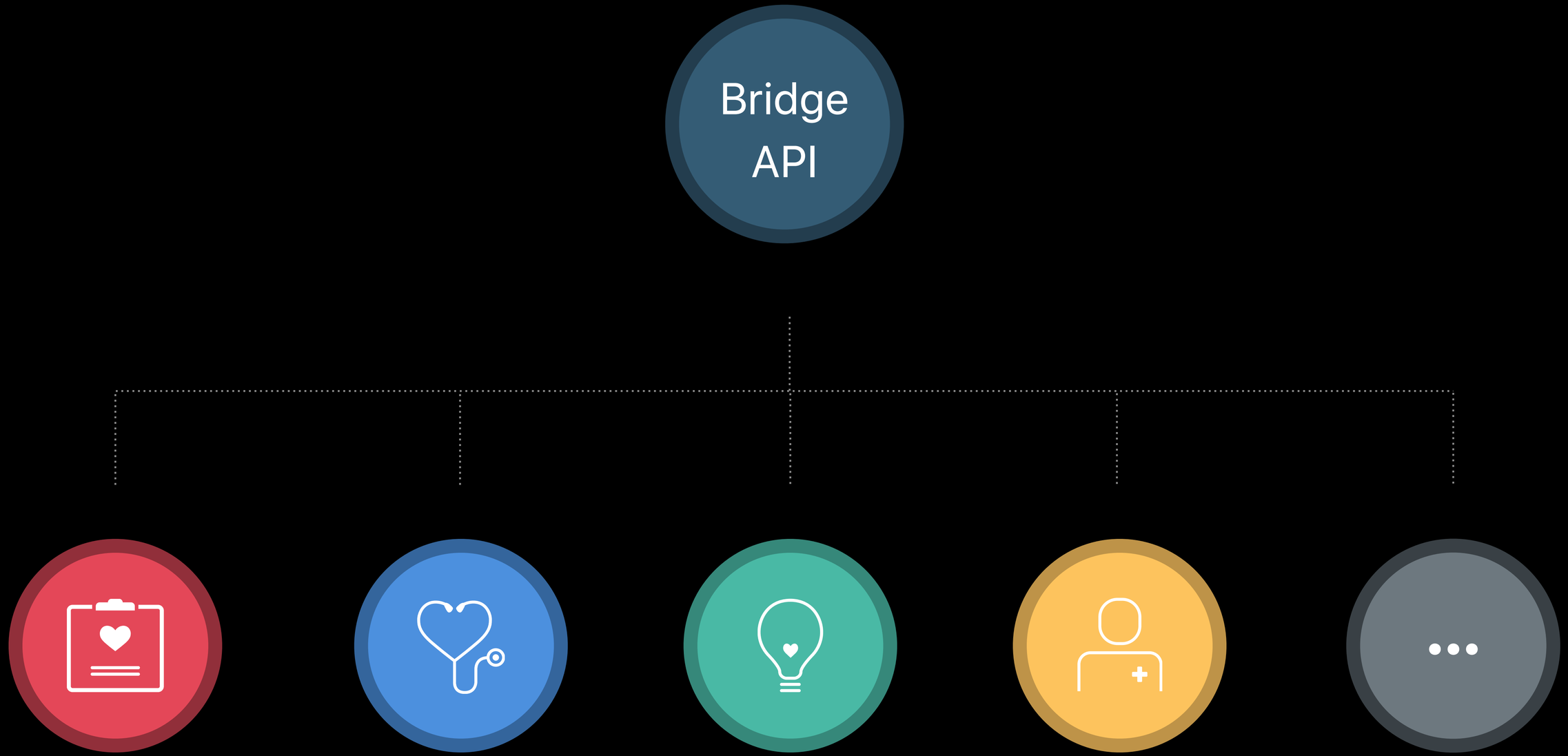
    }
})
```

Demo

Utilizing the bridge API in code

Akshay Yadav, Software Engineer


Bridge
API


Bridge
API

Utilizing the API

Utilizing the API

Use third-party solutions

Utilizing the API

Use third-party solutions

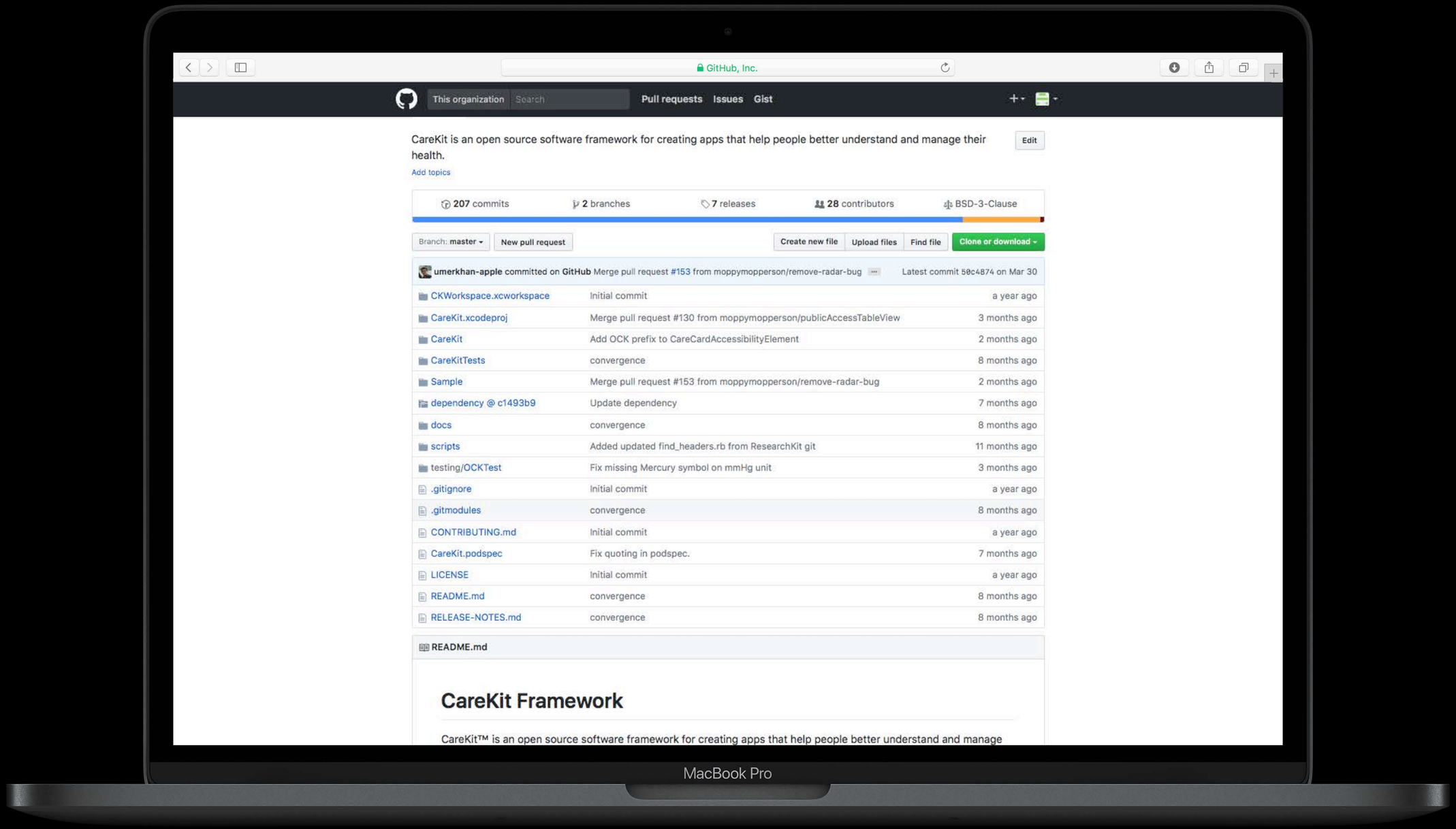
Build your own

Utilizing the API

Use third-party solutions

Build your own

Develop care team apps


GitHub, Inc.
This organization
Search
Pull requests
Issues
Gist
CareKit is an open source software framework for creating apps that help people better understand and manage their health.
Edit
Add topics
207 commits
2 branches
7 releases
28 contributors
BSD-3-Clause
Branch: master
New pull request
Create new file
Upload files
Find file
Clone or download
umerkhan-apple committed on GitHub Merge pull request #153 from moppymopperson/remove-radar-bug
Latest commit 50c4874 on Mar 30
CKWorkspace.xcworkspace Initial commit a year ago
CareKit.xcodeproj Merge pull request #130 from moppymopperson/publicAccessTableView 3 months ago
CareKit Add OCK prefix to CareCardAccessibilityElement 2 months ago
CareKitTests convergence 8 months ago
Sample Merge pull request #153 from moppymopperson/remove-radar-bug 2 months ago
dependency @ c1493b9 Update dependency 7 months ago
docs convergence 8 months ago
scripts Added updated find_headers.rb from ResearchKit git 11 months ago
testing/OCKTest Fix missing Mercury symbol on mmHg unit 3 months ago
.gitignore Initial commit a year ago
.gitmodules convergence 8 months ago
CONTRIBUTING.md Initial commit a year ago
CareKit.podspec Fix quoting in podspec. 7 months ago
LICENSE Initial commit a year ago
README.md convergence 8 months ago
RELEASE-NOTES.md convergence 8 months ago
README.md
CareKit Framework
CareKit™ is an open source software framework for creating apps that help people better understand and manage
MacBook Pro

More Information

https://developer.apple.com/wwdc17/239

Related Sessions

What’s New in Health	WWDC 2017
What’s New in CareKit and ResearchKit	WWDC 2017

Labs

ResearchKit and CareKit Lab	Technology Lab H	Fri 11:00AM–1:00PM

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