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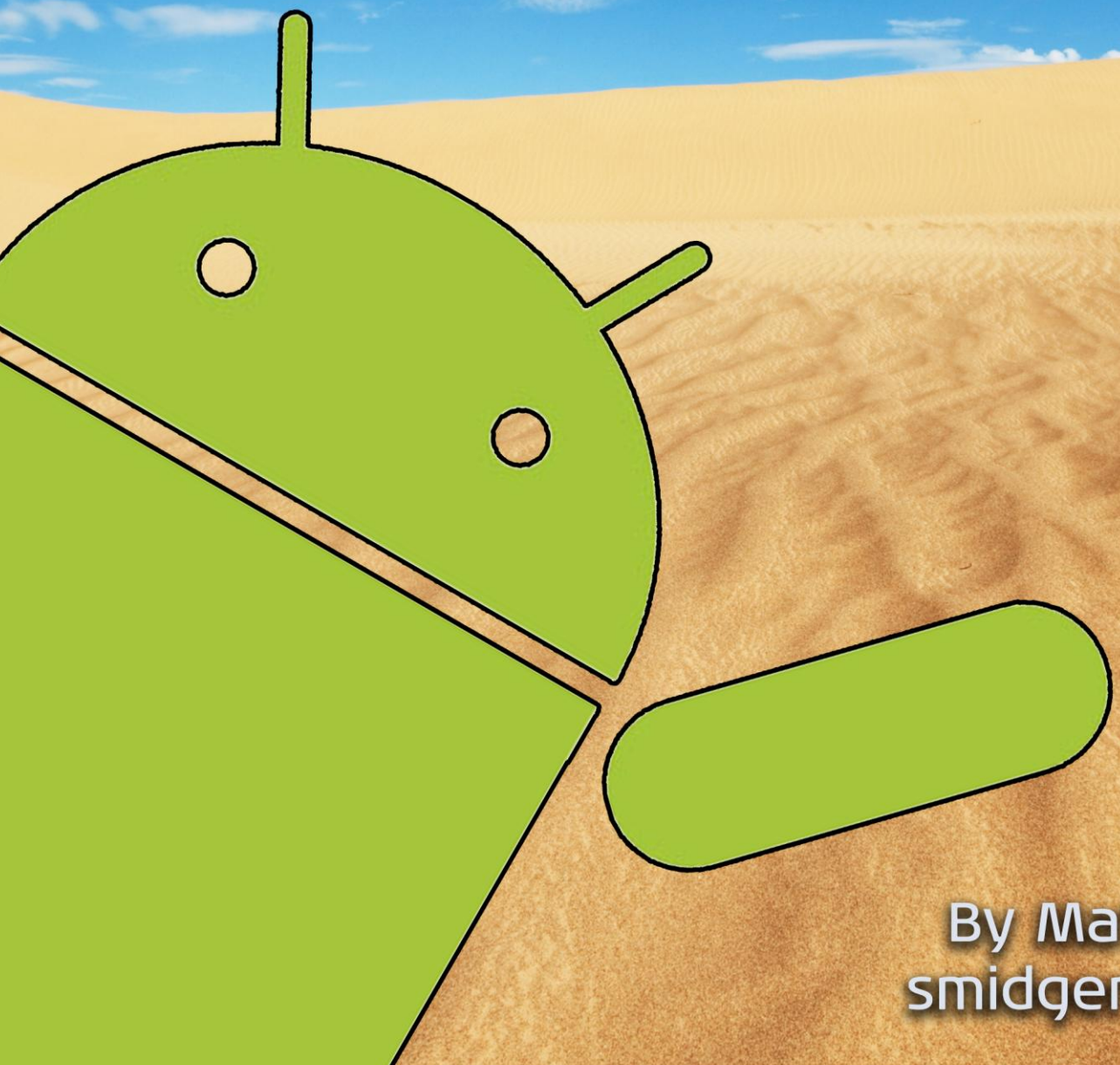
An Android Guide



By Matt Smith
smidgenpc.com

These Are The Droids You're Looking For: An Android Guide

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Cover Photo By: Galyna Andrushko via Shutterstock

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Introduction

From New Kid to King

Android is among the most influential operating systems crafted this century. Along with iOS, it has paved the way for mobile devices that offer an unprecedented level of functionality. Currently Android is the most common mobile operating system — and there's no sign that its popularity will wane anytime soon.

