

## CELL PHONE OR HAND-HELD COMPUTER: THAT IS THE QUESTION

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Over the past few years, I have received numerous questions about the meaning of various terms, such as MP3, BlackBerry, etc. These questions have come from FRPCUG members, participants in the computer classes taught by FRPCUG and offered through the Fort Collins, CO Senior Center, and many others.

Those questions led to a Digital Gadgets presentation at a FRPCUG meeting with the presentation material posted on the FRPCUG web site, and to this article. Actually, to a series of articles, because it is not possible to include sufficient information in just one article.

This article examines the state of today's cell phone market. A cell phone is not just a cell phone anymore. In fact, even the term cell phone is no longer accurate, as the means of connecting to telephone networks and the internet has greatly expanded (more on this in a moment). A more accurate term may be mobile phone. An interesting statistic for this market is that "(a)n increasing number of countries, particularly in Europe, now have more mobile phones than people" ([http://en.wikipedia.org/wiki/Mobile\\_telecommunications](http://en.wikipedia.org/wiki/Mobile_telecommunications)).



Any attempt to answer the “phone or computer” question must consider these facts:

- All new mobile phones available today offer email (with address book), text messaging, camera, and web browsing.
- Most (maybe all) offer a media player, GPS and games.
- Many (again, perhaps all) offer a calendar, clock, calculator, notes/to do lists, etc. (if not built-in, available with apps, or applications).
- The newest of the new products offer multitasking (simultaneous use of more than one application).

**The word “application” is crucial to understanding the power of today’s mobile phones.** There are many applications (some free, but most need to be purchased) available. There are over 200,000 applications available for Apple’s iPhone. They range from the useful to the—ahem—strange. For example, there is a free application for the iPhone called “Find the nearest bathroom using your iPhone.”

As you can see, the modern mobile phone has many features that used to be found only on computers. Even more interesting, these modern phones (a more appropriate description is “smartphone”—see <http://en.wikipedia.org/wiki/Smartphone>) have many ways to connect to telephone networks and to the internet. There are a number of different network standards and transmission technologies. Some

mobile phone products offer more than one of these choices, which are collectively called “connectivity.” An excellent source of information on this topic is the “Networks and connectivity” section of the Wikipedia article “Comparison of smartphones”:

[http://en.wikipedia.org/wiki/Comparison\\_of\\_smartphones](http://en.wikipedia.org/wiki/Comparison_of_smartphones)

Today’s consumer is faced with an almost bewildering array of product choices, technology choices, and even carriers (service providers). Some products are restricted to one carrier, some are not. Many products have names that provide no idea of the capabilities of the product: BlackBerry, Droid, Tattoo, Wizard, Storm, Bold—to name just a few

The idea behind the Digital Gadgets presentation (and this article) is to try and demystify this jumble of products. You will **NOT** find a comprehensive list of products or technologies or product features in this article. The table below lists only a few products (some of the more well-known names) and only selected product features (beyond the “standard” features listed above). Most companies offer a variety of products with different features and prices. There are a number of Wikipedia articles on the products and the technologies (the Wikipedia smartphones comparison article lists 55 products as of August 2010). Those references are provided in the notes with the table. For more details on product features, I advise you to check the web sites for each product.



Please note that the product names are trademarked by the companies included in the table below. The technologies may be open source or proprietary (and therefore protected by various means such as patents and/or copyrights).

Most of the information in the table was extracted from Wikipedia articles. References to those articles are included in the table notes. Specific product feature information was obtained from product web sites.

For those interested in more technical details, I suggest these web sites:

<http://communication.howstuffworks.com/smartphone.htm/printable>

<http://en.wikipedia.org/wiki/3G>

[http://en.wikipedia.org/wiki/Comparison\\_of\\_mobile\\_phone\\_standards](http://en.wikipedia.org/wiki/Comparison_of_mobile_phone_standards)

[http://en.wikipedia.org/wiki/Cellular\\_network](http://en.wikipedia.org/wiki/Cellular_network)

For some history on mobile phones, connect to:

[http://en.wikipedia.org/wiki/History\\_of\\_mobile\\_phones](http://en.wikipedia.org/wiki/History_of_mobile_phones)

Is there an answer to the question: phone or computer? I leave that to you—and the philosophical debate to those inclined to such activity. It is important to remember, that whatever you decide on this issue, you still need to do your “homework” before you spend any of your hard earned cash on one these products. Note that I have not attempted to tell you which of the many choices is the best. I trust that this information will contribute to making you an informed consumer.

