Washington State University
School of Electrical Engineering and Computer Science
Spring 2017

CptS 479 Mobile Application Development in iOS
Homework 9
Due: March 28, 2017 (11:59pm)

General Instructions: Put the entire app directory into one zip file and submit as an attachment under Content → Homework 9 for this course on the Blackboard Learn system by the above deadline. Note that you may submit multiple times, but only the most recent entry submitted before the above deadline will be graded.

For this homework you will implement the JokerBarBuddy app, which will help you find a nearby bar in which to tell a "…walked into a bar" joke. The app will track your location on a map, and when prompted, will display bars close to your current location. The app will also check your "Joke-Fu" using a test to draw a straight line on the screen. Lastly, the app will allow you to request a joke from a online joke server. See screenshots below. Specifically,

1. Create a new project with a Main view controller and two other view controllers: the FindBar view controller and the JokeFu view controller. The Main view should have three buttons: "Find Bar", "Check Joke-Fu" and "Get Joke". The "Find Bar" button should segue to the FindBar view, and the "Check Joke-Fu" button should segue to the JokeFu view. All three view should be embedded in one Navigation Controller and have appropriate titles and prompts.
2. The Main view should also have labels to display the three lines and answer line of a joke. When the use taps the "Get Joke" button, your app should access the PHP script at http://www.eecs.wsu.edu/~holder/courses/MAD/hw9/getjoke.php. This URL will return a joke in JSON format, which includes the three lines and answer line of the joke, which should be displayed on the Main view.
3. The FindBar view should include a Map Kit View filling the entire screen below the navigation panel, except for room at the bottom for a "Show Nearby Bars" button. The map should track your location, keeping it in the center of the map while the map moves underneath. When the user taps the button, the map should be annotated with nearby bars. When you leave the FindBar view, the app should stop location updates.
4. The JokeFu view should provide a draw-a-straight-line skill test to check if the user is ready to tell a joke. The view should show some instructions and display a Start and Finish location. The test begins when the user touches the screen and ends when they remove their touch. Your app should check that the user traced a fairly straight line that started close to the "Start" location and ended close to the "Finish" location. Your app should show the line traced by the user as they pan from "Start" to "Finish". When done, your app should

check for a valid line, display a “PASS” or “FAIL” result, and show a “Try Again?” button that will clear their previous attempt and reset the test. The following code snippets may be helpful in implementing the straight-line test.

Adding a blue dot to the view at some point:

```
let dotView = UIView(frame: CGRect(x: point.x, y: point.y,
                                   width: 5.0, height: 5.0))
dotView.backgroundColor = UIColor.blue
self.view.addSubview(dotView)
```

Removing a sub-view from the view:

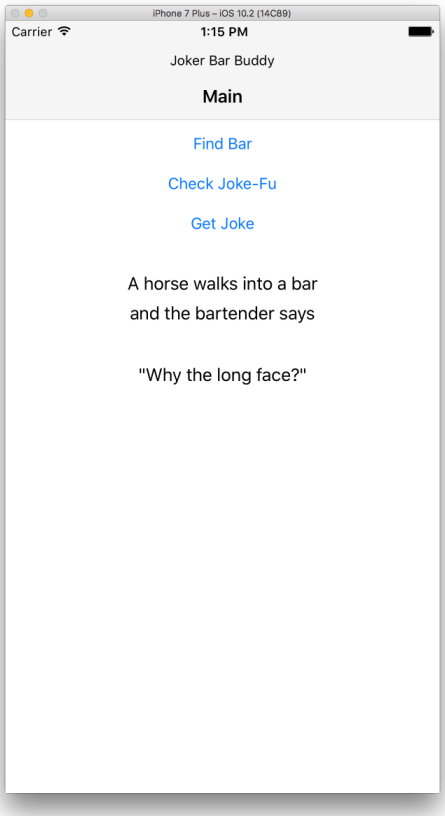
```
dotView.removeFromSuperview()
```

Checking if a point is contained in the bounding box of a label:

