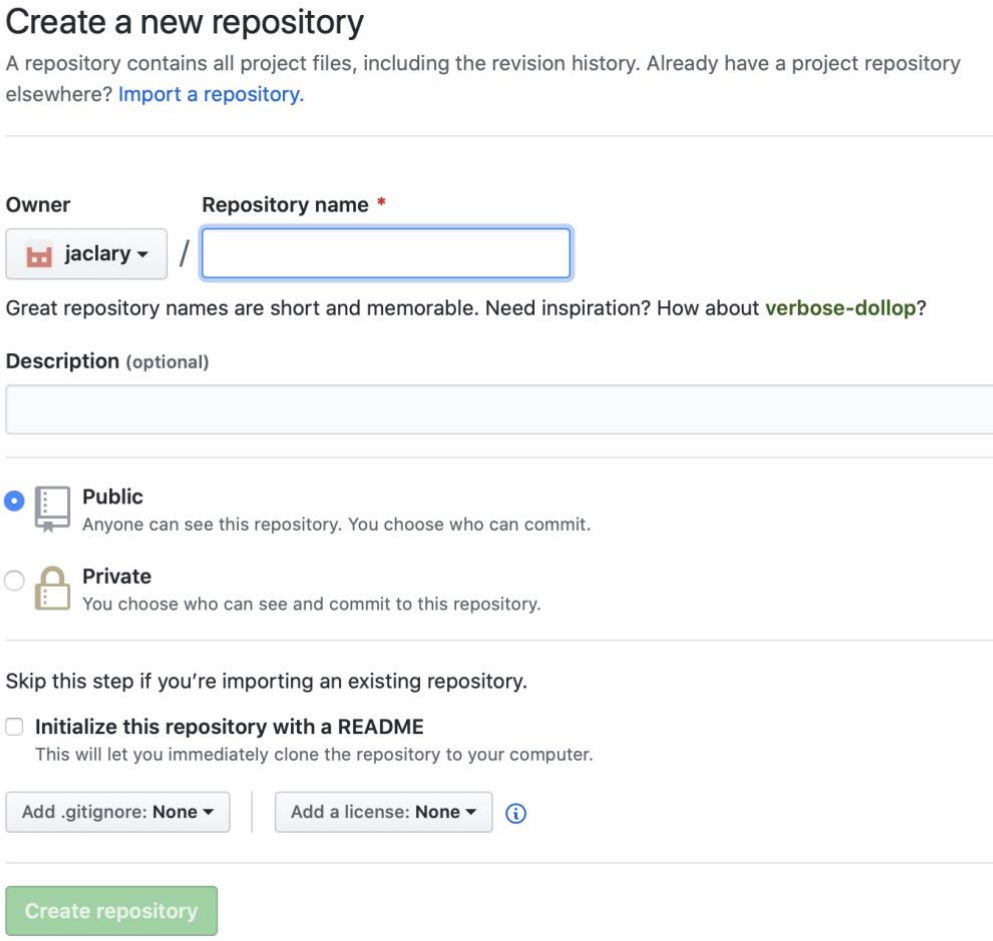
Your First App - Follow this Step By Step

Links:

1. Preface
2. Setting up your Environment
    a. Github
        i. Create an account
            1. https://github.com/join
        ii. Create a repository

            1. Follow steps in the new repo. You can make it private if you want no one to access it, however, many, if not most, repositories are

Public.

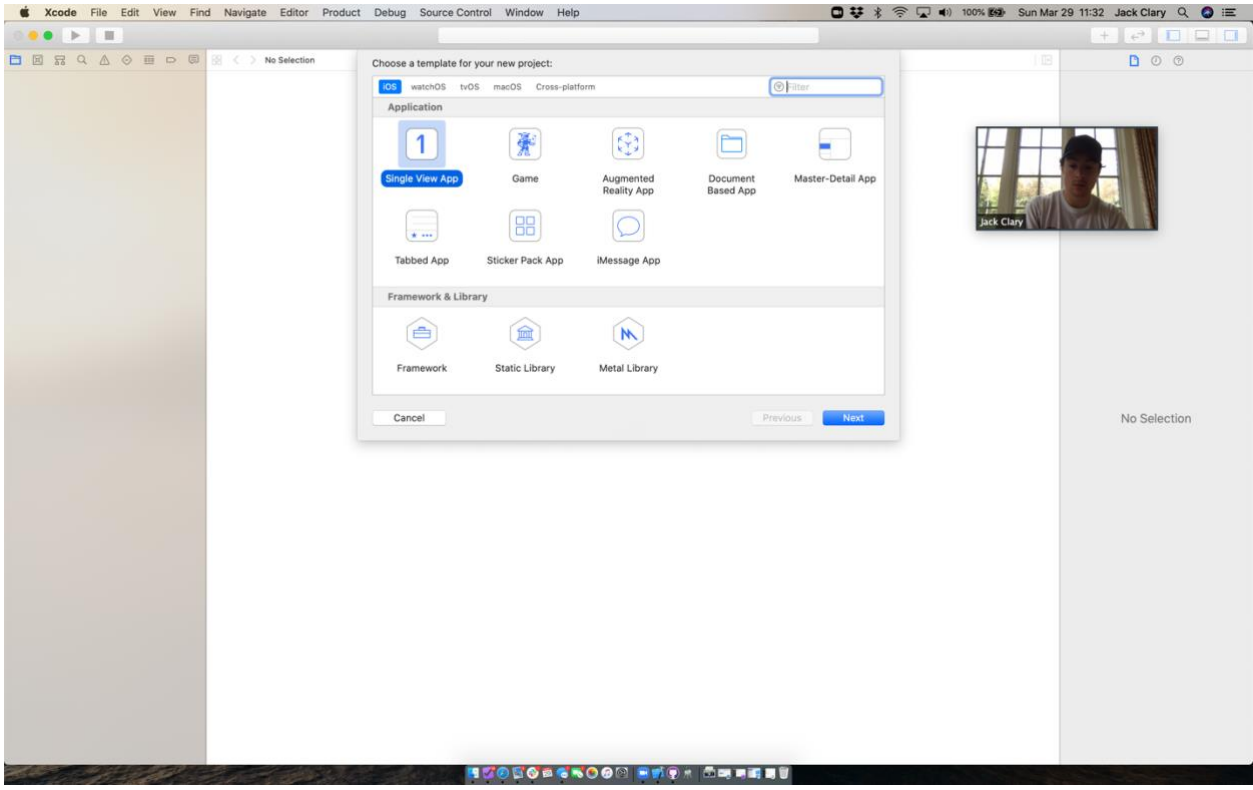


a. Do not initialize a README. We will do this later via Terminal.

b. Now, go to Xcode

i. Create project following screenshots

C.


