Digital Health News

Medable locks in $91M to Digitize Clinical Trials

https://cs342.stanford.edu

cardinalkit.slack.com

Don’t forget to record lecture
Welcome!

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Announcements

Don’t forget to record lecture

Winter 2020
A: Post-Kidney Transplant
Kabir Jolly
Rachel Naidich
Amrita Kaur

B: Cardiovascular Disease
Henry Mellsop
Colton Swingle
Collin Schlager

C: HCI Biometrics
Michael John Cooper

D: Women’s Derm Health
Ines Chami
Adrit Rao
Assignment #1: Hello World 🍁

Set up Xcode, create a basic SwiftUI app, and submit via GitHub.
How-to Submit Assignments (Creating Pull Requests on Github)


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Assignment #2: ResearchKit + Firebase

Rev. 01.20.2021

Deliverables

For this assignment, you will use the ResearchKit open-source framework to create surveys for your project. You will also use the Firebase iOS SDK to store survey results in a database. This is a group assignment — work together to divide tasks, and submit one app per group. You will be graded for completion of the following:

1. Your project has a set of pre-defined surveys or patient-reported outcomes for collection. Read through these thoroughly here.
2. Write down the ResearchKit elements you will use to create your survey(s). Refer to the ORKCatalog. Include this list with your PR submission.
3. Create all required surveys using ResearchKit (75%)
4. Configure a Firebase instance for your team, and store survey results in a Firestore DB (15%)
5. Submit your code via a GitHub pull request, one per team [how-to]. Include every team member's name on your PR submission.

Assignment 2 goes live today!

You will be creating surveys using ResearchKit. Store survey responses in a Firestore DB.
Overview for today

- What is ResearchKit? How can we use it in our apps?
- Live-code.
- Coffee Time (breakout in groups of 3 for socializing)
- (if time allows) assignment 2

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Don’t forget to record lecture
ResearchKit is an open source framework introduced by Apple that allows researchers and developers to create powerful apps for medical research.

https://github.com/ResearchKit/ResearchKit
Consent
visual templates with best practices and a transparent process

Surveys
collect feedback and patient-reported outcomes

Active Surveys
measure body activity using iPhone sensors
motor activities, fitness, cognition, speech, hearing, hand dexterity, and vision

More
login flows, passcode creation, charts, etc.
Surveys collect feedback and patient-reported outcomes.

Active Surveys measure body activity using iPhone sensors.

Some clinically relevant data can only be collected directly from the patient.
some clinically relevant data can only be collected directly from the patient
Task

Step #1

…

Step #N
Task

Step #1

... 

Step #N

Ask about the patient’s day

Question #1

... 

Question #N
Task

Step #1

... 

Step #N

Ask about the patient’s day

Actively test the patient’s balance

Question #1

... 

Question #N
Task

Step #1

... 

Step #N

Create Task

ORKTask

1. ORKStep Instruction
2. ORKStep Question
3. ORKStep Question
   ...
N. ORKStep Form

View Controllers

ORKTaskViewController
<\/> live code

https://github.com/cs342/AssignmentTwo
ORKCatalog
Official ResearchKit sample app demo-ing all available elements and how they work!

You can download this app via GitHub: https://github.com/ResearchKit/ResearchKit

Sample Tasks: [link]

Active Task Reference: [link]
1. Install Xcode and Cocoapods

iOS apps are natively built in Xcode, an app available on the Apple Mac App Store. Download the most recent version of Xcode available, if you have not already. We recommend having at least Xcode v11.2.1.

To find your Xcode version, you can type `system_profiler SPDeveloperToolsDataType` in the command line.

You will also need to install Cocoapods, a package manager for iOS apps. First, install Homebrew by running the following command in your terminal.

```
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install.sh)
```

Then, run `brew install cocoapods`.

You're now ready to get started with CardinalKit!

[https://cardinalkit.org/docs/getting_started](https://cardinalkit.org/docs/getting_started)
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Informed Consent

All medical care requires consent
In research, participants agree to care plan IN WRITING

Consent Form (study details) + HIPAA Authorization (data handling details) [2 FORMS]

Purpose: communicate requirements of the study
- Explains **purpose, treatment procedures, schedule, potential risks and benefits, and alternative treatments.**
- Explains your rights as a clinical trial participant
- If you enter the trial you give official consent by signing the document

Consent may not ask you to give up your legal rights or relieve investigator of liability if they are negligent or careless.

- Provide a signed consent document copy to the study subject!
Patient key to unlock health data

**Consumer / Patient Authorized Data Exchange**

patients will be able to provide permission to third parties to access all data elements from their electronic health record
The ResearchKit framework comes with some predefined sections that are commonly included in consent documents:

- Overview (ORKConsentSectionTypeOverview)
- Data gathering (ORKConsentSectionTypeDataGathering)
- Privacy (ORKConsentSectionTypePrivacy)
- Data use (ORKConsentSectionTypeDataUse)
- Time commitment (ORKConsentSectionTypeTimeCommitment)
- Surveys (ORKConsentSectionTypeStudySurvey)
- Tasks (ORKConsentSectionTypeStudyTasks)
- Withdrawal (ORKConsentSectionTypeWithdrawing)
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Assignment 2 goes live today!

You will be creating surveys using ResearchKit. Store survey responses in a Firestore DB.
We will be using “anonymous” users ONLY for assignment 2.
Attendance Check 👋🏼

- Use the following link to mark your attendance for today:
Thank you!