

“Button to Action” app

IronSource - Aura - Android exam

In this exam, you are asked to write the “Button to Action” Android app.

Guidelines

- Take **3 hours** to do this exam. Writing this app can take more than 3 hours, and so finish whatever you can in the 3 hours, and provide a list mentioning the TODOs left for you to finish this task.
- The exam should be written in **Kotlin**.
- Use proper OOP design.
- The app’s minSdkVersion should be 21 at most.
- Address edge cases.
- When done, send:
 - Source code
 - APK
 - List of TODOs (in case you do not finish the task)

The app

This app has only 1 button. Clicking on this button performs one of the actions below. The performed action is an enabled action that satisfies a few conditions (valid days, cool down) and has the highest priority.

The configuration of the actions should be retrieved from:

https://s3-us-west-2.amazonaws.com/androidexam/butto_to_action_config.json

The actions

The app should support the following actions:

1. **“Animation” action:** Animate the button to perform a 360 rotation.
2. **“Toast message” action:** Show a Toast message saying “Action is Toast!”
3. **“Call” action:** Open a “choose contact” screen. Choosing a contact calls that contact.
4. **“Notification” action:** Show a notification with the text “Action is Notification!”
Clicking on that notification performs the same as the “Call action” (Open a “choose contact” screen. Choosing a contact calls that contact)

** Keep in mind that in the future, the app should be able to support actions that are more complex than the actions above.*

Choosing an action

When the user clicks on the button, one action should be chosen and performed.

Config values that apply to all actions

The way an action is chosen is according to the configuration values retrieved from the configuration json above.

The configuration values:

- **enabled (boolean)**
 - a disabled action can never be chosen
- **priority (int)**
 - if action X has a higher priority than action Y, action X will be selected
 - If two actions have the same priority, choose one at random.
- **valid days (days array)**
 - valid days to choose the action
 - for example, we can set the “Animation action” action to be choosable only on Monday-Thursday
- **cool down period (long)**
 - cool down period between choosing an action that was already chosen
 - for example, if an action has a 3 day (1000*60*60*24*3) cool down period, it can’t be chosen for 3 days after it was shown to the user
 - this should persist across app runs

Filters that apply to specific actions

In addition to the configuration values above (which apply to all actions), the “Toast message action” should only be chosen if there is an internet connection.

Meaning, the “Toast message action” will only be chosen if it satisfies all of the conditions from the configuration json AND there is an internet connection.