

# Mobile Devices

## Chapter 11

# This presentation covers:

- > Appearance and Attire
- > Mobile Device Overview
- > Laptops Overview

# Qualities of a Good Technician

“Soft skills” as they are known across many industries  
are essential

# Appearance and Attire

- > Dress to the level of the client
- > Be aware of generational bias
- > Avoid tattered jeans, trainers, and t-shirts
- > If your job involves dirty work, (e.g. pulling optic fiber cables through the overhead), jeans and chambray shirts are acceptable
- > Grooming
  - > Watch your haircuts and (for men) beards
  - > Keep your hands and nails clean
- > Cosmetics
  - > Women are more likely to be better liked and trusted if using moderate makeup and little to no perfume

# Mobile Device Overview

# Mobile Device Overview

- > Tablet: A mobile device that has a touch screen, camera(s), microphone, and possibly one or more ports such as sound, USB, miniDisplayPort, or miniThunderbolt.



Tablet

# Mobile Device Overview

- > GPS: Global positioning system or GPS is a series of satellites that provide location, movement, and time information to other devices.



GPS

# Mobile Device Overview

- > Smartphone: Has the capability to make a call and run apps, play music, track movement using GPS, connect to a wireless network, connect wirelessly to other devices, connect to the Internet through the phone network or wireless network and take high-resolution pictures and video.



Smartphone

# Mobile Device Overview

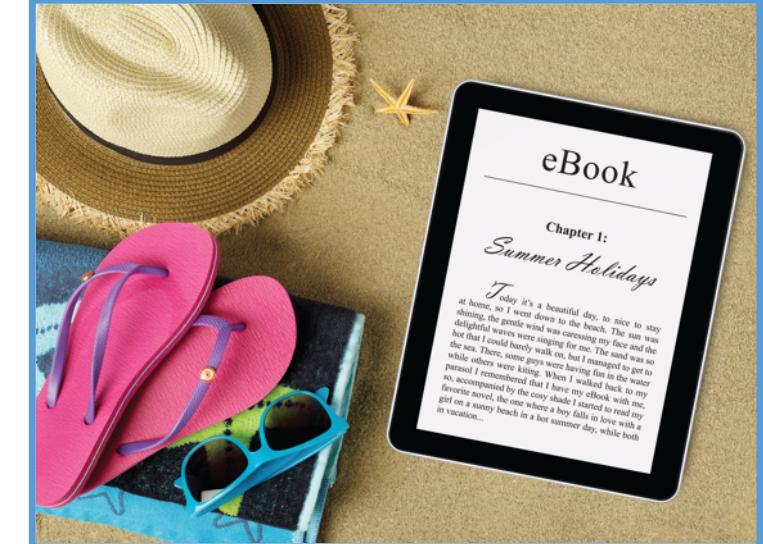
- > Phablet: A cross between a smartphone and a tablet.



Phablet

# Mobile Device Overview

- > e-reader: Also known as an e-book; has an LCD screen designed for reading and storing digital books, magazines, and other online materials.



e-reader

# Mobile Device Overview

- > Smart camera: Has one or more extra capabilities than a digital camera that are used for such things as facial recognition, measuring, inspection for quality assurance, surveillance, and robot guidance.