If you're reading this guide, it's likely because you have an Android device. I congratulate you on your purchase. This guide will help you become acquainted with your device and teach you tricks that can make it even better than it already is. Before we dive in however, let's take some time to look over Android's history and the different versions on the market. Knowing this is important, as Android is frequently updated with new features and not all devices are sold with the same version.

A Brief History of Android

Android only came to public attention within the last few years, but the roots of the operating system go back to 2003 and the founding of Android, Inc. The startup flew under the radar at the time, and was only given public light when it was suddenly bought by Google in 2005.

Even after the acquisition of Android, its importance to Google wasn't clear. Android, Inc remained secretive during its existence, so many assumed that the purchase had something to do with web search via mobile phones. That turned out to be true, but by no means the entire story.

Google released Android 1.0 in 2008 on the HTC Dream, known as the G1 in many markets (including the United States.) It promised an open platform for mobile phone software development. Some would argue that this promise has not been fulfilled, but Google's stance on open source undeniably differs from that of iOS. From humble beginnings, Android has become the dominant smartphone operating system, defeating the entrenched competition from Apple, Blackberry and Nokia in less than three years.

Dig beneath Android and you'll find a Linux kernel, and those who hack their phones occasionally have to deal with command-line prompts. For your average user however, Android is nothing like Linux — past or present. It's built to obscure its origins and present a user interface anyone can enjoy, though the bones of Linux remain underneath.

Android Versions Explained – And How to Check Yours

Some confusion surrounds the different versions of Android. There are many available, and unfortunately, not all new devices use the latest version.

First, let me make it clear that this guide refers to the version of Android used on smartphones, particularly Android version 2.x or newer. Tablets usually run Honeycomb, which is the version of Android designed specifically for tablets. Although there are

similarities between them, only some of the information here will be relevant to Honeycomb users.

The newest version of Android for smartphones is 2.3.5 (as of August 2011). It's also often referred to as Gingerbread, as Google loves to name versions of the OS after various sweets.

Devices aren't automatically updated by Google. Instead, it's up to each individual phone manufacturer and carrier to push out the appropriate update. As a result, some Android phones are still being sold with version 2.2.

How do you know what version of Android your phone is running? It's simple. From the home screen, press the Menu button and then open Settings. From there, go down to About Phone and select Software Information. The first tidbit of information on this menu will be Android Version.

Manufacture Skins Explained

But wait! Even though you've discovered your Android Version, your phone might still be different from others running Android.

Google gives manufacturers the choice to change many parts of the Android operating system, allowing each the chance to create a look that is unique and different from the others. For example, Samsung was recently sued for its Android interface, called TouchWiz, because Apple thought it looks like iOS. Apple did not

simultaneously sue other companies (at least not about this issue) because their interfaces are different.

There's no particular menu in Android that will tell you the specific version of an interface you are running. Instead, you have to rely on the manufacturer to provide that information. HTC's interface is called Sense, while Motorola's was until recently called Motoblur, then Ninja Blur, and now has no official name at all.

Manufacturer websites are the best place to find information about their interface changes, but the customizations are generally skin deep. They don't have an impact on the apps you can run, and custom launchers – a topic we'll talk more about in Chapter 2 – can change the look completely in any case.

Chapter 2: Home Screen Interface

The Basics

All Android phones make use of a basic interface element, called the home screen, which ties down the entire experience. This can be effectively considered the Android "desktop." It is where all your icons live, and it's where users access the phone's most important functions. This includes the Apps Drawer and the settings menu.

The home screen is such an important part of the interface that it has its own dedicated button built in to all Android devices. Known as the home key, it's usually represented by a small, simple drawing of a house.