Xcode File Edit View Find Navigate Editor Product Debug Source Control Window Help
Sun Mar 29 11:32 Jack Clary
No Selection
Choose a template for your new project:
iOS watchOS tvOS macOS Cross-platform
Filter
Application
Single View App
Game
Augmented Reality App
Document Based App
Master-Detail App
Tabbed App
Sticker Pack App
iMessage App
Framework & Library
Framework
Static Library
Metal Library
Cancel
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Jack Clary
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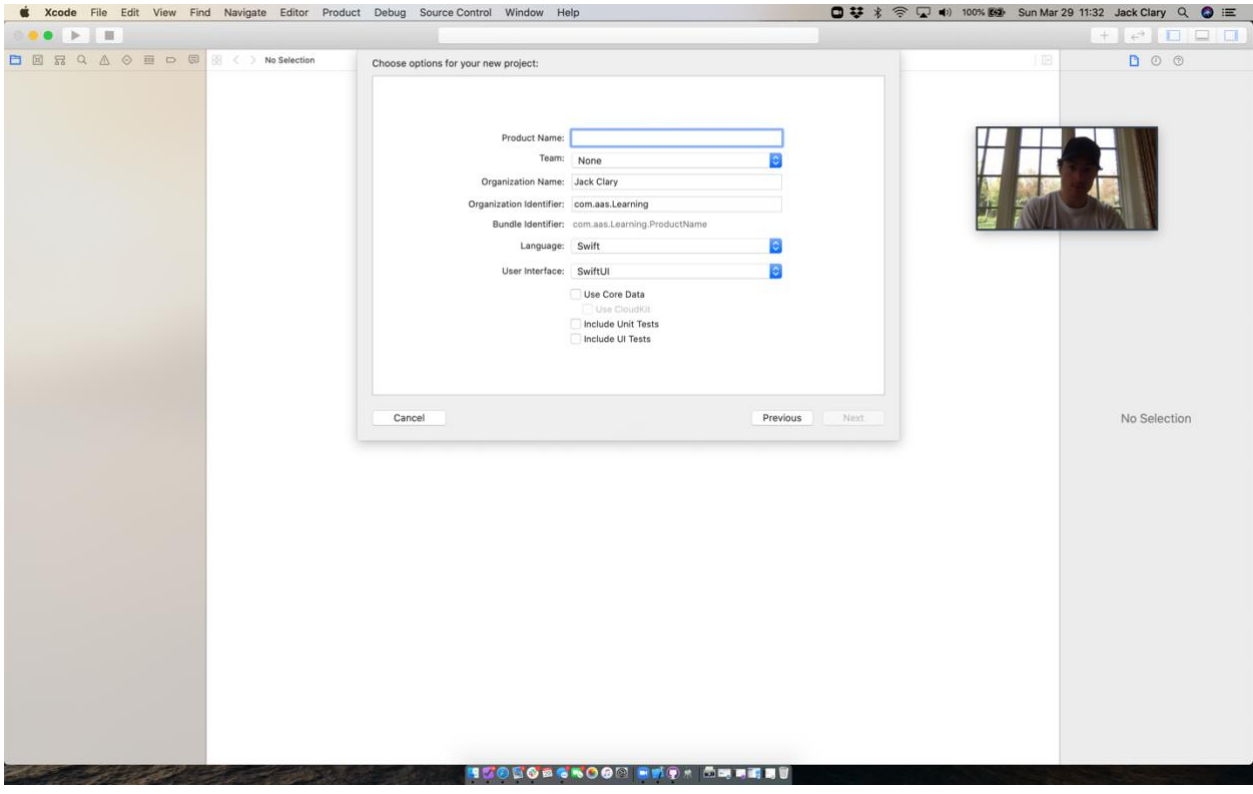
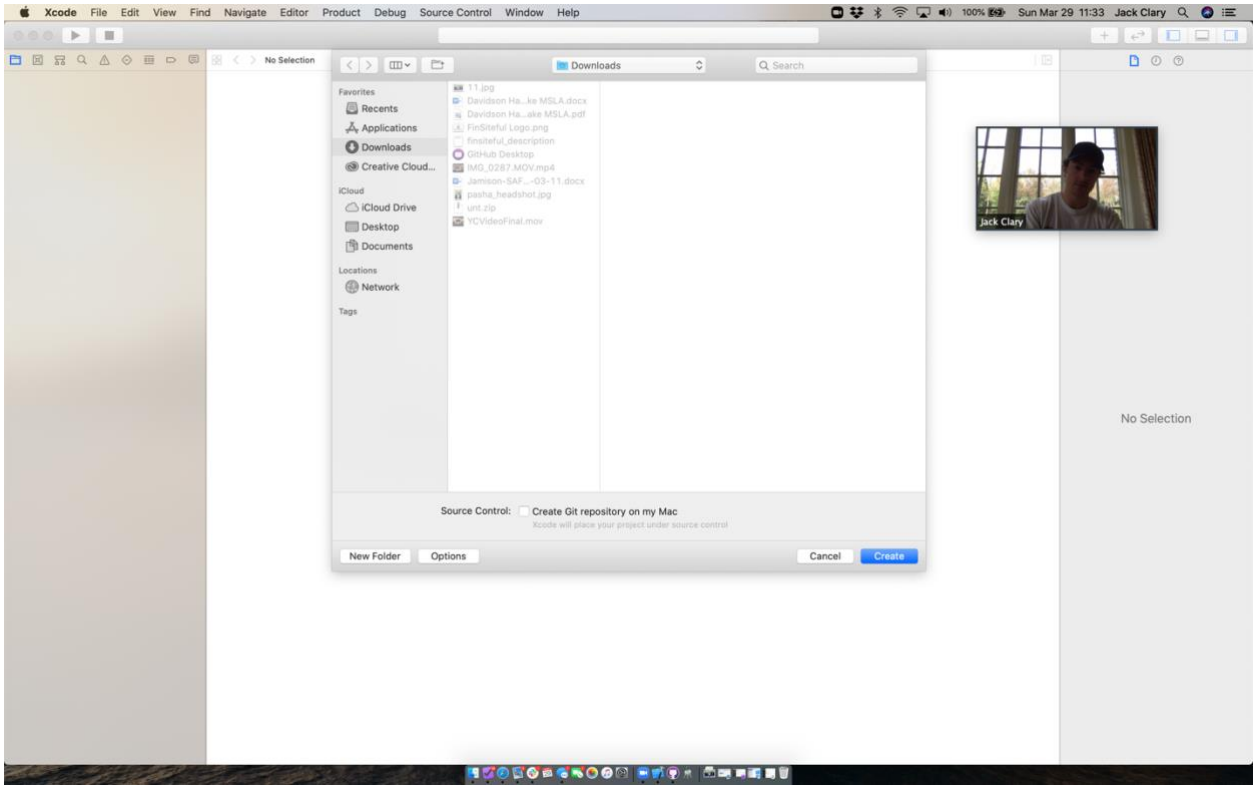
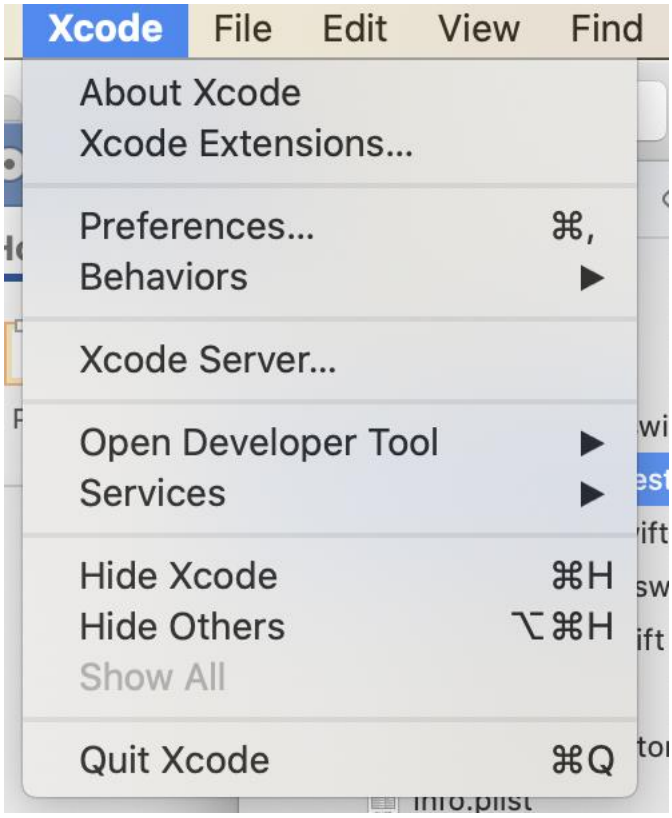

