

cricut®

iOS Engineer Candidate Assignment

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Introduction

Thank you for your interest in a software engineering position at Cricut! We're excited to get to know you. This document is the confidential intellectual property of Cricut, Inc. Do not share the contents of this document or your solution with anyone outside of Cricut.

Environment and Development Guidelines

1. Please use Xcode and SwiftUI for the project.
2. Only iPhone and iPad are required build destinations.
3. You can build for the latest iOS version.
4. Please only use Apple frameworks and libraries. You shouldn't need to add any 3rd party Swift packages to your project.

5. Searching online is acceptable but copying and pasting code from online or other projects is not. We will ask you about the details of your solution, so make sure you understand the purpose of every line you write.
 6. We discourage using AI to generate your solution. We have reviewed many submissions from candidates who used AI extensively, and they have all performed poorly.
 7. When you are ready to submit, please send an email to the recruiter with a link to a git repo that contains your solution.
 8. After you have submitted your solution, engineers at Cricut will review it. Please be prepared to discuss your application and make any requested modifications.
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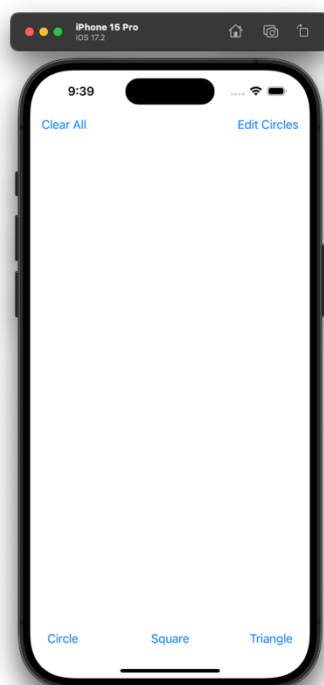
Evaluation

1. We will evaluate the maintainability of your application by checking for proper code reuse, clarity, separations of responsibility, etc.
2. You should write your code to be testable, but we will not review unit tests at this stage of the evaluation. You may write tests to aid in development.
3. Our preferred technologies are SwiftUI and structured concurrency (async-await), rather than UIKit, Combine, etc. (unless using the latter significantly simplifies the implementation, testing, etc.).
4. Some comments around complex parts of your solution are valuable, but we don't expect thorough documentation on every function, etc.
5. We won't evaluate your UI layout, as long as we can access all the required views and buttons. It doesn't need to be pretty, and it doesn't need to look the same as the screenshots we provide.

Acceptance Criteria

Create an iOS application that draws shapes in a grid. It should have 2 pages:

Page 1 (Shapes Grid)



*Figure 1: Page 1
(Empty)*



*Figure 2: Page 1
(Filled)*

1. The buttons on the page are computed based on the result of a call to a remote API. In addition, there are 2 static buttons.
 - a. Computed buttons: The titles and functionality of the dynamic buttons are determined by the JSON response from this endpoint:
http://staticcontent.cricut.com/static/test/shapes_001.json
 - i. The JSON response includes an array of buttons.
 - ii. Each element in the array has a "name" property, which is the displayed title of the corresponding button in the application.
 - iii. Each element also has a "draw_path" property. The valid values for this property are "circle", "square", and "triangle".

- iv. When a button with a "draw_path" of "circle" is tapped, a Circle shape is appended to a grid on the page. Likewise, a "draw_path" of "square" appends a Square, and "triangle" appends a Triangle when tapped (See figure 2).
- v. **Note:** The JSON response can be trusted to follow this schema. It is acceptable to crash or just show an error if the data is invalid.
- b. Static button: Clear All — Tapping this button removes all shapes that have been added to the grid.
- c. Static button: Edit Circles — Tapping this button navigates to the "Edit Circles" page.

Page 2 (Edit Circles)

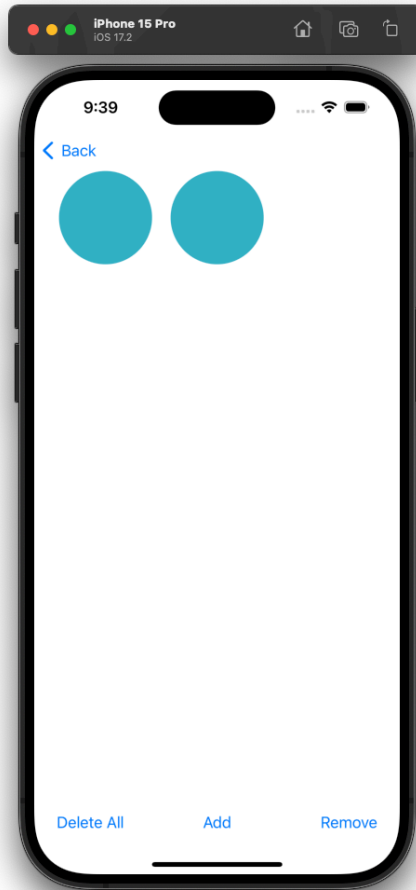


Figure 3: Page 2

1. The Edit Circles page includes the following elements:
 - a. Back button: Tapping this returns the user to Page 1.
 - b. Grid: The grid on this page shows all the circles from the page 1.
 - i. For example, if Page 1 is displaying [●, ■, ▲, ●] in its grid, Page 2 displays [●, ●].
 - c. Delete All button: Tapping this removes all circles from the grid. Also, all circles in the grid on Page 1 are removed.
 - d. Add button: Tapping this appends a circle to the grid on this page and page 1.
 - e. Remove button: Tapping this removes the last circle on this page and page 1.