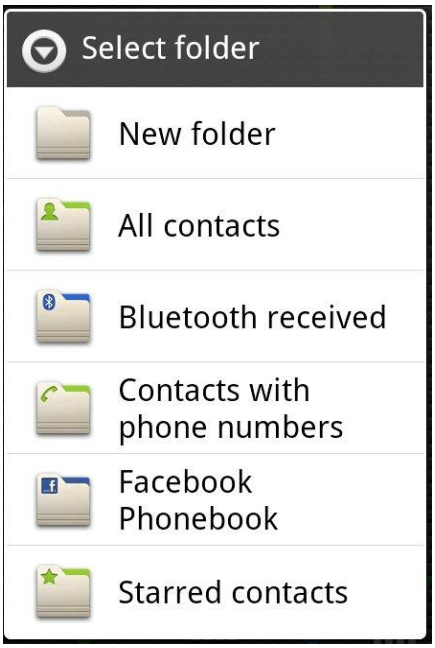
Icons

By default, Android devices are able to accept Icons in a grid of pre-determined size (on 4.3" phone it's usually 4x4). Icons can be moved by touching them and waiting for several seconds. The icon will then unlock itself from the home screen until it's placed somewhere else by removing your finger from the display. No matter your settings, Icons will be restricted to the grid you're using. They'll automatically move themselves to the closest position available on the grid when you release.

New icons are added by opening the App Drawer, then touching an app's icon until the drawer disappears and the home screen comes in to view. Dragging the icon to the edges of the display will scroll to the next home screen, making it possible to move icons between them.

Folders

Android has had Folders since version 1.5. A new folder can be created with a long touch on an empty portion of a home screen, which will open a menu on which Folders is an option. Selecting New Folder will create a default folder in the first open space on your home screen grid, and you can then drag it where you'd like.



Apps are added to folders by dragging them inside. Once placed, the apps will appear when the folder is opened. They can be dragged back out again, as well.

Placing files into a Folder is a more difficult trick. Folders can hold them, but there is no stock file manager on many Android phones. You'll need to download a file management app, such as Astro File Manager, and then add a file to your home screen as a shortcut using the file management app. That shortcut can then be placed into a folder.

Widgets

If any one feature defines the Android user experience, it's the widget. A widget is a user interface element that exists on an Android home screen and provides some specific function without appearing as an active process in the notification bar (on stock Android phones, at least). They can provide weather information, stream Facebook updates from friends, or display your calendar.

There are far too many widgets to describe, even in a 100,000 page guide — each manufacturer loads its own particular widgets and many found in the Android Marketplace include widgets as well. However, all widgets behave in the same way. They occupy space on an Android home screen grid (in other words, you can't stack widgets with Icons and Folders, or vice versa) and they can be moved or removed with a long touch.

All widgets are added the same way, as well. To add a widget, touch an empty portion of a home screen and wait for the Add to Home Screen menu to appear and then open the Widgets menu to find a list of all widgets available.

Most Android phones do not allow for widgets to be resized by default, which is why some apps provide a variety of widget sizes. Most custom launchers, however, make it possible to resize a widget by touching a corner and dragging.

The Benefits of a Custom Launcher

At first, an Android smartphone will seem like a marvellous wonder of technology, possessing all the utility of a home computer in a fraction of the space. For many people that feeling lasts, but some geeks may be dissatisfied with certain quirks, like the limited grid size for icons and folders.

That's where a custom launcher app becomes handy. Although the name suggests they're simply for launching programs, these apps are capable of heavily revising your Android's homescreen interface. You can change the size of the grid icons snap to, change the dock at the bottom of the Android display, edit the number of home screens, edit how home screens behave while you scroll through them, and more.

Different apps will have different features, but they all provide far more flexibility than found by default. Some favourites include LauncherPro, ADW Launcher, and Regina 3D Launcher. Installing a custom launcher should be the first step of anyone looking to customize their device.

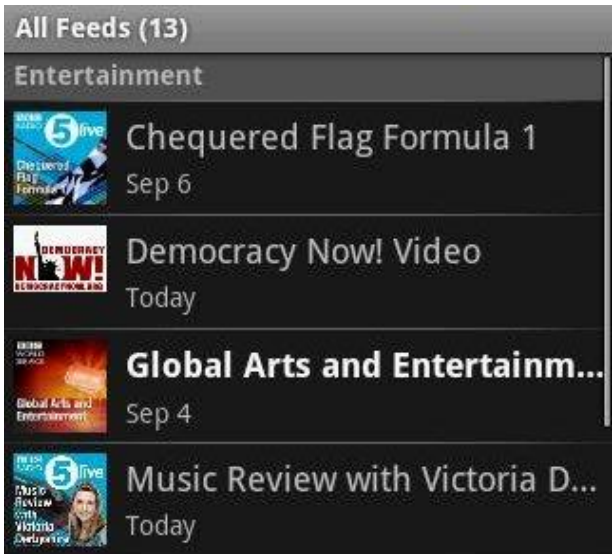
Chapter 3: Multimedia Enjoyment and Management

