

The Cell Phone

Preface,

The assignment was writing a text of Cell Phone technology and how it has impacted information, communication, and technology.

Introduction,

[4] Cooper grew up in Chicago and earned a degree in electrical engineering at the Illinois Institute of Technology. After four years in the navy serving on destroyers and a submarine, he worked for a year at a telecommunications company. Hired by Motorola in 1954, Mr. Cooper worked on developing portable products, including the first portable handheld police radios, made for the Chicago police department in 1967. He then led Motorola's cellular research. Cooper, now 70, wanted people to be able to carry their phones with them anywhere. While he was a project manager at Motorola in 1973, Cooper set up a base station in New York with the first working prototype of a cellular telephone, the Motorola Dyna-Tac. After some initial testing in Washington for the F.C.C., Mr. Cooper and Motorola took the phone technology to New York to show the public.

About Cell Phones,

[1] Martin Cooper made history on April 3, 1973 when he placed the first public telephone call on a portable cellular device. He called his competitors at AT&T's Bell Labs to give them the news of his cell phone invention. To make the call even more interesting as if it weren't already, he phoned them from the streets of New York City. Cooper made several calls that day, one to a radio reporter while crossing the street to emphasize the freedom of his mobile phone.

[5] Back in the day, two-way radios, known as mobile rigs, were used in the vehicles such as; taxicabs, police cruisers, ambulances, and other main public services. Though they were not normally connected to an actual telephone service or network. The users could not dial actual numbers from their mobile radios, this technology would eventually give way to the mobile phone. Originally, the very first mobile phones were permanently installed to certain vehicles, but later versions such as transportable phone, which were equipped with a cigarette lighter plug. This design was so they could be carried and then could be used as either mobiles or as portables, but they were still two-way radio. During the early 1940s, Motorola developed a backpacked two-way radio, the walkie-talkie and later developed a large hand-held two-way radio for the US military.

[2] Digital wireless and cellular roots go back to the 1940s when commercial mobile telephony began. Compared with the furious pace of development today, it may seem odd that mobile wireless hasn't progressed further in the last 60 years. The early telephone network, the wireless revolution began only after low cost microprocessors and digital switching became available. Frequency availability was in turn controlled by the Federal Communications Commission, whose regulations and unresponsiveness constituted the most significant factors hindering radio-telephone development, especially with cellular radio, delaying that technology in America by perhaps 10 years.

As we can tell already, and as with the telephone internal links, a radio is an electrical instrument. A thorough understanding of electricity was necessary before inventors could produce a reliable, practical radio system. That understanding didn't happen quickly. Starting with the work of Oersted in 1820 and continuing until and beyond Marconi's successful radio system of 1897. This invention helped with the building blocks of the first Cellular Phone. Early Electromagnetic Research, also was a main key to the Cellular breakthrough. Early Electromagnetic Research, In 1864 Maxwell

released his paper "Dynamical Theory of the Electromagnetic Field" which concluded that light, electricity, and magnetism, were all related, all worked hand in hand, and that these electromagnetic phenomena all traveled in waves. These waves travel on a low to high spectrum, the radio spectrum most if not all modern communications use this spectrum.

Around the middle teens the triode tube was developed, allowing far greater signal strength to be developed both for wireline and wireless telephony. Here we come to an important point, one that illustrates the controlling difference between conventional mobile telephony and cellular. one in which frequencies were used over and over again. In a cellular system you need to transfer the call from zone to zone as the mobile travels, and you need to switch the frequency it is placed on, since frequencies differ from cell to cell. In mobile telephony a channel is a pair of frequencies, one frequency to transmit on and one to receive. It makes up a circuit or a complete communication path. Sounds simple enough to accommodate. Livermore Data System model LAP-2000, circa 1982. Self contained mobile telephony before cellular. Which only had up to eleven different channels the users could communicate over.

On October 17, 1973, Motorola filed a patent entitled 'Radio telephone system.' It outlined Motorola's cellular radio system and was given US. In 1973, Cooper set up a base station in New York with the first working prototype of a cellular telephone and called over to his rivals at Bell Labs. On May 1, 1974 the F.C.C., Federal Communications Commission, decides to open an additional 115 megahertz of spectrum, 2300 channel's worth, for future cellular telephone use. Cellular looms ahead, although no one know when FCC approval will permit its commercial rollout.