Smart camera

# Mobile Wearable Technology Devices

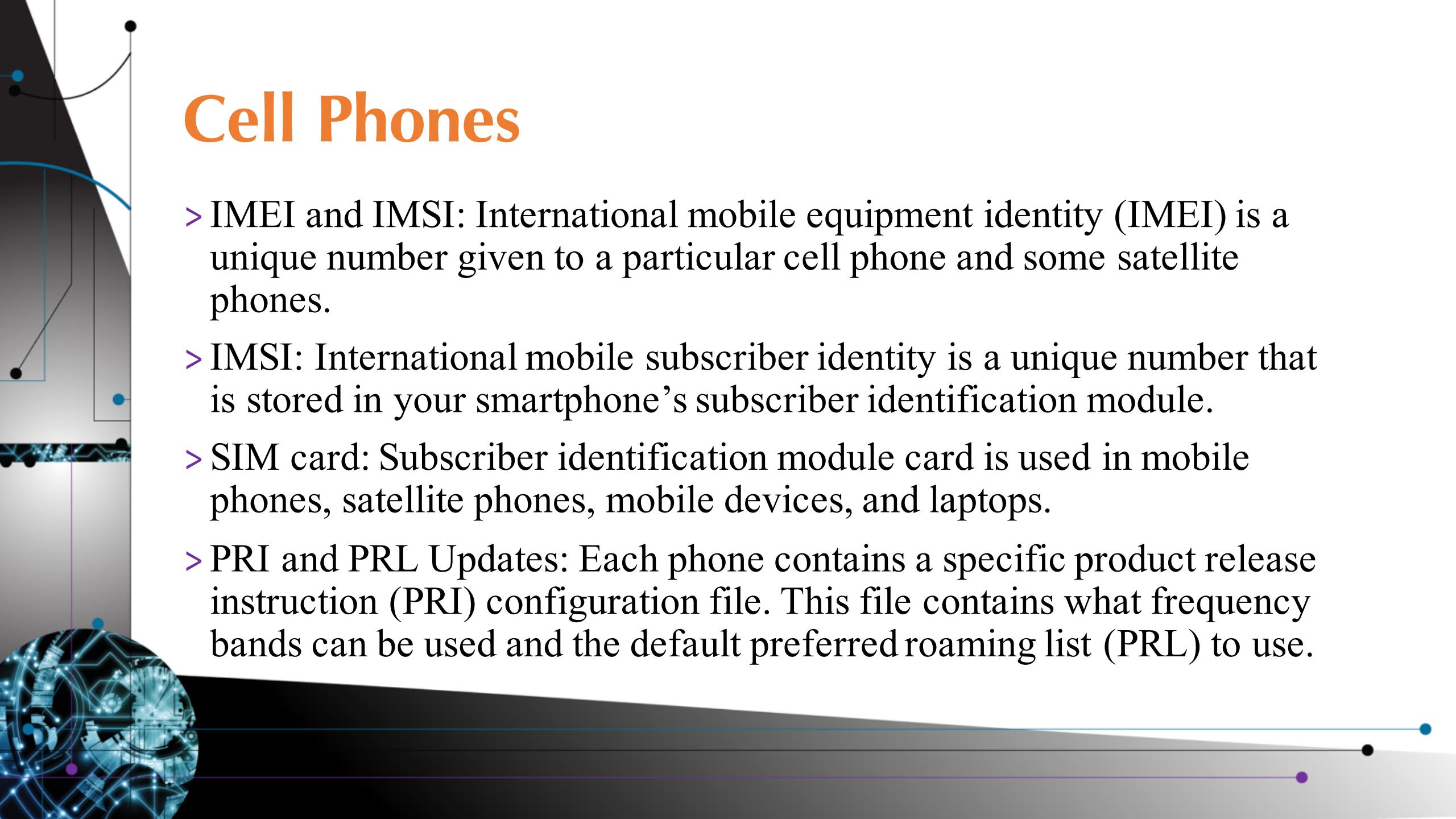
- > Smart watch: Like a tiny computer strapped to your wrist
- > Fitness monitor: Detects movement (step counting), calculates distances (some have a GPS feature), counts calories, measures heart rate and pulse, and measures sleep
- > Glasses: A wearable technology that has a tiny computer display visible to one eye; allows taking photos, videos, making calls; commonly has a processor, RAM, and storage
- > Smart shoes: Allows control of wireless devices such as smartphones and appliances using foot movement
- > Earring: Wearable technology that tracks heart rate and calories burned



Smart Watches

# Using Mobile Devices

- > A mobile operating system primarily uses a mouse or keyboard to interact with the operating system, a finger, stylus, spoken word, or multiple fingers are used
- > The notification area for a smartphone is usually provided by pulling down a menu from the top of the screen
- > The home button is used to return to the main home page, but keep in mind that other home pages may be available to the left or right
- > The recent apps button shows thumbnail views of recently used applications; if you touch a thumbnail, the application opens full screen
- > Configuration is commonly performed through the mobile device's Settings option



# Cell Phones

- > IMEI and IMSI: International mobile equipment identity (IMEI) is a unique number given to a particular cell phone and some satellite phones.
- > IMSI: International mobile subscriber identity is a unique number that is stored in your smartphone's subscriber identification module.
- > SIM card: Subscriber identification module card is used in mobile phones, satellite phones, mobile devices, and laptops.
- > PRI and PRL Updates: Each phone contains a specific product release instruction (PRI) configuration file. This file contains what frequency bands can be used and the default preferred roaming list (PRL) to use.

