Ch 24 - Mobile Devices

What is a Mobile Device?

- A mobile device is normally a sealed device with fixed components
- A mobile device runs mobile 0893
- Mobile devices have multiple wireless connections
- Smartphones, tablets, wearables, and GPS are all examples of mobile devices

Mobile Device -
  Single, Sealed Unit

  Runs Specific Mobile OS (Android, iOS, etc)
    Embedded System - OS stored on Firmware

  Not designed to support lots of different Device Drivers
    You won't be seeing different Hardware in a Sealed System

  Wireless Connectivity - 802.11, Bluetooth, Cellular, Zigby
    Wire connections are typically just for Charging.
    Wirelessly you can have accessories (with plenty of exceptions)

Smart Phone - Android or iOS   Wi-Fi   Cellular   GPS
        Accelerometers

  Wireless Charging
  Battery Chargers - USB C Connectors
  Battery Packs - Bumper/ProtectiveCase with an additional built in Battery Pack

Tablet - big brother of the Smart Phone
  Used in Restaurants all the time for Ordering & Payments
  Also great for Home Automation Devices

Wearable Technology -
  Smart Watch - Fitbit   Wahoo - Heart Rate Monitor

E-Readers - Doesn't use much electricity

GPS Device (Global Positioning System) - one of the earliest Smart Devices

Credit Card Readers - Swipe Style   Insert Style

Micro/Mini SD Cards - add a little bit of Storage to your Smart Devices
                Apple Devices don't use them

Mobile Connections

- Mobile devices use wired or wireless connections
- Common wired connections: micro USB, USB C, Lightning, and Thunderbolt
- Common wireless connections include NFC, Bluetooth, Infrared, and 802.11

Connecting Mobile Devices to other stuff/Peripherals -

        Wired - Micro USB, Lightning Connection, USB C
                        (and also Mini USB, or Thunderbolt for older devices)
                Reasons - Power, Connect to Desktops (File Transfer, Synchronization, etc)

        Wireless -
                NFC (Near Field Communication) - Make sure NFC is Turned On
                        Tap-to-Print, Tap-to-Pay,
                        Tap someone's Phone to send them a Youtube Video!
                                (Not for iPhone)

                Bluetooth - Pairing Process (at times) using a 6 Digit Code
                        If you're having an issue with Pairing a Device,
                                delete the "Previously Connected Pair",
                                        and go through the Pairing Process again!

                IR (Infrared) - Line-of-Sight Connection, just like a TV Remote Controller
                        This is fading out, and we tend not to see this feature used often.
                        Very Low Speed Connection (Change Channels on a TV)

                802.11 - Connecting to a Wireless Network using Personal Shared Key

Cellular -
    USB Tethering - Can give internet to another Device (Laptop)
        Need to be Physically Connected (Wire Connection)

    Portable Wi-Fi Hotspot - Turning this on will pass out an SSID

    Tethering - Only 1 Device can be Connected
    Hotspot - Multiple Devices can be Connected

    Airplane Mode - Turns off 802.11, Bluetooth, NFC
        (anything that makes Radio Waves)

Touring Android

- The Android desktop only shows the applications you choose
- Notifications are seen by swiping down
- The Google Play store is where Android users install applications
- You can change permissions for apps if needed
- Android phones are associated with a Google account;
**   you can add accounts if desired**

Virtual Reality

- Virtual reality (VB) is a complete virtualized environment
- VR will include a headset that detects head movements (tracking)
- Augmented reality (AR) places virtual objects in the real world

VR (Virtual Reality) - Create your own Virtualized Reality
    Military, Medical, Engineering, Gaming, etc.

    Mike's using the HTC Vive Pro
        2 Handheld Controllers
        Headset with 2 Monitors running OLED, Sound & Tracking
            Tracking with Infrared Transmitters

AR (Augmented Reality) - You see the Real World, which we place things upon.
    Instagram & Snapchat's Filters, Google Translate