Xcode File Edit View Find Navigate Editor Product Debug Source Control Window Help
Sun Mar 29 11:32 Jack Clary
No Selection
Choose options for your new project:
Product Name:
Team: None
Organization Name: Jack Clary
Organization Identifier: com.aas.Learning
Bundle Identifier: com.aas.Learning.ProductName
Language: Swift
User Interface: SwiftUI
Use Core Data
Use CloudKit
Include Unit Tests
Include UI Tests
Cancel
Previous
Next
No Selection

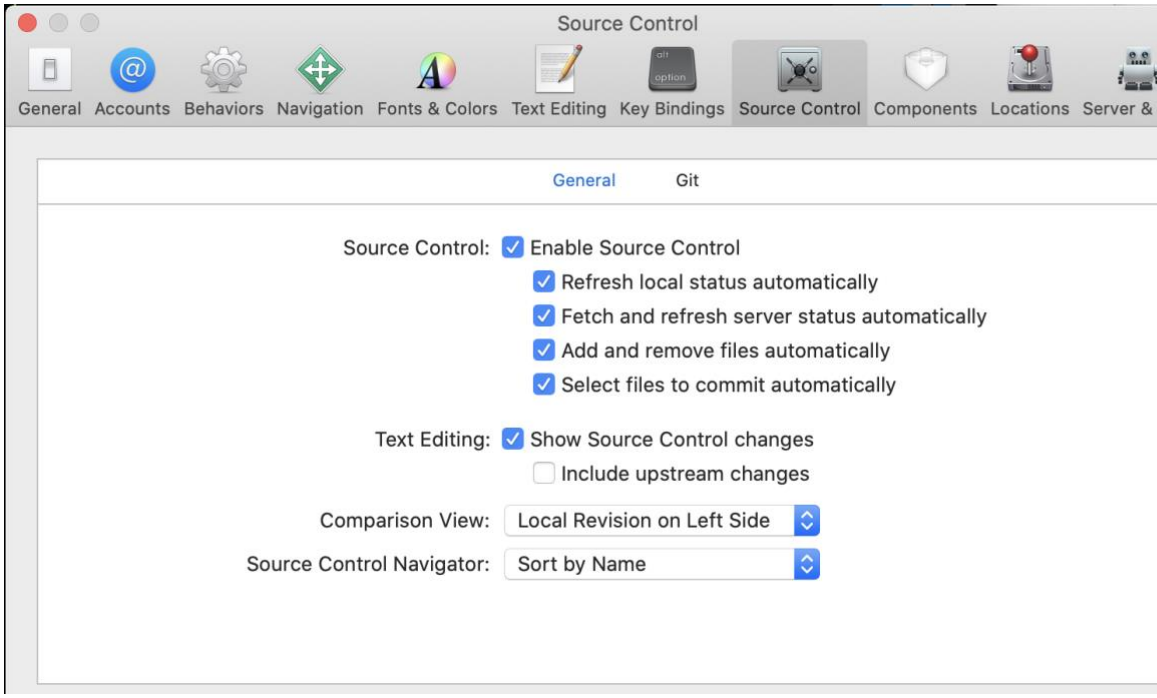


i. Be sure to note what file location you saved it in. You need to be able to locate it via “Terminal” or “the command line” in the next step

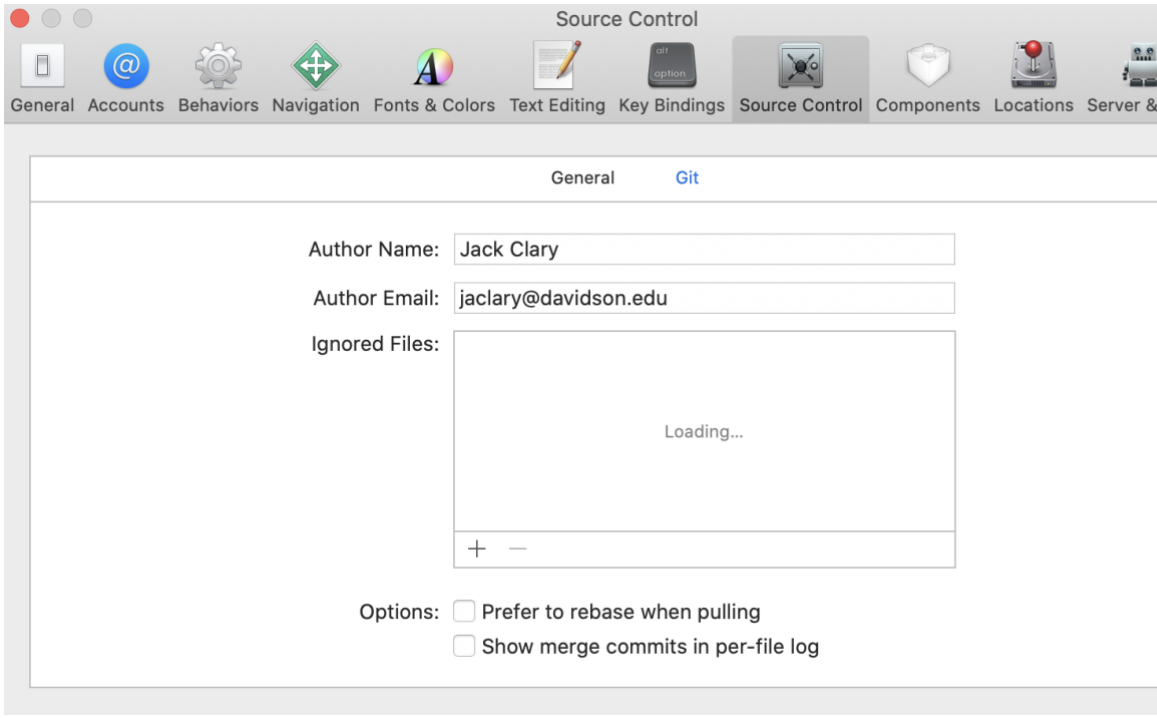
ii. Now you need to set up your Github in Xcode. (Xcode calls it source control sometimes). First, click on **Preferences** in the dropdown in the upper left of your screen.



iii. Now, click “Source Control” in the upper center and make sure you have these boxes checked.



iv. Lastly click the little “Git” and type in your information

v. 

vi. You will have to type your Github account information later, but it can/will happen a few different times so just have it at the ready.

d. Now, open Terminal

i. "**ls**" shows current directory location and its contents

```
jackclary@Hurc-III ~ % ls
Applications            Documents               Movies
Creative Cloud Files    Downloads               Music
Desktop                 Dropbox                 Pictures
Developer               Library                 Public
jackclary@Hurc-III ~ %
```

ii. "**cd** '**filename**'" moves you to said file or directory

```
jackclary@Hurc-III ~ % cd Developer
jackclary@Hurc-III Developer %
```

1. As you can see, my “directory” changed from “~” to “Developer”
2. If you type in “**cd ..**” it will bring you back to the previous directory.
3. If you type in “**cd**” it will bring you back to the “~” directory

iii. So, cd to the directory you have your Xcode project saved in

```
jackclary@Hurc-III ~ % cd Documents/GitHub/swift_repo/Your\ First\
jackclary@Hurc-III Your First App %
```

1. If the title of the directory is unique, you can press the **tab key** after you’ve typed in sufficient letters to auto-type the rest. This is useful when there are spaces like in “Your First …” because they require “\ /” in terminal.

iv. Use the following commands in terminal when you are in your directory. You know you are in your directory when it says the correct name to the left of the “%” (E.g. “Your First App” in my case)

…or create a new repository on the command line

```
echo "# test" >> README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin https://github.com/jaclary/test.git
git push -u origin master
```

1. The link, i.e. https://github.com/jaclary/test.git will be different for you based on your github username and the name of the repository. This link can be found if you look at your browser’s search bar when you are on your repository page which will load after you create it in step 2.a.ii.1

3. Your First App Intro - Users can sign-up for your service
   a. After you start the project + initializing your repository
      i. Creating a .gitignore
         1. **“cd”** to the repository location in terminal
         2. “**touch .gitignore**”
         3. “**open .gitignore**”
         4. This is basically a text file where each line represents a file or files you don’t want being put in your repository.