# Mobile Apps

Applications, commonly called apps, for mobile devices come with the device, can be downloaded free of charge or can be purchased through:

- > The App Store (Apple iOS devices)
- > Google Play (Android devices)
- > Store (Windows devices)

# Mobile Apps

## Common Mobile Apps

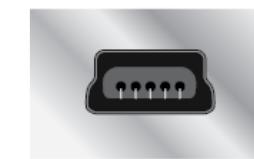
- > Android apps: Gmail, Google Maps, Gallery/Photos, MyLibrary, Chrome, Play Music, Clock, and Play Store
- > iOS apps: Mail, Maps, Photos, iBooks, Safari, iTunes, Calendar, and App Store
- > Windows apps: Mail, Maps, Photos, Reader, Edge, Music, Calendar, Windows Store

# Mobile Device Wired Connectivity

- > Mobile devices have many of the same ports that computers do, but in smaller versions
- > Mobile devices frequently have either a micro-USB or a mini-USB port
- > There is also a mini-/micro-AB port that accepts either a mini-/micro-A or a mini-/micro-B cable end
- > The micro-USB ports are now a standard interface for smartphones



Standard Type-A  
USB



Mini-  
USB



Micro-  
USB

USB Type-A, mini, and micro ports

# Apple Connectors



Apple 30-pin dock connector

Apple Lightning connector

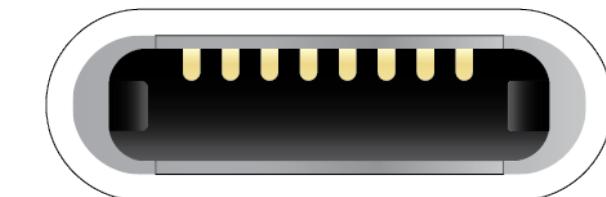
Micro-USB

Mini-USB

Traditional USB

Apple Lightning Connector

Apple Lightning port



Mobile connectors

Apple Lightning port and connector

# Mobile Device Wireless Connectivity

- > Bluetooth: A radio-based wireless technology used to connect two or more devices together that are commonly within close range of one another. This type of connectivity is called a wireless personal area network (PAN).
- > Bluetooth has three classes of devices:
  - > Class 1: Range up to 328 feet (100 meters)
  - > Class 2: Range up to 33 feet (10 meters)
  - > Class 3: Range up to 3 feet (1 meter)

# Mobile Device Wireless Connectivity

- > IEEE 802.11 Wireless: Used to connect the mobile device to a wireless network that operates in the 2.4-GHz and/or 5-GHz range
- > Airplane Mode: Allows you to disable all wireless communication (Wi-Fi, mobile broadband, Bluetooth, GPS or GNSS, and NFC)
- > Hotspot: A wireless network that has free Internet access
- > Tethering: Allows sharing an Internet connection with other mobile devices in the nearby area
- > Infrared (IR): A radio-based wireless technology that operates in the 300-GHz to 430-THz range, but many devices use either 2.4GHz or 27MHz

