Mad 155 – Android State Changes

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1. Why do we care about state changes?

Each of the states are part of the Android’s activity lifecycle. From opening the app until closing it, we hit these states at various points in time. We care about them because they help manage the app when certain things happen. For example, what should happen when the app is minimized, out of focus, under another activity, or if you receive a phone call while you’re on the app? The different states help figure out what to do when these things happen so the app doesn’t crash or to help keep the app up to date when it’s minimized.

1. How can we use them to our advantage?

We can use these states to our advantage by overriding the state function to add our own logic. We always override onCreate() because this is when we add views, buttons, etc. from our XML files. We can also add our listeners to buttons in onCreate().

Another state I can see taking advantage of is onResume(). It looks very similar to iOS’s viewDidAppear, which is a function that is called when the viewController is visible and active again. It’s a good place to make an API call or update the UI since it will run anytime you return to this activity.

1. When does each state fire?

There are seven states in the lifecycle of an Android activity.

1. onCreate() – is the first method called on an activity. This is where we set up the UI and set up listeners.
2. onStart() – fired right after onCreate(). This is the state where the activity is visible to the user. It’s short lived because it almost immediately goes to onResume()
3. onResume() – you can reach onResume() by coming from onStart() or from onPause(). This is where the user can interact with the activity
4. onPause() – the activity enters the paused state caused by it going in the background or out of focus.
5. onStop() – called after onPause(). The activity is still in the background but not visible to the user. At this point the activity can either go back to onRestart(), onCreate(), or onDestroy()
6. onRestart() – this is called after onStop(), where the user comes back to the activity. The onStart() and onResume() are called after.
7. onDestroy() – this is called when the activity is closed. All the resources are released from memory.