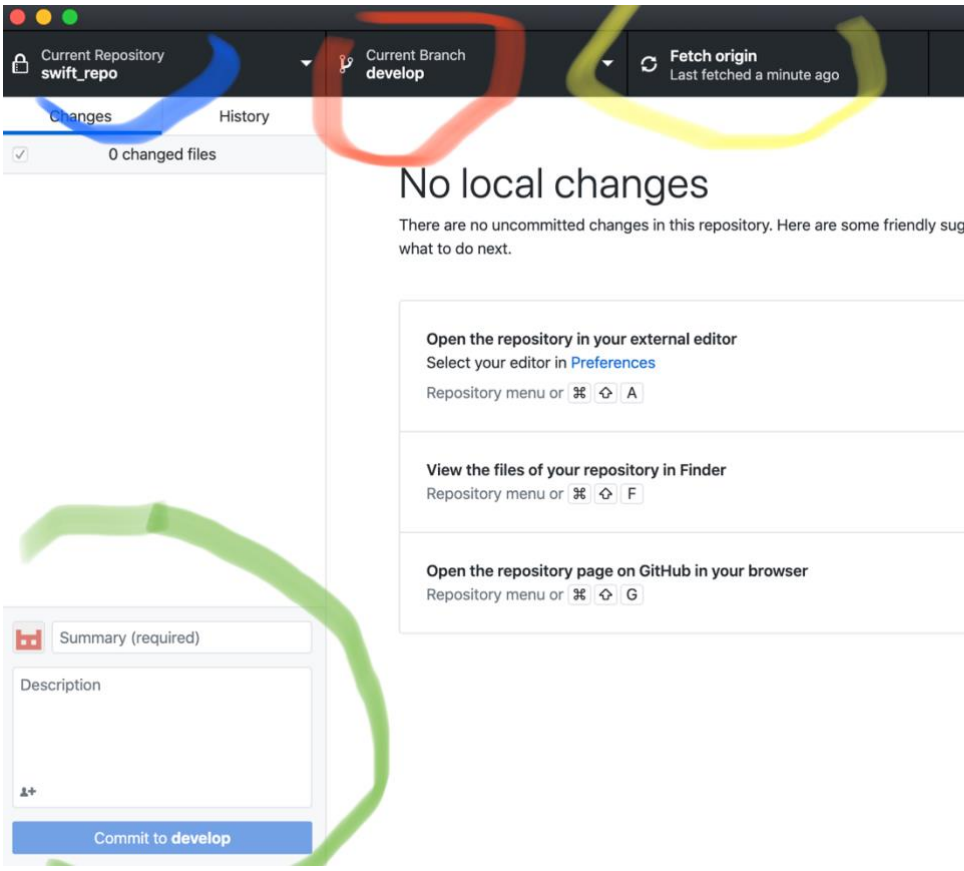
ii. What to type in it?

1. *.xcuserstate
2. *.xcuserdata
3. *.DS_Store
4. The "*" at the beginning means all files that contain the specified string.

iii. How to github?

1. Read this: http://think-like-a-git.net
2. Terminal vs. Xcode vs. Other Applications
    a. Terminal is more difficult, but more powerful. Look here for a tutorial: https://rogerdudler.github.io/git-guide/
    b. Xcode is more simple, but prone to bugs/errors.
    c. Other applications like Github desktop and GitKraken are great, simple ways to deal with source control. For simplicities sake, download Github Desktop and use it.
    d. https://desktop.github.com
3. GitHub Desktop
    a. Follow the instructions when you first download it. Very simple.

b. For using it,



c. The blue represents the current repository.
d. The red is the current branch (

4. Pull Requests
    a. FLESH OUT

b. How do you Xcode?
    i. “cmd+r” runs your app in a virtual apple device
    ii. “cmd+b” builds the app, but doesn’t run it.
    iii. Preview
    iv. FLESH OUT
c. What are these initial files?
    i. AppDelegate
        1. Runs when your app starts, specifically the first function of the class runs (func application(_ application: UIApplication, didFinishLaunchingWithOptions launchOptions: [UIApplication.LaunchOptionsKey: Any]?) -> Bool)
        2. More information: https://dev.to/theobendixson/comment/4g8j
    ii. SceneDelegate
        1. Read here (also gives good information on AppDelegate): https://www.donnywals.com/understanding-the-ios-13-scene-delegate/
    iii. ContentView

1. ContentView is your firs View, the technical word for a screen on your app. It is initialized, or started, as a empty view with the words “Hello World” in the center of the screen.

iv. Assets.xcassets
1. This is a folder that will hold assets like images. We won’t go into detail here.

v. LaunchScreen.storyboard
1. This is the “splash screen” or the window that briefly appears as the app loads.

vi. Info.plist
1. This topic has a lot involved. We will discuss this when we add dependencies to the app.

d. SignUpView
i. What are views in SwiftUI?
1. https://developer.apple.com/documentation/swiftui/view
2. VStack
3. HStack
4. Group
5. Text
6. TextField

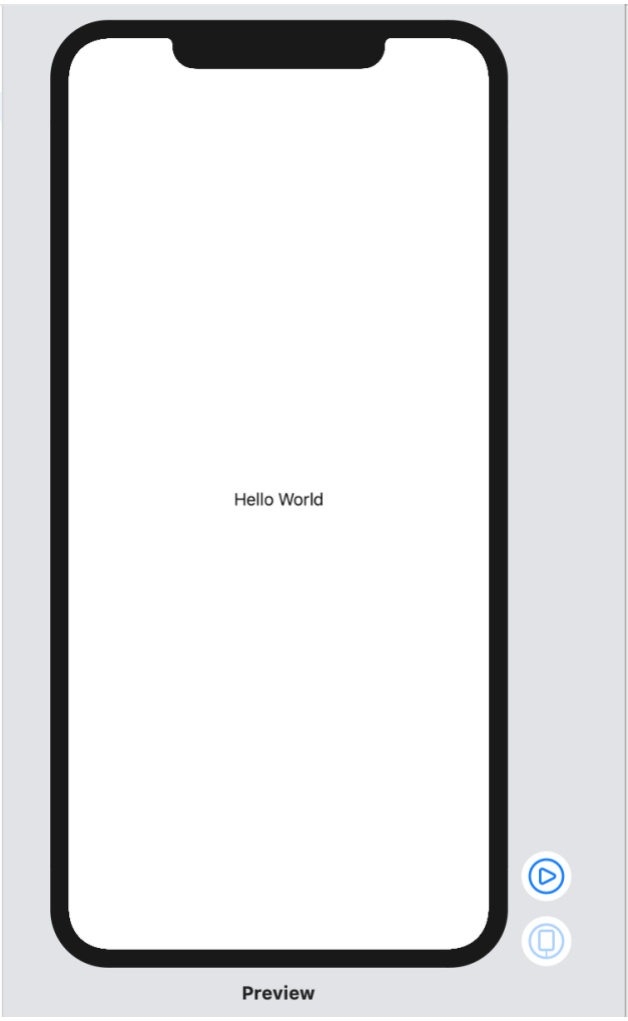
ii. @State
1. Storing user data
2. Create a user class? (maybe throw all signed up users in a list that displays after they sign

iii. NavigationView?

