: How has mobile computing technology evolved for decision support?

Daniel J. Power

Editor, DSSResources.com

Information technology innovation occurs in a complex environment of evolving complementary capabilities. A new product concept is not developed as an isolated or standalone phenomenon, rather it is feasible only when multiple capabilities converge. For example, data-driven, mobile decision support became practical with the development of hardware platforms like handheld smart phones and tablets, cloud storage, high speed cellular networks, mobile Web browsers, improved batteries, global positioning systems (GPS), and mobile operating systems that support third party applications.

Mobile decision support began with mobile phones. AT&T was the first company to commercialize mobile telecommunication in 1947 with a radio, analog, operator assisted service. By 1965 an improved mobile telephone service from AT&T was limited to 40,000 subscribers in the United States. By today's standards the capability was primitive. It could take 30 minutes to place a call and the devices were bulky and unreliable. We are currently in the 4th or 5th generation of mobile communication, depending upon how generations are counted; transmission speeds continue to increase and device capabilities continue to improve.

Ted Paraskevakos (1973; 1974) patented the concepts of combining intelligence, data processing and visual display screens with telephones, outlining the now commonplace activities of banking and paying utility bills via telephone (cf., U.S. Patent #3,812,296/5-21-1974; U.S. Patent #3,727,003/4-10-1973). His ideas were ahead of what was technologically possible.

The year 1983 was a technology turning point for mobile voice and data technology. Motorola launched an analog cell phone device called the DynaTAC 8000X Advanced Mobile Phone System. It was a boxy 2 pound device with an antenna. Service was unreliable in the few places with wireless service. That product introduction started a technology revolution that is still in its infancy. Devices have gotten smaller, digital data transmission has replaced analog, coverage has become almost ubiquitous, data transmission speeds are very fast, and real time video transmission is in high definition.

Mobile technology improved slowly. IBM technologist designed the first combination wireless phone and personal digital assistant in 1992. The product was called Simon and it was shown as a concept product at the COMDEX exposition. On August 16, 1994, BellSouth began marketing the IBM product under the name Simon Personal Communicator. It was a mobile phone with software for a

calendar, address book, world clock, calculator, address book entries, email, send and receive FAX, and games. Simon used a touch screen to select contacts and enter data (cf., itlog.net/content/first-smartphone).

The portable decision support revolution accelerated with the introduction of the first BlackBerry device in 1999. Text-based email accelerated communication and decision making. The "crackberry" became the premier mobile devices for busy business executives (cf. crackberry.com).

Apple, Inc. released the first iPhone with partner AT&T on June 29, 2007. Steve Jobs had unveiled the prototype iPhone to the public on January 9, 2007 at the Macworld 2007 convention at the Moscone Center in San Francisco. The iPhone expanded the possibilities for mobile decision support beyond voice and email.

By 2007, smartphones, like the iPhone, added the functionality of portable media players, low-end compact digital cameras, pocket video cameras, and GPS navigation units. Contemporary smartphones have high-resolution touchscreens and high-speed data access.

Devices like the iPhone 5 and Samsung Galaxy S III continue to improve the capabilities of the mobile device platform, so called 4G networks expand the speed of data transmission, and cloud computing makes data and applications available to mobile users.

As the general computing environment evolves, more possibilities will become available for creating new mobile decision support capabilities. Embedded devices, location aware capabilities, biometric connected devices, voice activated input and much more will be part of the next generation of capabilities.

References

http://www.samsung.com/global/galaxys3/

http://www.webdesignerdepot.com/2009/05/the-evolution-of-cell-phone-design-between-1983-2009/

: *How has mobile computing technology evolved for decision support?*

http://en.wikipedia.org/wiki/History_of_mobile_phones

http://en.wikipedia.org/wiki/Smartphone

http://www.makeuseof.com/tag/history-mobile-phones/

http://www.businessweek.com/articles/2012-06-29/before-iphone-and-android-came-simon-the-first-smartphone

Strom, D., A Brief History of the BlackBerry, ReadWrite Web, January 23, 2012 at URL
http://www.readwriteweb.com/enterprise/2012/01/a-brief-history-of-the-blackbe.php

 U.S. Patent #3,812,296/5-21-1974 (Apparatus for Generating and Transmitting Digital Information),
U.S. Patent #3,727,003/4-10-1973 (Decoding and Display Apparatus for Groups of Pulse Trains),
U.S. Patent #3,842,208/10-15-1974 (Sensor Monitoring Device)

Author: Daniel Power
Last update: 2012-10-24 07:18