Media Management Apps

Once you've brought your Android phone home and become acquainted with its interface, you'll likely start to wonder about its multimedia features. Everybody knows touchscreen phones make great portable audio and media players — once you have a smartphone any MP3 or mobile video player you own is arguably obsolete. In order to fully enjoy media, however, you'll have to manage it, and most Android devices lack an adequate default media management app. Usually they ship with a hokey syncing app that just barely works, and once you've sent media to your device you may need to use several so-so apps to access it.

An all-in-one solution is the better choice. My personal favorite is Winamp, although I'm perhaps a bit biased, as I've used the PC version for years to manage my music collection. Winamp is one of the few Android apps that can handle BOTH audio and video files, and better yet, it's free!

With that said, Winamp does have fierce competition in the music player space, and there are paid programs that justify their price. One example is MixZing, which plays most audio files and includes features like song lyrics, custom listening sessions, and a lock screen widget (making it possible to control the player without unlocking the phone). Although it is $4.99, this app will be worthwhile for Android owners who use their phone frequently as an MP3 player.



Yet another specific type of media management app is the podcast manager. Podcasts are easy to download to phones, but managing them is another matter — media apps often have difficulty organizing them in a way that makes sense. Podcast managers let users preview, download, organize and listen to podcasts all in a single application. Personally, I use BeyondPod, but it's a bit pricey at $6.99.

Another option is MyPOD Podcast Manager, which is not as well reviewed, but does let users manage up to 10 podcasts at a time without charge.

These are not the only apps available for this task. The MakeUseOf Best Android Apps list provides some additional choices in the Music & Audio section.

Streaming Media

Of course, placing files on your local device isn't the only option available. Android smartphones are almost always sold with data plans, so your device will be connected to the Internet everywhere you go. Storing files locally may end up being more cumbersome than streaming.

Those looking to access music have a wealth of options available. There are, of course, many older and well established services available including Pandora and Rhapsody, but new services have debuted as well. One rising star is Spotify, which make it possible for users to stream their existing media collection to their phone and sync media between devices. Spotify has been around in Europe for some time, but is new to users in the United States.

That's not the only option. Google recently launched

Google Music Beta, which has much of the same functionality as Spotify. Yet another choice is Amazon MP3, which can stream music from an Amazon Cloud Drive and has the added benefit of being connected to the Amazon MP3 store.

Video streaming is also readily available. Netflix is now on a wide variety of Android phones, providing mobile access to the company's subscription service. Other players in this arena include Vevo, which focuses on music videos, and Pandora TV. Even the Android Market itself now offers video content (at a price) to users running Android 2.1 or newer.

How to Play Nice with iTunes

There are many media management choices for PCs, and a few for Macs, but the most popular option causes Android users much concern. I'm of course talking about iTunes.

Using an Apple device with iTunes isn't problematic, but the company doesn't put much thought into how the software works with products from competitors. Many Android buyers assume that iTunes just won't work, but that's not correct. There are apps that can help.

The most popular option for syncing with iTunes is Easy Phone Tunes, which also happens to be free. There's not a lot to this app – it simply places all of your iTunes content on your Android phone and can also be used to keep your media synced with iTunes.

Alternatively, there are several paid apps that perform the same function. There are two main advantages to the paid options. First, they have a better interface that allows for easier syncing and library management. Second, they offer Wi-Fi sync, so you'll be able to keep your phone on the same page as iTunes without connecting it to your computer.

Of the available paid apps, iSyncr is the most popular, likely because the $3.98 asking price (with the Wi-Fi add-on) is the least expensive. Other options include doubleTwist AirSync for $4.99 and TuneSync for $5.99.

