

Implementing Descendant Navigation

Descendant navigation is navigation down the application's information hierarchy. This is described in [Designing Effective Navigation \(/training/design-navigation/descendant-lateral.html\)](/training/design-navigation/descendant-lateral.html) and also covered in [Android Design: Application Structure \(/design/patterns/app-structure.html\)](/design/patterns/app-structure.html).

Descendant navigation is usually implemented using [Intent \(/reference/android/content/Intent.html\)](/reference/android/content/Intent.html) objects and [startActivity\(\)](#)

THIS LESSON TEACHES YOU TO:

1. [Implement Master/Detail Flows Across Handsets and Tablets](#)
2. [Navigate into External Activities](#)

YOU SHOULD ALSO READ

- [Providing Descendant and Lateral Navigation](#)
- [Android Design: App Structure](#)
- [Android Design: Multi-pane Layouts](#)

TRY IT OUT

Download the sample app

EffectiveNavigation.zip

[\(/reference/android/content/Context.html#startActivity\(android.content.Intent\)\)](/reference/android/content/Context.html#startActivity(android.content.Intent)), or by adding fragments to an activity using [FragmentManager \(/reference/android/app/FragmentManager.html\)](/reference/android/app/FragmentManager.html) objects. This lesson covers other interesting [issues](#) that arise when implementing descendant navigation.

Implement Master/Detail Flows Across Handsets and Tablets

In a *master/detail* navigation flow, a *master* screen contains a list of items in a collection, and a *detail* screen shows detailed information about a specific item within that collection. Implementing navigation from the master screen to the detail screen is one form of descendant navigation.

Handset touchscreens are most suitable for displaying one screen at a time (either the master or the detail screen); this concern is further discussed in [Designing for Multiple Touchscreen Sizes \(/training/design-navigation/multiple-sizes.html\)](/training/design-navigation/multiple-sizes.html). Descendant navigation in this case is often implemented using an [Intent \(/reference/android/app/FragmentManager.html\)](/reference/android/app/FragmentManager.html) that starts an activity representing the detail screen. On the other hand, tablet devices, in both portrait and landscape orientation, are best suited for showing multiple content panes (for example, the master and the detail to the right). Here, descendant navigation is usually implemented using [FragmentManager \(/reference/android/app/FragmentManager.html\)](/reference/android/app/FragmentManager.html) to add a new content pane that adds, removes, or replaces content.

The basics of implementing descendant navigation are covered in the [Implementing Adaptive UI Flows for Multiple Screens](#) class. The class describes how to implement descendant navigation on a handset and a single activity on a tablet.

Navigate in

There are cases where an application's information hierarchy leads to activities from other activities. For example, a details screen for an entry in the phone address book, a screen for a social network may belong to a social networking application.

When launching an activity from the Launcher (the "compose email" icon), allow the user to say, compose an email or pick a photo to attach, and return to this activity if they relaunch your application from the Launcher. If touching your application icon brought the user to a screen for composing an email, allow the user to say, compose an email or pick a photo to attach, and return to this activity if they relaunch your application from the Launcher.

To prevent this [Designing for TV](#) `Intent.FLAG_ACTIVITY_CLEAR_WHEN_TASK_RESET`
[\(/reference/a](#) [Creating Custom Views](#) `Intent.FLAG_ACTIVITY_CLEAR_WHEN_TASK_RESET` flag to the intent used to
launch the exte [Creating Backward-Compatible UIs](#)

```
Intent externalActivityIntent = new Intent(Intent.ACTION_PICK);
externalActivityIntent.setType("image/*");
externalActivityIntent.addFlags(
    Intent.FLAG_ACTIVITY_CLEAR_WHEN_TASK_RESET);
startActivity(externalActivityIntent);
```