

# COMP 125

## Visual Information Processing with Google App Inventor

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### Lab: Presidents Quiz Starter

#### Overview

Complete the app in the text Chapter 8 through "Test you app" in the section Making the quiz Easy to Modify. Submit just that part of the app in this Lab assignment.

The textbook in this area looks like this:

The screenshot shows a page from a textbook with a light blue background. At the top, there is a paragraph of text: "Pick up the phone and click the NextButton. The second question, 'Which president granted communist China formal recognition in 1979?' should appear in the QuestionLabel on the phone, as before. When you click again, the third question should appear on the phone. Now for the behavior you're really testing: if you click again, you should see the first question ('Which president implemented the New Deal during the Great Depression?') appear on the phone." Below this is a section titled "Making the Quiz Easy to Modify" with a sub-heading "Adding an item to both lists". This section contains two visual representations of code blocks. The first is for a "QuestionList" and the second is for an "AnswerList". Each block has a "make a list" button and a list of items. The QuestionList items are: "Which president implemented the New Deal during the Great Depression?", "Which president granted communist China formal recognition in 1979?", "Which president resigned due to the Watergate scandal?", and "Which president was in office when two atom bombs were dropped on Japan?". The AnswerList items are: "Hoover", "Carter", "Nixon", and "Truman". Below the code blocks is a section titled "Test your app" with a paragraph of text: "Click the NextButton several times. You'll notice that the fourth question never appears, no matter how many times you click Next. Do you know what the problem is? Before reading on, see if you can fix the blocks so the fourth question appears. The problem is that the test to determine whether the user is on the last question is too specific; it asks if the currentQuestionIndex variable is greater than 3. You could just change the number 3 to a 4, and the app would work correctly again. The problem with that solution, however, is that each time you modify the questions and answer lists, you also have to remember to make this change to the if-test. Such dependencies in a computer program often lead to bugs, especially as an app grows in complexity. A much better strategy is to design the blocks so that they will work no matter how many questions there are. Such generality makes it easier if you, as a programmer, want to customize your quiz for some other topic. It is also essential if the list you are working with changes dynamically—for example, think of a quiz app that allows the user to add new questions (you'll build this in Chapter 10). For a program to be more general, it can't refer to concrete numbers like 3, as that only works for quizzes of three questions. So, instead of asking if the value of currentQuestionIndex is larger than the specific number 3, ask if it is as large as the number of items in QuestionList. If the app asks this more general question, it will work even when you add to or remove items from the QuestionList. So modify the NextButton.Click event handler to replace the previous test that referred directly to 3. You'll need the blocks listed in Table 8-6."

You'll notice that the fourth question never appears, no matter how many times you click Next. Do you know what the problem is? Before reading on, see if you can fix the blocks so the fourth question appears.

You do not need to fix this matter with question 4 for the lab, but you can if you want.

### **What you need to do**

Do only the part of the lab indicated above. No points if you do the full app. You must stop at the point indicated above. Follow along in the text up to that point.

### **Grading**

10 points total. No points if you do too little or too much of the app. -2 points for minor errors. -5 points for major errors and missing elements in the designer or blocks editor.

V3 (Sep14) Updates for changes to online text layout

V2 (Jun14) For AI2 and online text