Chapter 4: The Android Marketplace

What's Offered And How To Buy

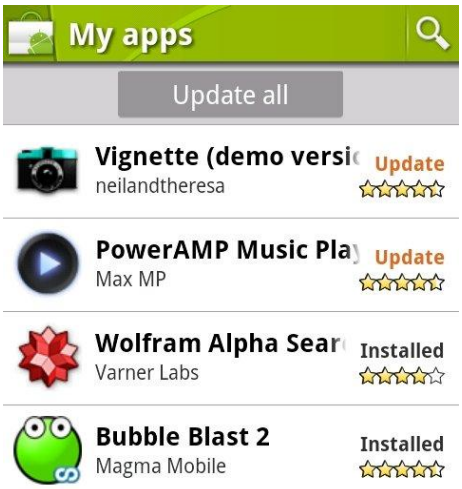
All Android smartphones come with the same Android Marketplace installed. As of its latest revision, the market includes not only apps that can run on the phone but also movies and books.

Most of the apps on the market are free, and can be downloaded by simply touching the install button on the app's page in the market. However, some apps require additional payment via your Google Account. Payment information already saved to your Google Account can be used, or you can enter it on your phone.

Once you've purchased an app, you generally won't have to purchase it again on another device as long as that device was activated with the same Google Account. This is important to keep in mind when migrating to a new phone, as you may have a variety of apps that you'll want to re-download and install on your new device.

Navigating Apps and Updates

While the market is broken up into a number of categories, which then include sub-categories such as most downloaded apps and staff picks, the catalog can be difficult to navigate because the sub-categories don't become specific. There is no specific page that only lists text messaging apps, for example.



The apps that you have installed can be viewed by opening the Android Marketplace, pressing the menu button, and then opening My Apps. Apps will be sorted into three categories; apps with available updates, installed apps, and apps that you've purchased but do not currently have installed. Free apps that you uninstall are not listed in the Not Installed category.

Marketplace Alternatives

Since the Android Marketplace doesn't always provide users with the tools they need to find apps, you may be wondering if there are any alternatives. The answer is yes.

If you're not constrained to using your phone, navigating the market via a PC is often a good choice. Without the constraints of a smartphone display you'll be able to see more information about apps and navigate search results more easily. Better still, you can download apps directly to your phone if you sign in with your Google Account. Just click Install in your web browser, then check your phone. It will be downloading your selection.

Another excellent alternative that every Android user should download is AppBrain. This application is essentially a market re-skin. It doesn't host any of the apps, but it does use publically available app data to provide better filtering and more categories than you'll find on the stock market. AppBrain will let you check out the hottest apps of the last day or week, find the most popular apps in a particular country, and even sort by demographics.

In addition to this, there's a Recommend Apps feature that tries to make specific recommendations to you by looking at the apps you've already installed. These recommendations aren't particularly accurate, but the apps picked are usually highly rated and popular, so it's useful if you'd simply like to browse apps for fun. Finally, there's no way I could write this guide without mentioning Amazon's App Store. You can gain access to Amazon's store by downloading the Amazon App Store app to your phone, but since this market is a direct competitor to Google's, you won't find it on the default market. Instead you'll have to download it to your phone and run the installer. For more information on how to do this, refer to the "Installing Non-Market Apps" section of chapter 5.

Amazon's store contains some apps that you won't find on the default marketplace. For example, Popcap's excellent tower defense game Plants vs. Zombies is only available via Amazon. In addition to this, Amazon offers a paid app for free every single day. Quality varies, but extremely useful apps are sometimes featured.

Chapter 5: Tweaking Your Android

Rooting: Pros and Cons

Android phones can do many things even when left stock, but if you'd like to truly unlock the potential of your device, you'll need to root it. "Rooting" is a process that bypasses the default operating system to give users full access to all of its functions.

The advantage of rooting is simple. When you root, you'll gain more functionality from your device. For example, most screenshot apps will only work with root access (No Root Screenshot It is the only app that seems to function reliably without rooting, but it costs $4.99). You'll also be able to back up your entire phone rather than specific settings.

With those advantages noted, the best reason to root is the custom ROM scene. A custom ROM is software that can be installed on your Android phone to change the operating system. If you're on an older device that's no longer being updated, this may be your only way to gain access to the latest and greatest version of Android. Many ROMs also make changes to the interface and allow for more customization of critical phone features, such as the dialer.

So why wouldn't you root? Well, because it's complex, as I'll point out in the next section. The other argument against rooting is the danger of bricking your phone. There's a *very* slim chance that core system files will be corrupted if the root procedure isn't followed exactly, and this may result in a useless device. Don't expect the phone's manufacturer or your mobile carrier to help you, either, as rooting usually voids your warranty.

