Assignment 6– Door Puzzle

Goals

- Use Intents to transition between Activities
- Pass data to and from Activities with Intents

Required naming convention *(replace # with the current assignment number)*

- **Application Name**
  - *A#*
- **Company Domain**
  - *Firstname.lastname.itp341*
- **Package Name**
  - *Itp341.lastname.firstname.A#*

Requirements

- Create new Android Application Project
  - Min SDK: API 25
  - Follow default prompt, but make sure to choose **Empty Activity**.
- Goal
  - The user has to solve three puzzles, in order, using clues from the first Activity. When the puzzle is solved correctly, change the color of the clue. All three clues must change color to win. The puzzles can always be the same and can match figure 1.
- UI
  - Four different Activities
  - Main Activity (see figure 1 and 5)
    - 3 TextViews to display the puzzle "locks"
      - These should start with textColor red.
    - 3 Buttons (doors) to view puzzles
      - These can be "Door #" or the name of the Activity it goes to.
    - 1 Button (door) to win/lose screen
  - Puzzle 1: Color Activity (see figure 2)
    - 3 SeekBars, one for R, G, and B.
    - 3 TextViews, displaying the progress of each SeekBar.
    - 1 TextView with no text. Used to display the color made with the SeekBars. (Suggestion: 100dp x 100dp)
    - 1 Button to "save" the color and send it back to the main Activity.
  - Puzzle 2: Size Activity (see figure 3)
    - 1 TextView to prompt the user for input.
    - 1 Spinner to let the user select between small, medium, or large

        - 1 Button to "save" the size and send it back to the main Activity.
    - Puzzle 3: Name Activity (see figure 4)
        - 1 TextView to prompt the user for input.
        - 1 EditText to read in a name.
        - 1 Button to "save" the name and send it back to the main Activity.
    - Win/Lose Activity (see figure 6 and 7)
        - Just one TextView that displays whether you win or lose.
- Code
    - Main Activity
        - Hook up each of the "doors" to launch one of the puzzles or the win/lose Activity.
        - When you launch one of the puzzles, pass in:
            - The answer to the puzzle
            - The number of completed puzzles
            - *(Hint: Use unique constants for request codes)*
            - For the color one, you can send in 3 ints (for rgb) or just a string with the color.
        - When you launch the win/lose Activity, pass in:
            - The number of completed puzzles
        - When you come back from a puzzle, do the following:
            - Read the answer and user input from the puzzle
            - Change the clue color when the two match **and** the number of completed puzzles is one less than the door number (i.e. force the user to complete the puzzles in order). For example, the user starts with 0 completed puzzles. Even if the user solves door 3 correctly, it should not be "completed".
            - *(Hint: You may want to use boolean instance variables to track puzzle completion)*
    - Puzzle 1: Color Activity
        - Changing any of the 3 Seekbars should update the color of the TextView (use setTextColor() and Color.rgb()). Use blue (0,0,255).
        - Save should return the answer from the first Activity, the number of completed puzzles, and the three values selected by the user.
    - Puzzle 2: Size Activity
        - Save should return the answer from the first Activity, the number of completed puzzles, and the size selected by the user
    - Puzzle 3: Name Activity
    - Save should return the answer from the first Activity, the number of completed

puzzles, and the name selected by the user
    - Win/Lose Activity
        - Display appropriate text depending on the number of completed puzzles
- Extra Credit
    - (up to 6 points) Randomize the possible solutions so that the name can be any from an array you create, the size can be small, medium, or big, and the color can be any (named) color from an array you create. You **must** include a "cheat" button that Toasts the answer for this extra credit. For example, you can change the clues to be:
        - I'm feeling cardinal. (99, 0, 0)
          I want to be medum.
          You can call me "Tina".
        - I'm feeling gold. (255, 205, 0)
          I want to be small.
          You can call me "Tommy".
    - (4 points) When the user presses back on the win Activity, reset the puzzle (with or without new solutions).
    - (5 points) Add ONE other non-trivial puzzle/door. You **must** include a cheat button that Toast how to solve the puzzle.

Deliverables

1. A compressed file containing your app. Follow the guidelines for full credit.
   Here are the instructions for submission
   a) Navigate to your project folder.
   b) Include the *entire* folder in a zip file
   c) Rename the zip file so it follows this convention: *A#.lastname.firstname*
   d) Upload zip file to Blackboard site for our course

Grading

Item	Points
MainActivity can transition to the other Activities.	12
Color Puzzle is functional and Main Activity can check if it was solved.	5
Size Puzzle is functional and Main Activity can check if it was solved.	5
Name Puzzle is functional and Main Activity can check if it was solved.	5
Solving a puzzle makes its clue turn green in the Main Activity.	3
Puzzles have to be solved in order.	5
Win/Lose Activity can determine if all puzzles were solved.	5

Total	40

Figure 1

Figure 2

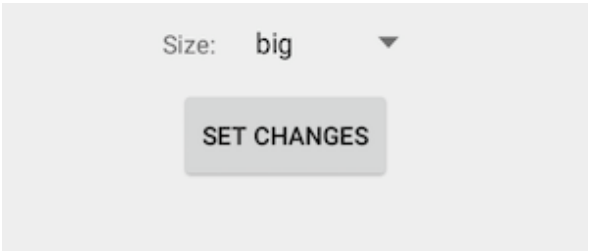

Figure 3

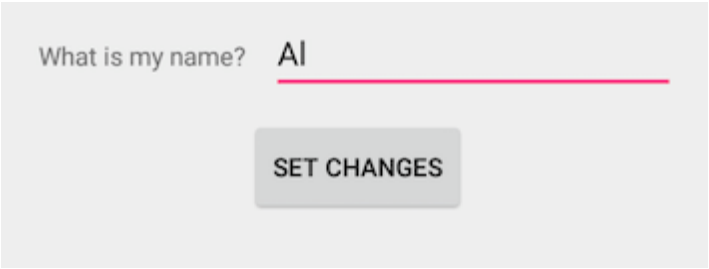

Figure 4

Figure 5

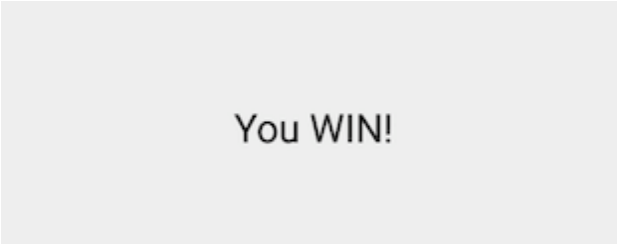

Figure 6

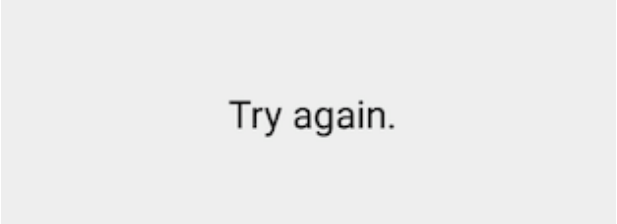

Figure 7