Introduction to MOBILITY

Overview:

Mobility is defined as:

- In the field of mobile data communications, mobility means that both source and destination devices, applications and people are free of the constraints imposed by physical location.
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- A major step forward was the "transportable" phone, which freed the user from their vehicle but weighed in at about twenty pounds, still huge by today's standards.
- With the advent of "brick" phones in the mid-1980's came the era of "portable" phones.
- What was once considered a "mobile phone" had to be transported in a vehicle.
- Obviously, wirelessness enables greater mobility than is possible with wired media, especially in-motion correspondence.
- Access to an Ethernet port, for example, need not limit one's ability to send and receive data in a mobile WAN environment any more than access to a landline phone currently limits one's ability to place a voice call in an area covered by cellular service.

Devices Included:

- A mobile device (also known as converged device, handheld device, handheld computer, "Palmtop" or simply handheld) is a pocket-sized computing device, typically having a display screen with touch input or a miniature keyboard.
- In the case of the personal digital assistant (PDA) the input and output are combined into a touch-screen interface.
- Smart phones and PDA's are popular amongst those who require the assistance and convenience of a conventional computer, in environments where carrying one would not be practical.

Introduction to Mobile Connectivity

MOBILITY

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Introduction to Technology

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Introduction to Device Mobility

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MOBILITY

Introduction to Mobile Device Mobility:

- Enterprise digital assistants can further extend the available functionality for the business user by offering integrated data capture devices like Bar Code, RFID and Smart Card readers.

- A smart phone is a mobile phone offering advanced capabilities beyond a typical mobile phone, often with PC-like functionality.
- There is no industry standard definition of a smart phone.
- For some, a smart phone is a phone that runs complete operating system software providing a standardized interface and platform for application developers.
- For others, a smart phone is simply a phone with advanced features like e-mail and internet capabilities, and/or a full keyboard.

- A laptop computer or laptop (also notebook computer, notebook and notepad) is a small mobile computer, typically weighing 3 to 12 pounds.
- Laptops usually run on a single main battery or from an external AC/DC adapter that charges the battery while it is not being used. They typically contain components that are similar to their desktop counterparts and perform the same functions, but are miniaturized and optimized for mobile use and efficient power consumption, although typically less powerful for the same price.

- Ultra Mobile PC
- The term Ultra-Mobile PC (UMPC), or Project Origami, is a specification for a small form factor tablet PC.
- It was developed as a joint development exercise by Microsoft, Intel, and Samsung, among others.
- Intel is also responsible for the Mobile Internet Device, a variation on the UMPC concept.
- UMPC’s run on Windows OS including Windows XP Tablet PC Edition, Windows Vista and Windows XP. Others run on specially adapted versions Linux and low-voltage Intel Pentium or VIA C7-M processors in the 1 GHz range.

- handheld game console
- A handheld game console is a lightweight, portable electronic machine for playing video games.
- Unlike video game consoles, the controls, screen and speakers are all part of a single unit.
- Throughout the 1970s and 1980s, several companies—including Coleco and Milton-Bradley—made lightweight table-top or handheld electronic game devices.
- Today, these machines are not considered strictly consoles, since they often would only play a single game.
- The first true handheld game console with interchangeable cartridges was the Milton Bradley Microvision in 1979.
MOBILITY

Handheld Game Consoles

- Nintendo DS (NDS)
- GAME BOY GAME BOY COLOR
- GAME BOY ADVANCE
- SEGA GAME GEAR
- Pokemon mini
- NeoGeo Pocket, NeoGeo Color
- Atari Lynx
- GP2X/GP32
- Gizmondo
- PlayStation Portable (PSP)
- N-Gage

MOBILITY

Handheld Game Consoles

- Game Boy Color (ゲームボーイカラー, Gēmu Bōi Karā?), sometimes abbreviated to GBC, is Nintendo's successor to the Game Boy and was released on October 21, 1998 in Japan and November 19, 1998 in North America and November 21, 1998 in Europe.
- It features a color screen and is slightly thicker and taller than the original Game Boy, but smaller than the original Game Boy, and has an 8-bit CPU as did the original Game Boy.
- The Game Boy and Game Boy Color combined have sold 118.69 million units worldwide.
- The Game Boy Advance (ゲームボーイアドバンス, Gēmu Bōi Advanbasu?, often abbreviated to GBA) is a 32-bit handheld video game console developed, manufactured and marketed by Nintendo. It is the successor to the Game Boy Color.
- In early 2003, Nintendo introduced a new Game Boy Advance Micro, is similar in style to the original Game Boy Advance's horizontal orientation.
- In September 2005, Nintendo released a second redesign of the Game Boy Advance. This model, dubbed the Game Boy Micro, is similar in style to the original Game Boy Advance's horizontal orientation.

MOBILITY

Handheld Media Consoles

- Media recorder: A digital camera is a camera that takes video or still photographs, or both, digitally by recording images on a light-sensitive sensor.
- Many compact digital still cameras can record sound and moving video as well as still photographs.
- Digital cameras can include features that are not found in film cameras, such as displaying an image on the camera's screen immediately after it is recorded, the capacity to take thousands of images on a single small memory device, the ability to record video with sound, the ability to edit images, and deletion of images allowing re-use of the storage they occupied.

MOBILITY

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Mobile phones have already become an enabling platform for mobile voice or data communication over a network of specialized base stations known as cell sites. In addition to the standard voice function of a telephone, current mobile phones may support many additional services, and accessories, such as SMS for text messaging, email, packet switching for access to the Internet, gaming, Bluetooth, infrared, camera with video recorder and MMS for sending and receiving photos and videos. Most current mobile phones connect to a cellular network of base stations (cell sites), which is in turn interconnected to the public switched telephone network (PSTN) (the exception is satellite phones).

Mobile devices have become a pocket-size mobile multimedia computer with various applications and capabilities to access networked services. Mobile phones have already become an enabling platform for several digital services and applications. Mobile phones are now mobile computers with a wide range of multimedia functionality, e.g., imaging, navigation, music, content management, Internet browsing, email, and time management. Mobile phones are developing towards being trusted personal intelligent devices that have new fundamental capabilities.

- **Portable Media Player:** sometimes referred to as a portable video player (PVP), is a consumer electronics device that is capable of storing and playing digital media. Digital audio players (DAP) that can also display images and play videos are PMPs. Like DAPs, the data is typically stored on a hard drive, microdrive, or flash memory. Other types of electronic devices like cellphones are sometimes referred to as PMPs due to their playback capabilities.
After having breakfast, Professor Xi decides to use the remaining hour before her meeting with Professor Williams to take a walk through a London park. It is a beautiful morning. Walking through the city, Professor Xi relies on her mobile device. Her thoughts return to her lectures. She opens her Morph device which shows her a map of the city, her location, and the route. She lifts the device, looks through it, and the device displays the street and the local information on services around her.

“A transformation is defined in mathematics as a process by which a figure, an expression, or a function is converted into another that is equivalent in some important respect but is differently expressed or represented.”

Morph has some new capabilities that are not possible with existing technologies: it is a flexible and stretchable device made of transparent materials with embedded optical and electronic functions.

Buying clothes is easier with the help of a computer-aided design (CAD) model of the body. It can be used while visiting virtual stores, but it can also be helpful while shopping in a real store, e.g., it can be used to study how clothes might fit without putting the clothes on! A mobile personal device is a natural gateway between the physical and digital worlds and a user interface that combines them into one experience – an augmented reality.
Introduction to MOBILITY
Type of Mobile Device: Continues...

Future Technology: Mobile Devices

End of Chapter #1