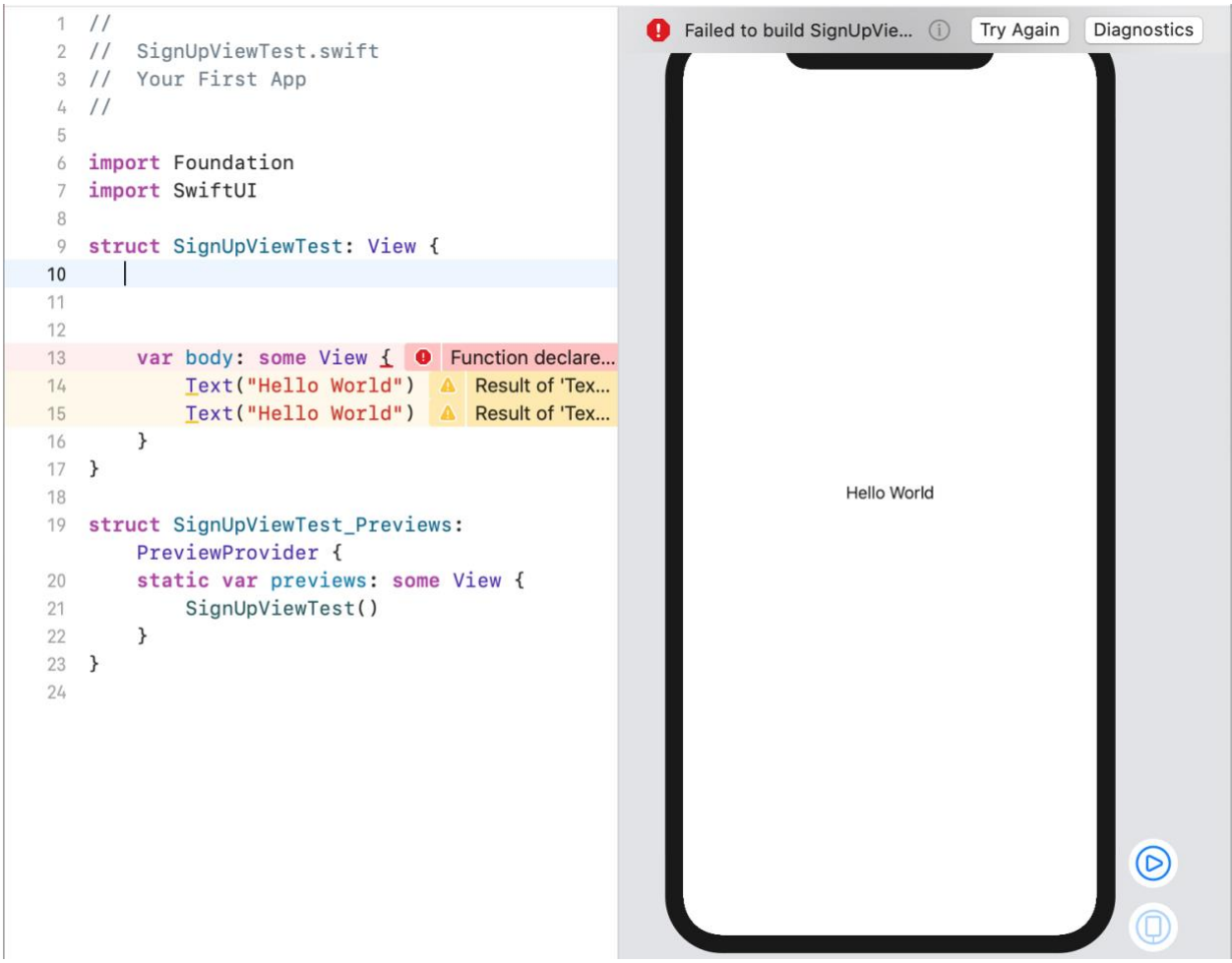
e. SignUpViewModel

4. Let's code!
    a. Start by opening the SignUpViewTest.swift. You should see the below.

```swift
//
//  SignUpViewTest.swift
//  Your First App
//

import Foundation
import SwiftUI

struct SignUpViewTest: View {



    var body: some View {
        Text("Hello World")
    }
}

struct SignUpViewTest_Previews:
    PreviewProvider {
    static var previews: some View {
        SignUpViewTest()
    }
}

```



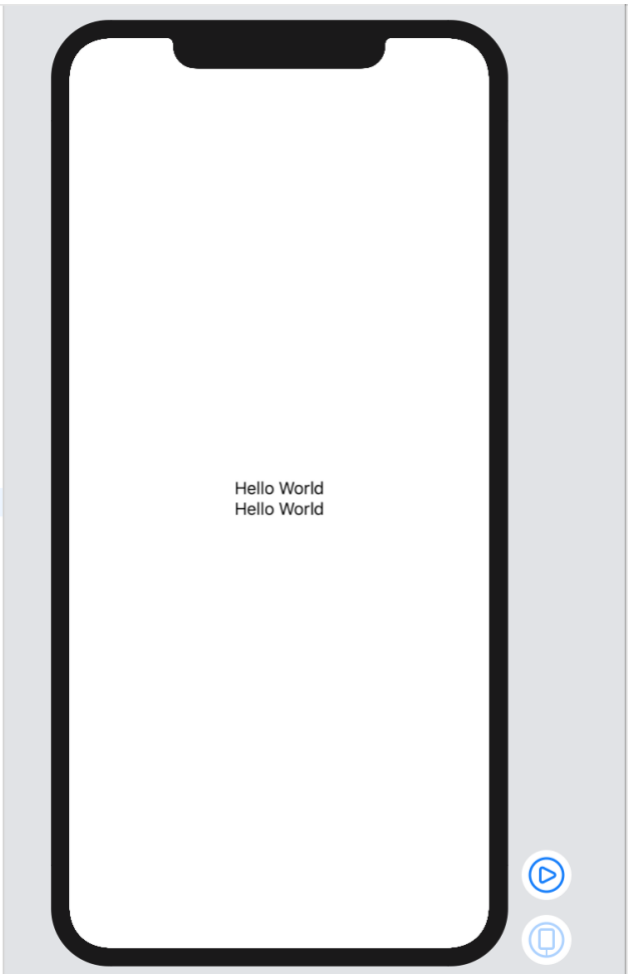
b. To showcase how the “body” section of the page works, try duplicating line 14. Do you get the following error?



i. You get this error because the body needs to return 1 thing (it does so implicitly, hence no “return Text(“Hello World”)), and now it is returning 2 things. But what if you want it to say Hello World twice? Stacks!

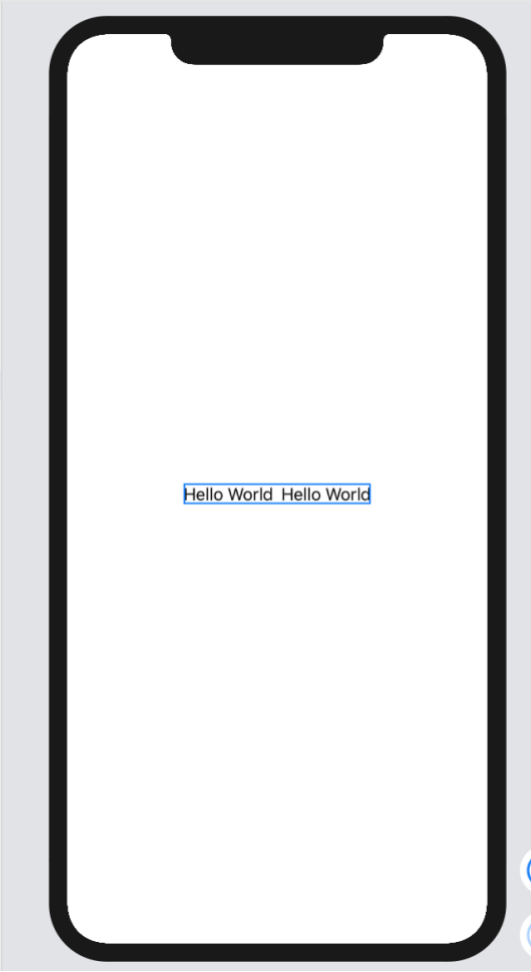
c. If you wrap the two Text() in a stack, like vertical stack, or VStack, you should get the following

```swift
//
//  SignUpViewTest.swift
//  Your First App
//

import Foundation
import SwiftUI

struct SignUpViewTest: View {



    var body: some View {
        VStack {
            Text("Hello World")
            Text("Hello World")
        }
    }
}

struct SignUpViewTest_Previews:
    PreviewProvider {
    static var previews: some View {
        SignUpViewTest()
    }
}

