

Table 1: Ten Android API Related Questions with Ground Truth in Our User Study

Id	Question	Ground Truth
1	What should I do to prevent registering the receiver multiple times when I register a receiver in onResume?	<ol style="list-style-type: none"> <li>1. If you register a receiver in onResume(), you should unregister it in onPause() to prevent registering it multiple times.</li> <li>2. If you don't want to receive broadcasts when paused, and this can cut down on unnecessary system overhead.</li> </ol>
2	What will cause FileUriExposedException?	<ol style="list-style-type: none"> <li>1. The exception (FileUriExposedException) that is thrown when an application exposes a file:// URI to another app.</li> <li>2. For more recent apps targeting Android 7.0 (API level 24) and higher, passing a file:// URI across a package boundary causes a FileUriExposedException.</li> <li>3. If an intent containing a file URI leaves developer's app, the app fails with a FileUriExposedException.</li> <li>4. Therefore, attempts to pass a file:// URI trigger a FileUriExposedException.</li> </ol>
3	getColor method was deprecated. What API should I use to replace this method?	<ol style="list-style-type: none"> <li>1. Use getColor(int, Theme) instead.</li> <li>2. Prior to API level 23, the theme will not be applied and this method calls through to getColor(int).</li> </ol>
4	Is StrictMode a secure mechanism? Why?	<ol style="list-style-type: none"> <li>1. StrictMode is not a security mechanism and is not guaranteed to find all disk or network accesses.</li> </ol>
5	To set the dialog cancellable, should I use Dialog.setCancelable or DialogFragment.setCancelable? Why?	<ol style="list-style-type: none"> <li>1. Use this (DialogFragment.setCancelable(boolean cancellable)) instead of directly calling Dialog.setCancelable(boolean), because DialogFragment needs to change its behavior based on this.</li> </ol>
6	When should onPause and onStop be called?	<ol style="list-style-type: none"> <li>1. Do not confuse this method with activity lifecycle callbacks such as onPause(), which is always called when an activity is being placed in the background or on its way to destruction, or onStop() which is called before destruction.</li> <li>2. Your app should implement the onSaveInstanceState() callback after the onPause() method, and before onStop().</li> <li>3. Once onPause() finishes executing, the next callback is either onStop() or onResume(), depending on what happens after the activity enters the Paused state.</li> </ol>

7	Why the Intent in startService is null?	1. This may be null if the service is being restarted after its process has gone away, and it had previously returned anything except START_STICKY_COMPATIBILITY.
8	Is there any alternative background thread management tools I can use besides AsyncTask?	1. Instead of AsyncTask, options worth investigating are IntentService and AsyncTaskLoader. 2. If developers need to do real-time data transfer, developers should do it in an AsyncTask or an IntentService.
9	What will happen if I don't call release after using the Camera? And How can I release it?	1. Caution: If developer's application does not properly release the camera, all subsequent attempts to access the camera, including those by developer's own application, will fail and may cause developer's or other applications to be shut down. 2. You must call release() when you are done using the camera, otherwise it will remain locked and be unavailable to other applications. 3. For example, if developer's application uses the Camera, the onPause() method is a good place to release it.
10	What can getParentFragmentManager method do from within a nested fragment?	1. From within a nested fragment, you can get a reference to the parent fragment by calling getParentFragmentManager().