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# Mobile Basics

## **How does a cell phone work?**

Mobile or “cell” phones now do much more than make phone calls. They can store your address book contacts, send and receive text messages, record audio, exchange emails and even browse the Internet.

Mobile phones connect with base stations to engage with a network. A base station is made up on a tower and a building with radio equipment. When you turn on your mobile phone, a unique code associated with your mobile phone is located on a special frequency at the base station. In the United States, this code is called an SID, or “system identification code,” and is a five-digit number assigned by the Federal Communications Commission. If you are out of range, this means that your SID could not connect with the base station. If you are in range and your mobile phone is on, it is possible to locate any user’s physical location both on the network and on the ground.

A modern cell phone resembles the inside of a computer. It has a circuit board, a tiny battery, a microprocessor and memory, along with other elements you associate with a phone, such as the speaker, keyboard and antenna.

## **Cell phone networks**

Depending on where in the world you are, the technology and network used to power local mobile phones will vary. Additionally, the generation of that technology may be advanced or behind, depending on that country’s infrastructure. To complicate matters, it’s possible to be on an older generation phone and network, while the person next to you is using a cutting-edge phone.

3G, which stands for “third generation,” is the latest mobile technology. 3G enables true multimedia functionality on mobile phones, with very fast connections and excellent audio/ video capabilities. Japan and Korea are already preparing for the debut of 4G networks, which will enhance services and increase speeds even more.

GSM, or “global system for mobile communication” is rapidly becoming an international standard. It is widely used in Europe, the United States and Asia. Because many individual carriers have agreements with each other for roaming and international use, GSM is a popular network standard.



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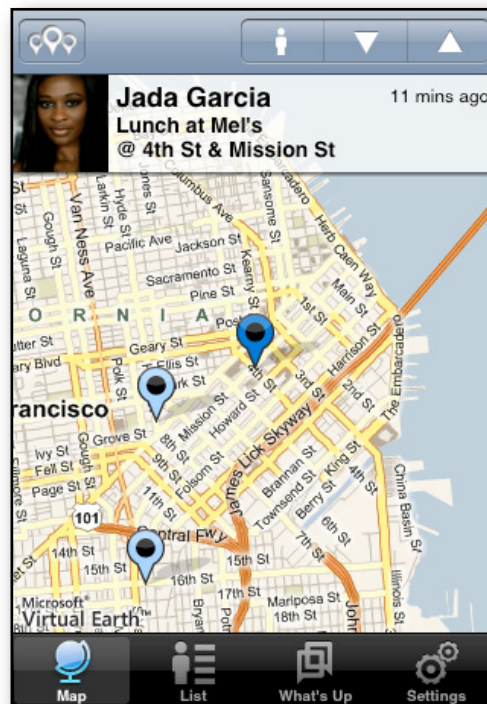
## Just how “smart” is my phone?

You have probably heard the term “smartphone” to describe the iPhone, the Palm and many of the newer Nokia phones.

If your phone has a data connection, can run applications, can connect to the Internet and still allows you to make and receive calls, you’ve got a smartphone.

New smartphones also include GPS technology. This has led to the rapid development of location aware services, or applications that combine your physical location with data to derive meaning or entertainment. For example, Urbanspoon (<http://www.urbanspoon.com>), offers a mobile application that helps you find a restaurant based on your cuisine and price preferences. Using location aware services, it finds you on a map, searches the surrounding area, and then Urbanspoon displays nearby references that meet the parameters you specify.

Other location aware service applications enable you to “follow” other people on the network as they move around their city. You can literally watch your friends move around on a map - and make plans to meet up with those who are nearby. Google Latitude (<http://www.google.com/latitude/intro.html>), Loopt (<http://www.loopt.com/>), and BuddyBeacon (<http://www.ulocate.com/buddybeacon.php>) all offer mobile applications for a variety of phones.



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### **What's a SIM card? And do I have one in my phone?**

All mobile phones on the GSM network have SIM cards. A “subscriber identity module card,” or SIM card, stores critical information for the phone to operate, such as your phone number, your address book and your account data. SIM cards can be convenient for people who use more than one handset - the card can be easily removed and placed into another phone without losing any data. SIM cards are typically located beneath the battery pack inside of the phone. You can also buy prepaid SIM cards so that when traveling internationally, your mobile phone can always have a local phone number. SIM cards usually store up to 250 address book contacts.

In the United States, only T-Mobile and original Cingular (before it was absorbed by AT&T) use SIM cards. Verizon and Sprint phones currently do not use SIM cards. In Europe, however, SIM cards are used with most phones. The iPhone does have a SIM card, but it is buried deep within the phone. As the Apple folks will tell you, opening the phone to search for your card will void your warranty.

### **160 characters or less - the beauty of text!**

Nearly all mobile phones can send and receive text messages of some kind. SMS, which stands for “short message service,” is one method of sending a short message between mobile phones. SMS messages must be 160 total characters or less, using the Latin alphabet. (The total length varies with other character sets such as Japanese and Russian.) It is possible to write a much longer message - in that case, your message will be delivered in parts to your intended recipient.

Other message services, such as Twitter, have gained popularity recently and are also available for use on mobile phones. While SMS allows 160 characters, Twitter's maximum is 140. Each service is different.





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## **How does mobile impact journalism and communications?**

In many countries, mobile phone use has leapfrogged PC adoption. Mobile phones tend to be far less expensive and are easier to maintain than computers. Still, many organizations insist on publishing their content only to Web sites.

In some areas, such as Africa and India, far more people have mobile phones than computers. They can be reached best via SMS, which continues to enjoy wide popularity. In countries such as Japan, the overwhelming majority of mobile phones available are smartphones with fast Internet as well as over-the-air HD signal access. This means that even on a subway, Japanese users can watch broadcast television on their mobile phones while they check email or surf the Web.

One trend that's ubiquitous is mobile penetration: Within the next few years, more people will own mobile phones than computers. Content can easily be created for a variety of phones, as short messages or as rich applications. The possibilities really are endless.

Every communications organization must include mobile content development and deployment in their digital strategies. Now is the best time, as the development platforms and content creation tools are accessible, affordable and available worldwide.

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