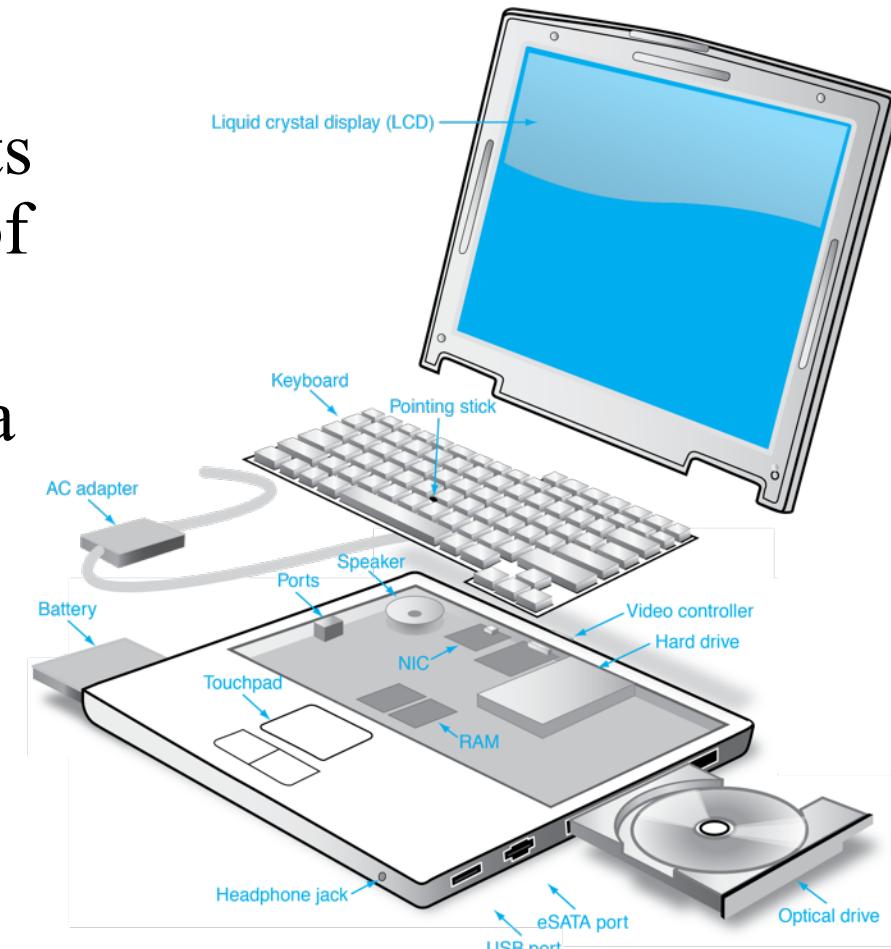
# Mobile Device Wireless Connectivity

- > Cellular Data: Two methods for sending data over a cellular network are Short Message Service (SMS) and Multimedia Message Service (MMS)
  - > SMS is used for text messages
  - > MMS is used for visual data such as photos or video
- > VPN: A virtual private network (VPN) is used to connect one device to another device through a public network such as the Internet

# Laptops Overview

# Laptop Hardware

- > A laptop has similar parts and ports as a desktop computer, but some of these components are smaller
- > Whenever taking anything out of a laptop, one of the major issues is tiny screws
- > Use a magnetic screwdriver to remove the screws or place the screws on a magnetized tray



# Laptop Repairs Overview

- > Use proper anti-static procedures
- > Organize your parts
- > Take photos
- > Take notes
- > Use appropriate tools
- > Always refer to the manufacturer's directions when removing and installing parts

# Laptop Memory

- > Laptops use a special form factor called a small-outline DIMM (SO-DIMM)
- > Another type is MicroDIMMs
- > SO-DIMMs are the most popular and include:
  - > 72-pin version for 32-bit transfers
  - > 144-, 200-, 204-, or 260-pin versions for 64-bit transfers

# Laptop Storage

- > Laptop hard drives come in two major form factors
  - > 1.8-inch: found in laptops, ultrabooks, and ultraportable devices such as MP3 players
  - > 2.5-inch: designed for laptops



# Laptop Display

- > Some mobile devices serving as laptops have removable screens
- > Some laptops have rotating screens
- > Review Chapter 9 and refresh yourself on the following terms:
  - > LCD
  - > TTL
  - > IPS
  - > fluorescent and LED backlighting
  - > OLED

# Mobile Device Security

Laptops have special physical security needs, optional security measures:

- > Use a nondescript bag to carry a laptop
- > Have an engraved permanent asset tag attached
- > Install a physical laptop lock or laptop locking station
- > Use the universal security slot (USS) that allows a cable lock or laptop alarm to be attached
- > Software packages exist that automatically contact a tracking center in case of theft

# Computer Terms

**Refer to the glossary terms at the end of the textbook chapter. Review Chapter 11 and become familiar with the terms.**

This PPT deck was developed to support instruction of

**The Complete CompTIA A+ Guide to IT Hardware and Software  
7th Ed.**

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