How to Root

There's no way to explain how to root in any single guide. Rooting is different from one device to the next, which means a method that works brilliantly on the Evo 3D might not work on the Motorola Droid.

So where can you find information on rooting your specific device? There are two sources that are reliable. One is Android Police, a site that is more technical than most and often posts tutorials for rooting new Android phones. Those looking to root should also check the XDA Developer Forums, specifically the Android Software and Hacking General forum. Instructions on how to root new devices are often posted there before anywhere else.

Installing Non-Market Apps

Google's requirements for putting an app on the market aren't overly complex, so most apps do end up making it to the market. That's not true for everything, however. Sometimes there is a conflict of interest that keeps an app from being released through official channels.

The Amazon App Store is one example. Software emulators that allow players to enjoy older console games on their Android device are another. When Sony released the Sony Xperia Play, many emulators were pulled from the market, presumably because they were competition to Sony's device. The fact that emulation often involves game piracy didn't help the cause.

Whatever the case, it is possible to install apps that aren't on the market if an installer is available. This will be in the form of an .apk file. The file can either be downloaded

directly to your phone or transferred to it from your PC, although in the latter case you'll need a file management app to track the file down.

Installation is usually just as quick and simple as downloading an app. There's just one stumbling block. By default, Android phones are configured to reject installation of apps from unknown sources. When you try to execute the .apk installer you'll receive a message indicating the installation was blocked.

You can change this behavior by pressing the Menu button while at your phone's home screen, opening Settings, and then navigating to Applications. At the top of the resulting menu will be Unknown Sources. Check the checkbox to allow execution of .apk files and you'll have no further issues.

Customizing Ringtones and Notifications

Like phones in the past, any Android phone can be customized with ringtones and notification sounds. However, the large SD card on most Android phones, as well as the app market, provides users with more options.

If you're looking for a simple, easy way to personalize your Android handset, downloading an app for a custom ringtone sharing service will suffice. My personal favorite is Zedge, but there are a lot of options available on the market. Feel free to download and browse several.

Those who want more control, however, should look into apps that let users cut their own ringtones using audio files on the phone. Again, there are several options, but the one that I use is called Ringtone Maker from Mobile 17.

This app makes it possible for users to craft their own ringtones by choosing where in the audio file the ringer will begin and where it will end. In addition to this, the app can determine the audio file you're using and match it to similar files uploaded by other users, then make recommendations about how to cut it.

Once you've made changes, you can instantly preview it to see how it will sound. This is much quicker and more accurate than trying to cut the file on your PC and then uploading it to your phone.

Chapter 5: Security

The Importance of Permissions

Given the ease with which Android apps can be developed (relative to software for a PC operating system) and uploaded to the market, it's easy to see why mobile OS security is becoming a hot topic. Smartphones contain a lot of information including who we know, who we call, and where we go. In some cases, they also have access to our bank and credit card information.

Android's method of combating potential security threats is permissions. In order for apps to function, they often need access to certain parts of Android. An app might need to know if a phone is active or sleeping at your location. When a user downloads an app, these needs are listed as "permissions."

Paying attention to permissions is of critical importance. It's your first line of defense. Before downloading an app, you should ask "do these permissions make sense?" A live wallpaper app that's trying to access your location, for example, is probably up to no good.

Anti-Malware Tools – Passive Defense

Ideally, permissions ensure that suspicious apps don't make their way on phones in the first place. In reality, users simply don't have the time or knowledge required to make good decisions about what to install. As a result, some form of passive defense capable of detecting malware on your phone is a wonderful idea.

There's certainly no shortage of apps on the Android Marketplace that fill this niche, and some of them – such as Anti-Virus Free, which was developed by AVG – are from established PC security companies.

Anti-malware on Android tends to work much as it does on a normal computer. Apps are scanned when they're downloaded and compared to a database of know threats, and scans of all installed files can be scheduled. In addition to this, some anti-malware apps have an active process that keeps a lookout for suspicious app behavior.

Downloading one of the better known apps, like Lookout Mobile Security or Anti-Virus Free, is wise. But Android security is far from mature. It's not clear how effective these apps are. The ease with which apps can be placed on the market is also worrying, because it means fakeware – software that claims to prevent malware but is actually a virus – could be available for mass consumption.