```



i. See how they're vertically aligned? If you wanted them horizontal, you can use a horizontal stack or HStack.

```swift
//
//  SignUpViewTest.swift
//  Your First App
//

import Foundation
import SwiftUI

struct SignUpViewTest: View {



    var body: some View {
        HStack {
            Text("Hello World")
            Text("Hello World")
        }
    }
}

struct SignUpViewTest_Previews:
    PreviewProvider {
    static var previews: some View {
        SignUpViewTest()
    }
}
```



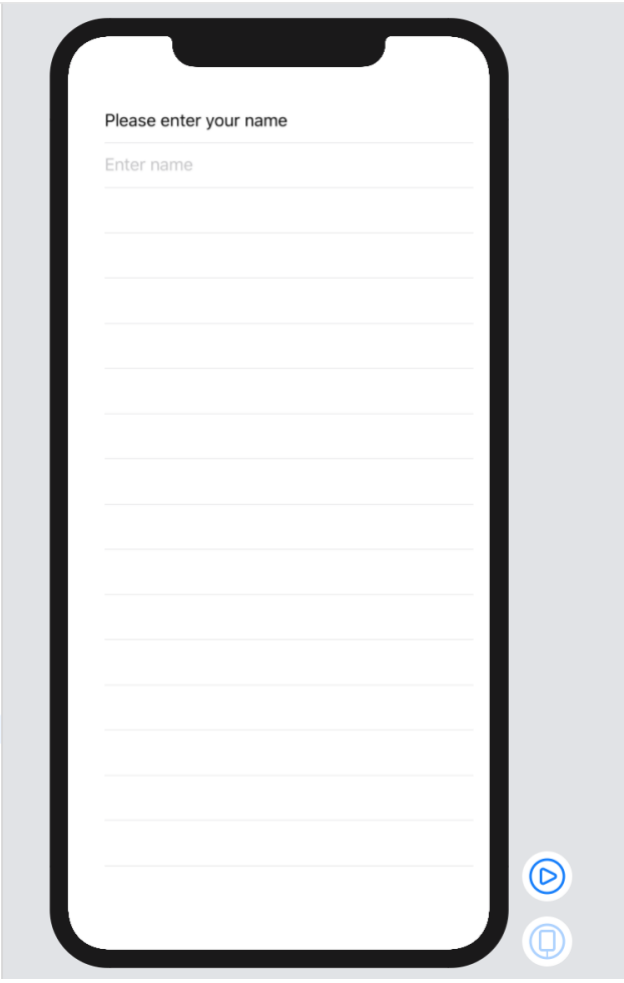
1. As a side note, if you are running the preview (option + cmd + return and then option + cmd + p) and you click on a section of the code, like the HStack here, the preview will highlight that portion of the screen.

d. Now let's begin the real fun. We like to define features as User Stories because they allow us to be flexible in the way we implement our solutions. For this story, lets define it like this:

i. Our user opens the app and can type in their name.

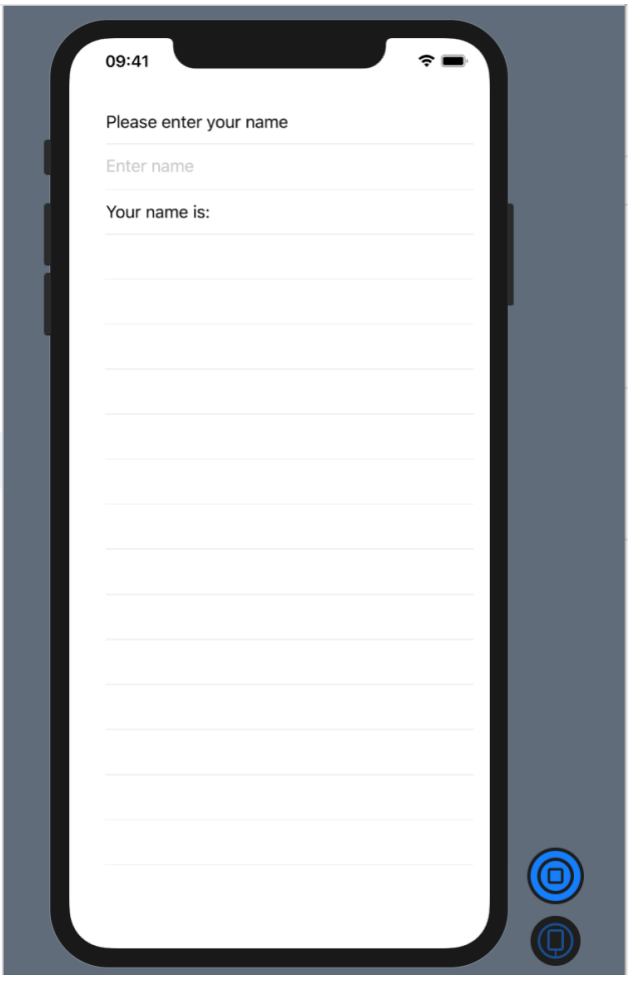
e. To do this we are going to embed or wrap our text, that tells the user what to do, with a TextField, that allows the user to type in information. FLESH OUT

```swift
//
//  SignUpViewTest.swift
//  Your First App
//

import Foundation
import SwiftUI

struct SignUpViewTest: View {
    @State var name: String = ""


    var body: some View {
        List {
            Text("Please enter your name")
            TextField("Enter name", text:
                $name)
            Spacer()
        }.padding()
    }
}




struct SignUpViewTest_Previews:
    PreviewProvider {
    static var previews: some View {
        SignUpViewTest()
    }
}

```



f. Now that we can type in a name, lets present that name back to the user. Since we stored the name in the variable aptly titled “name” we can display it like this:

```swift
//
//  SignUpViewTest.swift
//  Your First App
//

import Foundation
import SwiftUI

struct SignUpViewTest: View {
    @State var name: String = ""


    var body: some View {
        List {
            Text("Please enter your name")
            TextField("Enter name", text:
                $name)
            Text("Your name is: \(name)")
            Spacer()
        }.padding()
    }
}




struct SignUpViewTest_Previews:
    PreviewProvider {
    static var previews: some View {
        SignUpViewTest()
    }
}

```

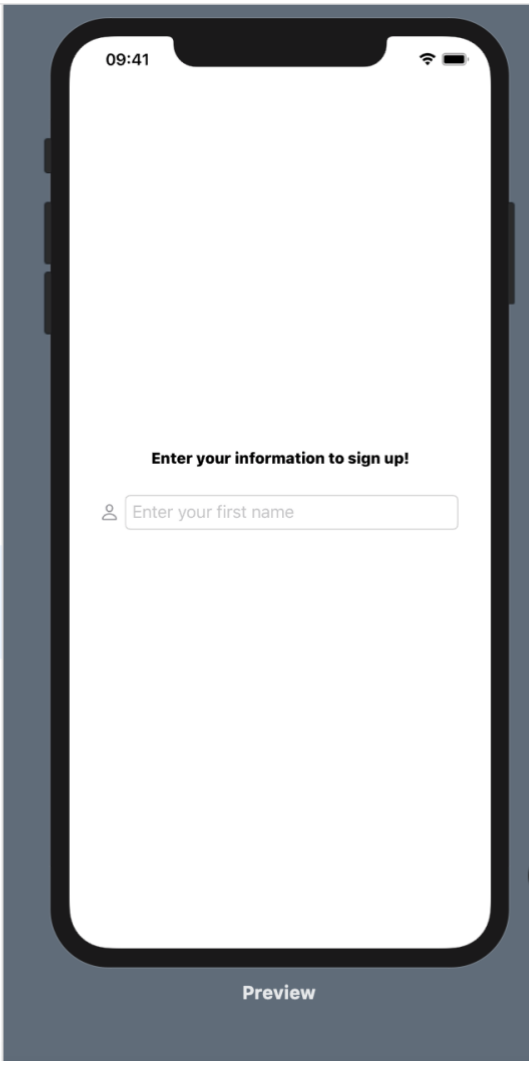


g. However, this looks terrible. To begin adding some design lets add a few more variables, things like email, and some styling.