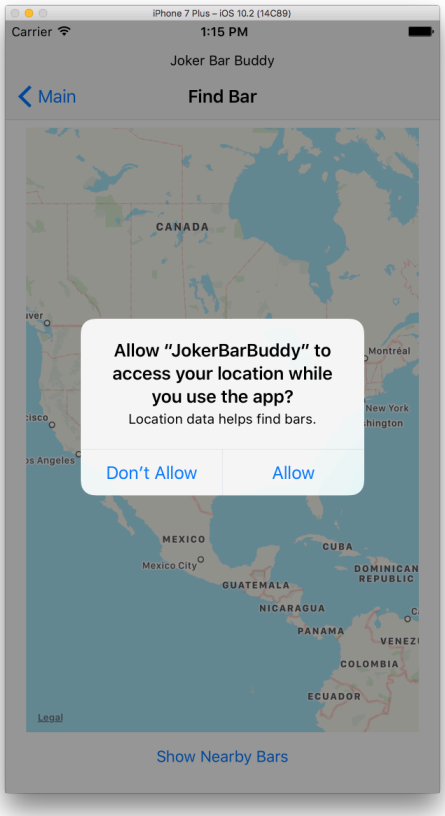
```
self.startLabel.frame.contains(startPoint)
```

5. As always, be sure auto layout constraints are set so that all elements in all views are appropriately placed, regardless of device orientation. This includes the straight-line test.

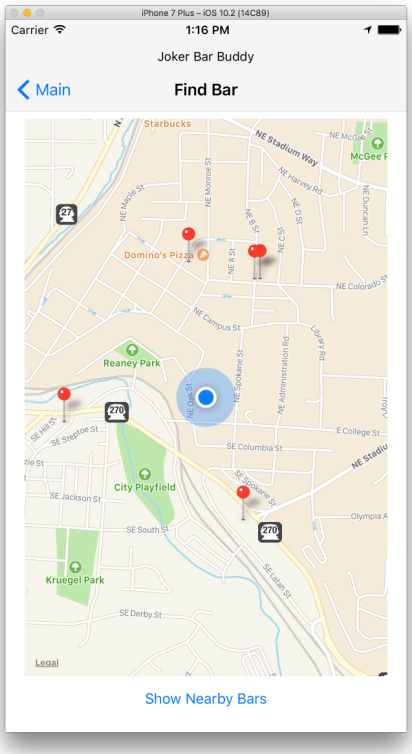
Main view after tapping “Get Joke”:



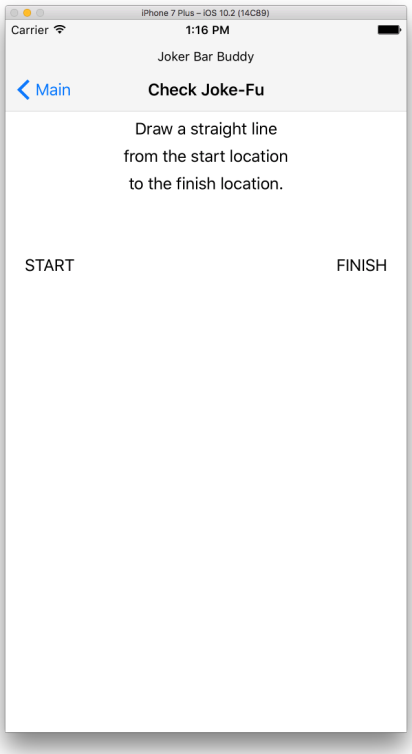
FindBar view first time entered:



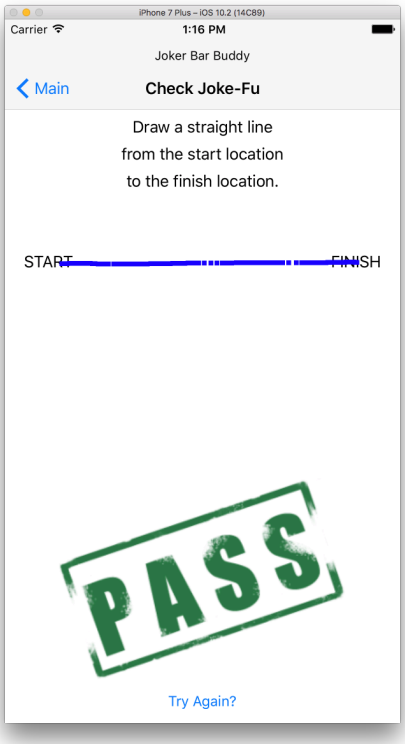
FindBar view after tapping “Nearby Bars”:



JokeFu view initially and after “Try Again?”:

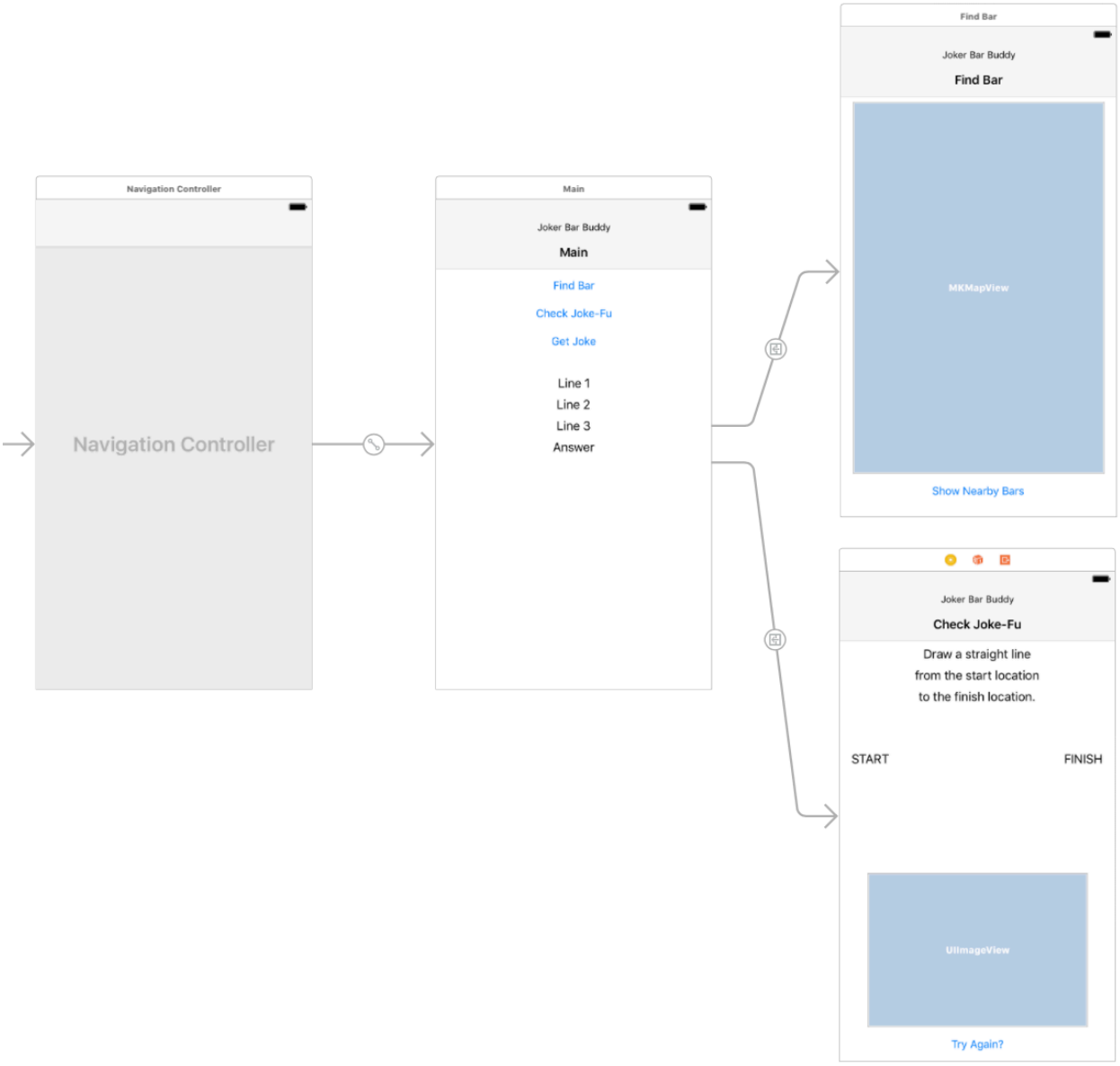


JokeFu view after passing test:



JokeFu view after failing test:

Storyboard:


Navigation Controller
Navigation Controller
Main
Joker Bar Buddy
Main
Find Bar
Check Joke-Fu
Get Joke
Line 1
Line 2
Line 3
Answer
Find Bar
Joker Bar Buddy
Find Bar
MKMapView
Show Nearby Bars
Joker Bar Buddy
Check Joke-Fu
Draw a straight line
from the start location
to the finish location.
START
FINISH
UIImageView
Try Again?