An 88 cell system in Tokyo began in December, 1979, using Matsushita and NEC equipment. The first North American system in Mexico City, a one cell affair, started in August, 1981. United States cellular development did not keep up since fully commercial systems were still not allowed, despite the fact that paying customers were permitted under the service test. This helped send the production and invention of Martin Cooper's cell phone into the public. In 1983 Texas Instruments introduced their single chip digital signal processor, operating at over five million operations a second. Though not the first to make a single chip DSP, external links, TI's entry heralded the wide spread use of this technology. The digital signal processor is to cell phones what the microprocessor is to the computer.

On July 1, 1995 the NTT Personal Communications Network Group and DDI Pocket Telephone Group introduced the Personal Handyphone System or PHS to Japan. Also operating at 1900 MHz, sometimes referred to as 1.9GHz, PHS is an extremely clever system, allowing the same phone at home to roam with you across a city. A cordless phone gone mobile. According to NTT, by November 1998, subscribers totaled 1,518,700. PHS features a fast 32kbps data transfer rate, commenced in April 1997. In December 1998 this rate was pushed to 64kbps in some limited areas. One can connect PDAs and notebooks through the personal handy phone mobile to the PHS network.

[3] Today Cellular phones are leading technology, ranging T-mobile to Verizon Wireless were, your good to go. Today most carriers give you the same basic features, such as. Voice mail, caller id, call waiting/holding, and call forwarding. some also have other added features like your first incoming minute free. the main thing is too see what fits into your life style best and also too be sure when and if the features expire. Today Cell Phones use two main battery technologies; NiMH high capacity battery that provides extra power for extended and the Li-ion has a lot of power in a lightweight package but

usually costs more than NiMH batteries. Also all cell phones have LCD displays, but the specific features of the display can vary. A large, multi-line display, most cell phones have monochrome displays, and almost all cell phones have backlit screens. Plus Cell Phones today come with a much used feature by everyone who owns one, texting. Most if not all phones include basic functions such as phone directory, clock, calculator, automatic redial, last number recall and the ability to customize the ring tone of incoming calls.

Cell Phones today even have special accessories, such as ring tones which can be the default ones that come with the phone or ones you can buy or download like your favorite songs. Also cases or holders, the case protectors are designed to snugly fit your phone and protect it from normal wear and tear. The most used accessory hands free accessories which allow you to talk on the phone while you safely drive or work. Instead of holding your mobile cellular phone, keep your hands free to do other things. Perfect for driving, working, or gardening. Though you really should not talk on the phone while driving hands free or not still dangerous. Another great accessory, today's cell phones are much more than communications devices: they have become portable computers. Some have mobile games that are so cool they may relegate the classical phone functionality of your handset to a close second place.

Clearly Cell Phone technology has advanced a lot over the years from just two-way radios to the Version black berries. From Cooper's original design to all the different cell phones we have today. Plus all of the amazing features and accessories that make using them easier. And with all the fun games and ring tones you can put on your phone makes them even more user friendly. Almost every house hold in America if not the whole world has at least one cell phone in it. The cell phone was a revolutionary invention which has a bright future who knows maybe next we will have hologram phones, then when you call someone a hologram you pops up.

Sited WebPages: [1] <http://www.inventor-strategies.com/cell-phone-invention.html>
[2]<http://inventors.about.com>
[3]<http://www.wirelessguide.org/phone/features.htm>
[4]http://www.cellular.co.za/cellphone_inventor.htm
[5]http://en.wikipedia.org/wiki/History_of_mobile_phones

Footnotes:

[4] 12/01/08 unknown

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[1] 12/01/08 2007-8, Inventors Strategies Group, "Strategies from Successful Inventors"

Martin Cooper entered the history books on April 3, 1973 with first public telephone call on a portable cellular device. He called his competitors at AT&T's Bell Labs from the streets of New York City. Cooper made several calls that day, one to a radio reporter while crossing the street to emphasize the freedom of his mobile phone. He admits that it was "probably one of the more dangerous things I have ever done in my life."

Most used device today millions use his invention everyday (for cell phones today)

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Two-way radios, [mobile rigs](#), were used in vehicles such as taxicabs, police cruisers, ambulances, and the like, but not mobile phones because they were not connected to the telephone network. You could not dial phone numbers from their mobile radios in their vehicle. Technology that would eventually give way to the mobile phone. Originally, mobile phone installed in vehicles, but later versions such as the so-called transportable were equipped with [cigarette lighter plug](#) so that they could be carried, as mobile or as portable two-way radios. During the early 1940s, Motorola developed a backpacked two-way radio, walkie-talkie later developed a large hand-held two-way radio for the US military.

[2] 12/02/08 ©2008 About.com, a part of [The New York Times Company](#).

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-Cell phones use two main battery technologies

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