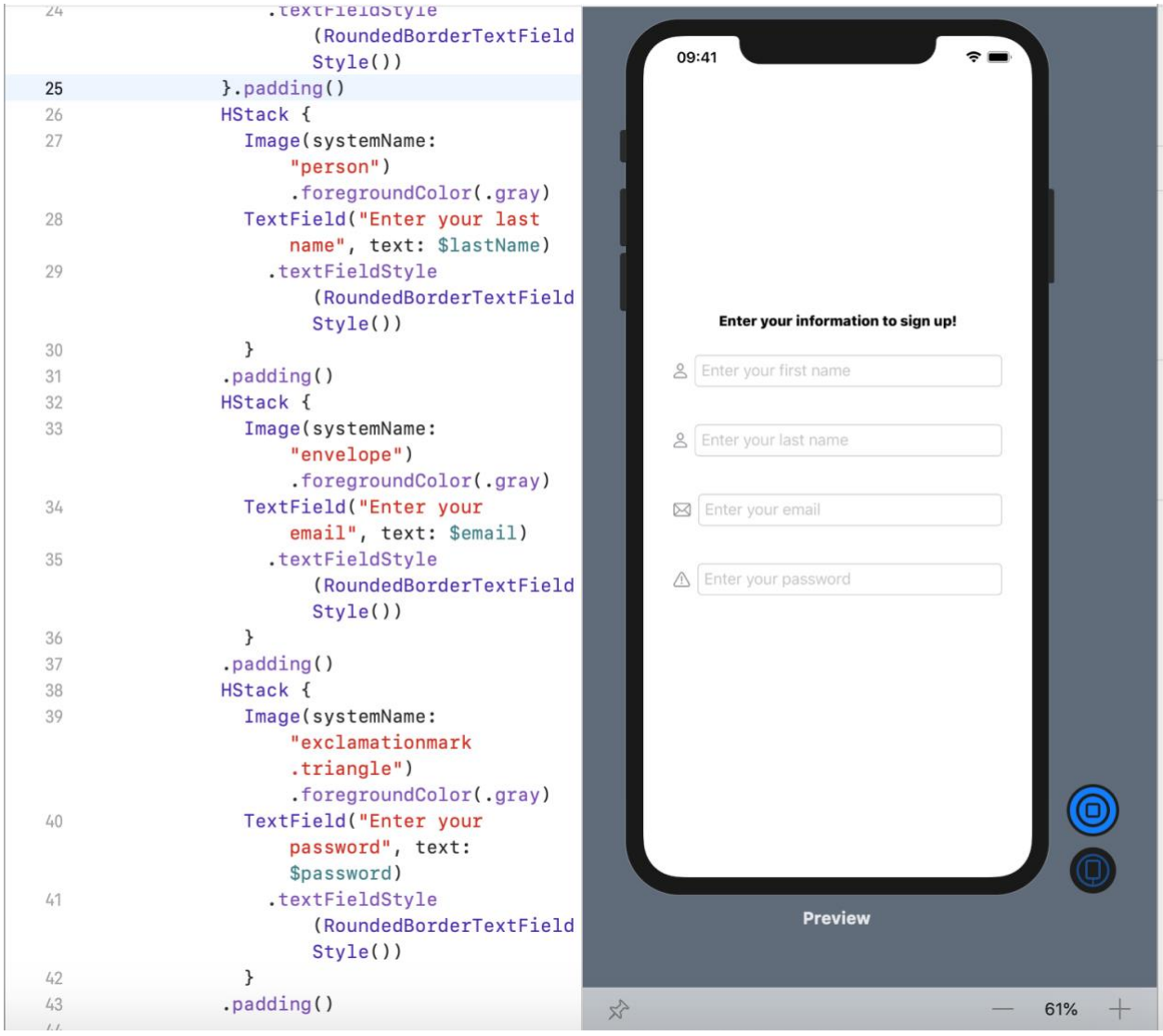
   i. The styling we will add simply showcases some simple tools you have at your disposal like the alignment parameter in the VStack (and in the other

stacks), fontWeight, font, foregroundColor, textFieldStyle, and padding.

```swift
//
//  SignUpViewTest.swift
//  Your First App
//

import Foundation
import SwiftUI

struct SignUpViewTest: View {
    @State var firstName: String = ""
    @State var lastName: String = ""
    @State var email: String = ""
    @State var password: String = ""



    var body: some View {
        VStack(alignment: .center) {
            Text("Enter your information to sign up!").fontWeight(.heavy).font(.system(size: 15))
            HStack {
              Image(systemName: "person").foregroundColor(.gray)
              TextField("Enter your first name", text: $firstName)
                .textFieldStyle(RoundedBorderTextFieldStyle())
            }
            .padding()
        }.padding()
    }
}
```



h. Now that we've done this for our first name, lets do it for all the new variables including last name, email, and password.



i. As you can see, we HStack each textField so that the image appears in-line, or horizontally, with the textfield.

j. Now that we can enter our information, let's make it so that after we do, it appears at the bottom of the screen. To do this, we need to create a variable to tells us whether or not we should show that part of the screen.

```
@State var showScreen = false
```

k. Now, let's attach that variable to a Button, so that when we press it, it shows the

```
Button(action: {
    self.showScreen.toggle()
}) {
    Text("Sign Up!")
}
```

