Welcome to Runloop's coding test :)

Introduction

Today we will be making a dynamic passcode screen application.

The application would consist of a passcode screen containing:

- Instruction label "Please enter your 4 digit code".
- 4 digit code progress indicator.
- 10 buttons which will represent digits.
- A loading indicator (does not appear in the design).
- A "cancel" button.
- A "delete" button.

App specification

The application should function as follows:

1. First, show the passcode screen with the digit-buttons ordered from 0 to 9.
2. Show a loading indicator and block the user from interacting with the passcode screen.
3. Our server has only one API - "getPasscodeInternals", and it accepts username/password ("Runloop"/"Run!@0p"). Contact the server in order to get a "setup" - an array of 10 Ints in an order that changes every API call and represents the digit-buttons order, and a "code" - a 4-digit string that changes every API call and represents the code needed to unlock the screen.
4. Refresh the passcode screen UI in such a way that will reflect the data received from the server.
5. When the user taps a digit-button, show an indication in the progress indicator by "filling" up the appropriate circle.

6. Clicking "cancel" should clear any selection made so far and reset the progress indicator. If the progress indicator is already empty, clicking "cancel" has no effect.
7. Clicking "delete" should clear the last selection made so far and retrace one step of the progress indicator. If the progress indicator is already reset, clicking "delete" has no effect.
8. As soon as a 4 digit code was inserted:
    a. If the inserted code matches the code retrieved from the server, then reset the progress indicator and go back to step #2 of the app specification.
    b. If the inserted code is different from the code retrieved from the server, then reset the progress indicator and do nothing else.

Instructions

You are provided with a template project.

- The template consists of a mock server that you should communicate with as if it were a real live server. The credentials for the server are (username: "Runloop" / password: "Run!@0p").
- Notice that the server returns two separate completion blocks for the "code" result and "setup" result.
- According to the position you are interviewing for, you might also get some implementation of the passcode screen UI. In case you didn't get it - you are expected to implement it yourself.
- For texts and labels use the standard font of your operating system. Colors should be according to design.
- Please keep a unified style of coding.
- Try to design some architecture for your project. Build some infrastructure that will allow you to maintain and extend the project easily later on.
- When possible and effective, try to execute some work to a background thread.
- Imagine that your app is being downloaded by millions of users - defend critical sections of your code so that they will not crash due to multithreading issues even once in a million usages.

Goodluck! :)