Phone Monitoring – Active Defense

Installing an anti-malware app can help protect your phone, but there's no guarantee that it will catch a threat, particularly if the threat is new. Keeping tabs on what your phone is doing is wise, and could reveal suspicious behavior.

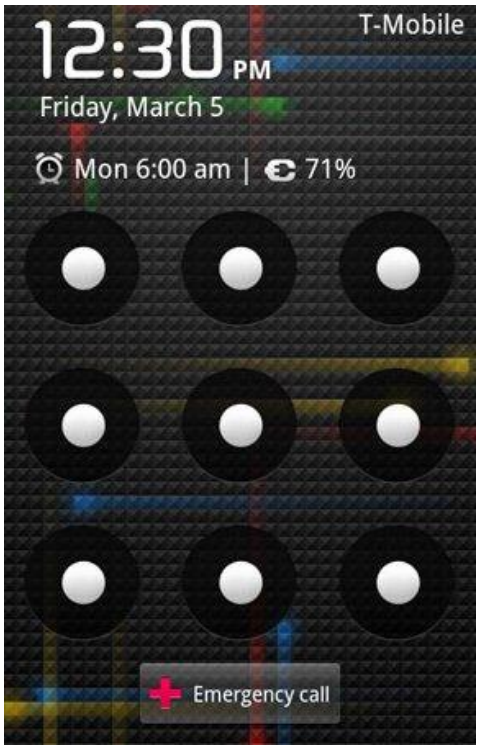
Data monitoring is one way to keep an eye on your smartphone. As is the case on a PC, malware threats against a smartphone could use the Internet to send information to a third party. Fortunately, smartphones are not usually used to send or receive more than a few gigabytes of data a month, so monitoring data use isn't difficult. Personally, I use an app called Traffic Monitor. It breaks down the data sent and received by each app on my phone. It's even possible to force close an app.

Use of your data plan isn't the only possible issue, however. One Trojan that attacked Russian Android sets, for example, began to automatically send SMS messages to a premium-rate number, racking up huge charges. A monitor that can keep track of SMS/MMS and voice use, such as the PhoneUsage app, can be helpful in these situations.

Securing Physical Access To Your Phone

Many users worry about malware finding its way onto their phone and stealing data, but those same users often fail to properly protect physical access to their phone. That's a big mistake. A phone that's been lost is a far greater risk than one that's been infected with malware.

The first step in protection is to lock your phone. If you are reading these words, and your Android smartphone does not automatically lock, stop reading and set up the lock now. This is accomplished by pressing the Menu button while at your home screen, accessing Settings, and then opening Security. Touch "Change screen lock." You can choose a pattern, a PIN, or a password. Many third-party SMS/MMS apps also supported PIN locks, which can be used to further secure your personal conversations.



Yes, this does mean that you'll need to enter a code every time you want to use your phone. Yes, it's a pain in the butt. But that pain in butt will deter 99.9% of the ruffians who might "find" your phone, and then want to poke around its contents.

In addition to this, I highly recommend installing the Where's My Droid app. This clever tool, which is among the most popular apps on the market, gives you several options for finding a missing phone. You can text it with an attention word to make it ring, or you can do the same to discover its precise location with GPS.

Conclusion

Exploring Android's Potential

Well, readers, it's time to bid farewell. If you have combed through this guide you should now be more knowledgeable about the operating system than before, and capable of customizing it in ways that will make your ownership experience more pleasurable.

Where do you go from here? Obviously, I recommend that you keep track of Android posts on MakeUseOf. We have a number of writers, including myself, who frequently post new content related to Android such as app reviews, hints and tips, how-to guide and app roundups. MakeUseOf can provide you with a constant stream of information related to your smartphone.

In addition to this, I suggest keeping track of the best Android blogs. Android Police can provide you with in-depth technical articles, while Phandroid is a good source for general Android news and reviews. Oh, and don't forget the Android Developers Blog.

Additional Reading at MakeUseOf

As mentioned, MakeUseOf posts new articles in a steady stream. There are also, however, a host of useful articles already available. Also, be sure to check out our guide to the Best Android Apps.

3 Apps to Benchmark Your Smartphone
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