<b>Product Name</b>	<b>Company</b>	<b>Selected Features</b>	<b>Apps</b>	<b>Operating System</b>	<b>Notes and Comments</b>
BlackBerry(1)	Research In Motion (RIM)	<ul style="list-style-type: none"> <li>• Europe/Asia/Pacific connectivity</li> <li>• Keyboard</li> <li>• Touchscreen</li> <li>• Push to talk</li> <li>• Internet faxing</li> </ul>	>7000 (as of mid 2010)(2)	Proprietary(1)	Recent new products include the “Storm,” “Torch” and “Tour” models
Communicator(3)	Nokia	<ul style="list-style-type: none"> <li>• Voice Recognition</li> <li>• Text to speech</li> <li>• Video Calls</li> <li>• Push to talk</li> <li>• Keyboard</li> </ul>	Since Nokia E90's web browser shares similar code-base as iPhone's Safari browser, most iPhone Web Applications are accessible through Nokia E90's browser as well.(3)	Symbian(4)	The E90 Communicator is the latest model of the Communicator series.(3)
Droid	Motorola (and others—see note 5)	<ul style="list-style-type: none"> <li>• Keyboard</li> <li>• Touchscreen</li> <li>• Slider Phone (6)</li> <li>• Speech Recognition</li> <li>• Text to speech</li> </ul>	>70,000(7)(?) 90,000 (as of mid 2010)(2)(?)	Android(7)	The brand name Droid is a trademark of Lucasfilm licensed to Verizon Wireless.(8)
iPhone	Apple	<ul style="list-style-type: none"> <li>• Touchscreen</li> <li>• “Virtual” keyboard</li> </ul>	>200,000 (as of mid 2010) (2)(9)	iOS (formerly iPhone OS)(10)	Video calls only with 4G version(10)
Palm(11)	Palm, Inc (recently acquired by HP)	<ul style="list-style-type: none"> <li>• Keyboard</li> <li>• Touchscreen</li> <li>• Slider phone</li> </ul>	>4800 (April 2010)(12)	WebOS (Linux based)	Most recent models are the Palm Pixi and Palm Pre

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Various(13)  Microsoft licensed Windows Phone to four out of the world's five largest mobile phone manufacturers, with Nokia being the exception(14)	Various(13)  80% of the 50 million Windows Phone devices made have been built by one contract manufacturing group, HTC(14)	• Vary by product/manufacturer	<400 (late 2009)(2)	Windows Mobile—now called Windows Phone.(14)	Windows Mobile's share of the Smartphone market has fallen year-on-year, decreasing 20% in Q3 2009.(14)

1. <http://en.wikipedia.org/wiki/BlackBerry>
2. [http://en.wikipedia.org/wiki/List\\_of\\_digital\\_distribution\\_platforms\\_for\\_mobile\\_devices](http://en.wikipedia.org/wiki/List_of_digital_distribution_platforms_for_mobile_devices)
3. [http://en.wikipedia.org/wiki/Nokia\\_E90\\_Communicator](http://en.wikipedia.org/wiki/Nokia_E90_Communicator)
4. [http://en.wikipedia.org/wiki/Symbian\\_OS](http://en.wikipedia.org/wiki/Symbian_OS)
5. [http://en.wikipedia.org/wiki/List\\_of\\_Android\\_devices](http://en.wikipedia.org/wiki/List_of_Android_devices)
6. [http://en.wikipedia.org/wiki/Mobile\\_phone\\_form\\_factors#Slider](http://en.wikipedia.org/wiki/Mobile_phone_form_factors#Slider)
7. [http://en.wikipedia.org/wiki/Android\\_\(operating\\_system\)](http://en.wikipedia.org/wiki/Android_(operating_system))
8. [http://en.wikipedia.org/wiki/Motorola\\_Droid](http://en.wikipedia.org/wiki/Motorola_Droid)
9. <http://148apps.biz/app-store-metrics/?mpage=appcount>
10. <http://en.wikipedia.org/wiki/IPhone>
11. [http://en.wikipedia.org/wiki/Palm,\\_Inc.](http://en.wikipedia.org/wiki/Palm,_Inc.)
12. [http://en.wikipedia.org/wiki/Palm\\_Pre](http://en.wikipedia.org/wiki/Palm_Pre)
13. [http://en.wikipedia.org/wiki/List\\_of\\_Windows\\_Mobile\\_devices](http://en.wikipedia.org/wiki/List_of_Windows_Mobile_devices)
14. [http://en.wikipedia.org/wiki/Windows\\_Mobile](http://en.wikipedia.org/wiki/Windows_Mobile)