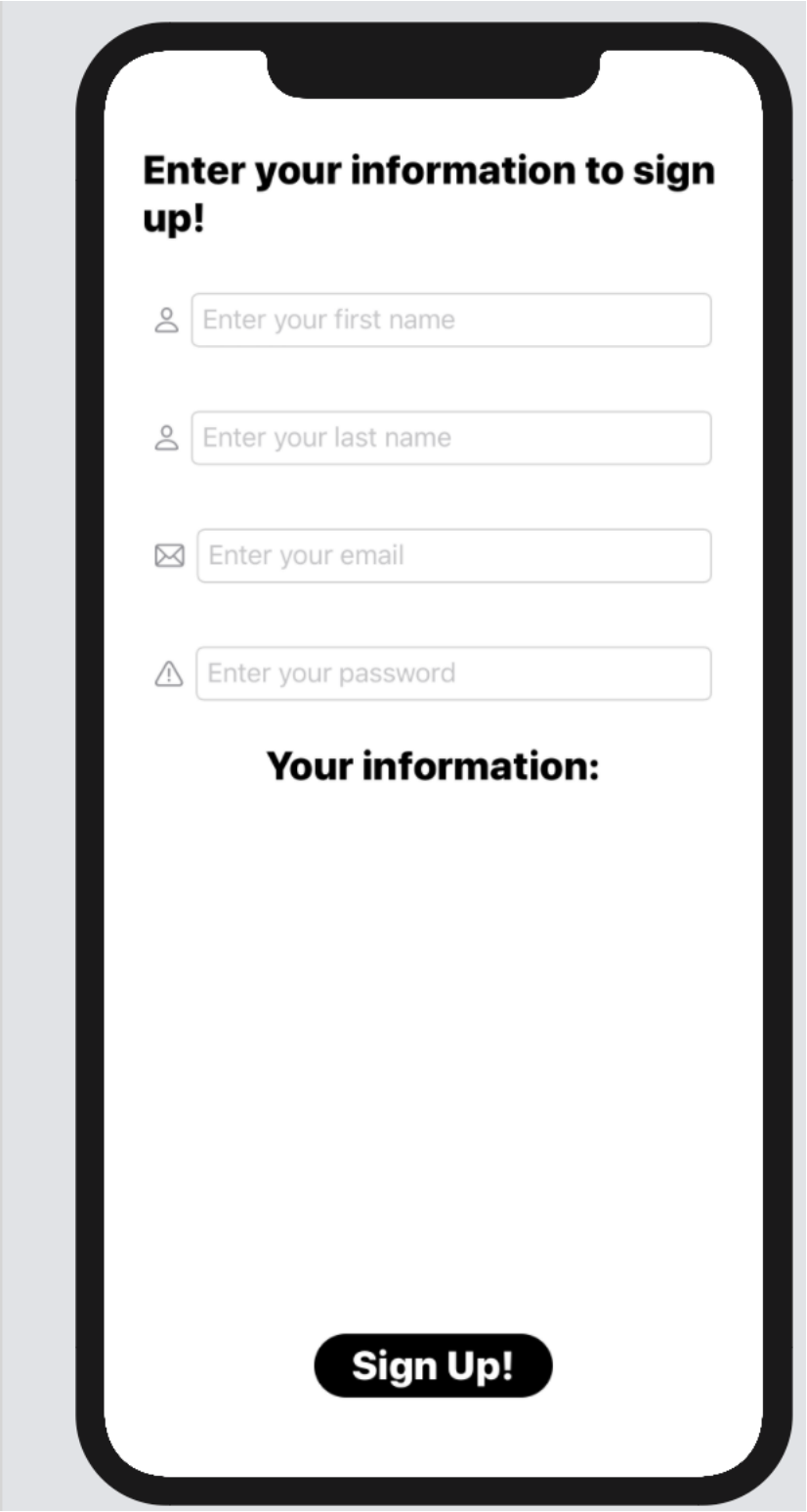
screen.

   i. Essentially what this does: creates a button where the action of pressing on it causes the showScreen variable to "toggle()" or switch from it's current state of false to true (or vice versa).

l. Next, we'll add some styling.

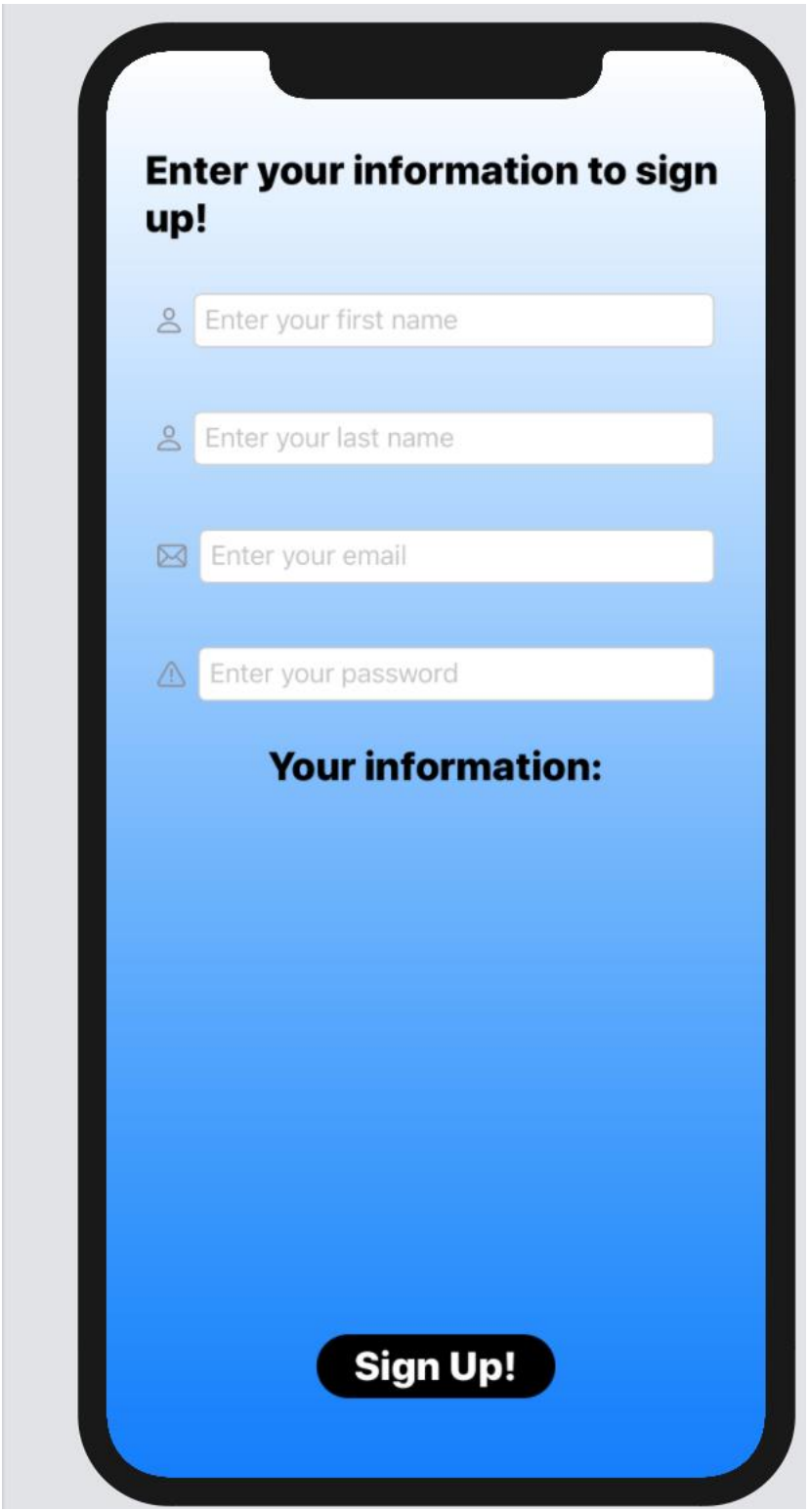
```
51
52              Button(action: {
53                  self.showScreen.toggle()
54              }) {
55                  ZStack {
56                      Capsule()
                            .foregroundColor
                            (Color.black)
                            .frame(width: 150,
                            height: 40)
57                  Text("Sign
                        Up!")
                        .foregroundColor(Color
                        .white).fontWeight(
                        .heavy).font(
                        .system(size: 25))
58                  }
59              }
60
```

m. And here is the final product



n. Last but not least, lets add a background to the view

```
ZStack {
    LinearGradient(gradient:
        Gradient(colors: [.white,
        .blue]), startPoint: .top,
        endPoint:
        .bottom)
        .edgesIgnoringSafeArea(
        .all)
```

o. 

p. But what if we want it to only appear when we want the screen to be show?

```
            ZStack {
                if(!showScreen){
```

q.

```
67          }else {
68                  ZStack {
69                      LinearGradient
                            (gradient:
                            Gradient(colors:
                            [.white, .blue]),
                            startPoint: .top,
                            endPoint:
                            .bottom)
                            .edgesIgnoringSafeA
                            rea(.all)
70                      VStack {
71                      Text("Success!")
                            .fontWeight(
                            .heavy).font(
                            .system(size: 25))
72
73                      Button(action: {
74                          self.showScreen
                                .toggle()
75                      }) {
76                          ZStack {
77                              Capsule()
                                 .foregroundCol
                                 or(Color
                                 .black)
                                 .frame(width:
                                 150, height:
                                 40)
78                          Text("Go
                                Back!")
                                .foregroundColo
                                r(Color.white)
                                .fontWeight(
                                .heavy).font(
                                .system(size:
                                25))
79                          }
80                      }
```