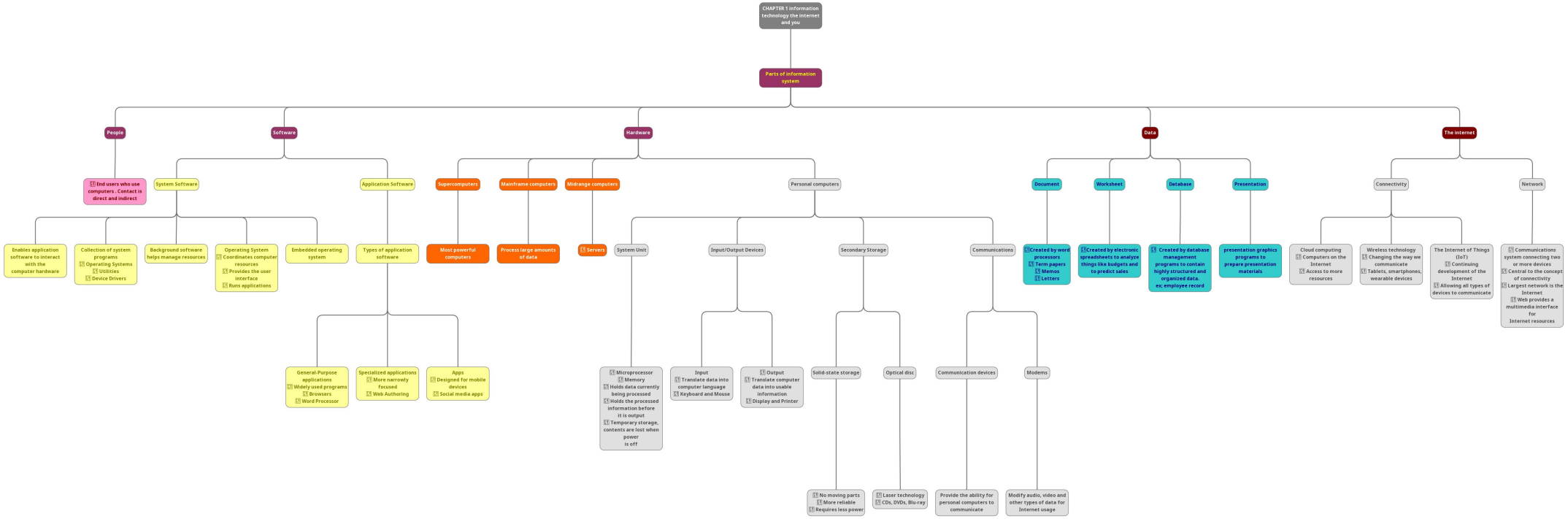
CHAPTER 1 information technology the internet and you
Parts of information system
People
End users who use computers . Contact is direct and indirect
Software
System Software
Enables application software to interact with the computer hardware
Collection of system programs
Operating Systems
Utilities
Device Drivers
Background software helps manage resources
Operating System
Coordinates computer resources
Provides the user interface
Runs applications
Embedded operating system
Application Software
Types of application software
General-Purpose applications
Widely used programs
Browsers
Word Processor
Specialized applications
More narrowly focused
Web Authoring
Apps
Designed for mobile devices
Social media apps
Hardware
Supercomputers
Most powerful computers
Mainframe computers
Process large amounts of data
Midrange computers
Servers
Personal computers
System Unit
Microprocessor
Memory
Holds data currently being processed
Holds the processed information before it is output
Temporary storage, contents are lost when power is off
Input/Output Devices
Input
Translate data into computer language
Keyboard and Mouse
Output
Translate computer data into usable information
Display and Printer
Secondary Storage
Solid-state storage
No moving parts
More reliable
Requires less power
Optical disc
Laser technology
CDs, DVDs, Blu-ray
Communications
Communication devices
Provide the ability for personal computers to communicate
Modems
Modify audio, video and other types of data for Internet usage
Data
Document
Created by word processors
Term papers
Memos
Letters
Worksheet
Created by electronic spreadsheets to analyze things like budgets and to predict sales
Database
Created by database management programs to contain highly structured and organized data. ex: employee record
Presentation
presentation graphics programs to prepare presentation materials
The Internet
Connectivity
Cloud computing
Computers on the Internet
Access to more resources
Wireless technology
Changing the way we communicate
Tablets, smartphones, wearable devices
The Internet of Things (IoT)
Continuing development of the Internet
Allowing all types of devices to communicate
Network
Communications system connecting two or more devices
Central to the concept of connectivity
Largest network is the Internet
Web provides a multimedia interface for Internet resources

CHAPTER 6: THE INTERNET, THE WEB AND ELECTRONIC COMMERCE

THE WEB

ORIGIN

- Web 1.0
  - For generation
  - Linking existing information focus
- Search programs were created
  - Provide links to websites with specific words or phrases
- Web 2.0
  - Dynamic content creation
  - Facebook is most common in Web 2.0
- Web 3.0
  - Current generation
  - Personalized content creation for users

NETWORK

- Provide access to web resources
- Allow you to explore the web
  - Uncomplicated interface to the Internet
  - Connect to remote computers
  - File transfer
  - Display many varieties of multimedia
- Popular Web browsers include:
  - Mozilla Firefox
  - Apple Safari
  - Microsoft Edge
  - Google Chrome

URLS

- Uniform Resource Locator
- Location or address of resource
  - https is the most common for web traffic
- Two parts:
  - Protocol
  - Makes for exchanging data
- Domain name
  - Where resource is located

TOP LEVEL DOMAIN (TLD)

- .com (Commercial)
- .edu (Educational)
- .gov (Government)
- .mil (U.S. military)
- .net (Network)

HYPERTEXT AND HYPERLINKS

- Hypertext Markup Language
- Markup language for displaying web pages
- Browsers interpret HTML commands
- Display document as a web page
- Hyperlinks or links
  - Connect to other web pages
  - Text files
  - Graphic images
  - Audio and Video Clips

INTERACTIVE WEB SITES

- Technologies used to provide highly interactive and animated websites
- Cascading Style Sheets (CSS)
- JavaScript
- AJAX
- Applets
- Mobile Browsers
  - Designed to run on portable devices

UTILITIES

- Specialized utility programs that make using the Internet and web safer and easier
  - Plug-Ins
  - Filters
- File Transfer Utilities
  - Internet Security Suites
- Plug-Ins
  - Automatically start and operate as part of you browser
  - Enhanced browsing experience
  - Enables special file formats and multimedia elements
  - Acrobat Reader
  - Flash Player
  - QuickTime
  - Windows Media Player
- filters
  - Block access to selected sites and can set time limits
  - Monitor total time spent on the Internet and at individual web sites
  - AVG Family Safety
  - Qustodio Parental Control
  - Norton Online Family
  - Net Nanny
  - McAfee Family Protection
- File Transfer Utilities
  - Upload and download files to and from the Internet
  - Downloading
  - Uploading
  - Three popular types of programs
  - File transfer protocol (FTP) / Secure file transfer protocol (SFTP)
  - Web-based file transfer services
  - Bit-Torrent

THE INTERNET

ORIGIN

- Launched in 1969
- The United States funded a project to develop a national computer network
  - ARPANET (Advanced Research Project Agency Network)
- World Wide Web or WWW was introduced in 1991
- The Internet and the web are NOT the same
  - The Internet is the physical network
  - The web is a multimedia interface to the resources available on the Internet

USES

- Communicating
  - E-mail, photos, videos
  - Discussions
- Shopping
- Searching
  - Virtual libraries
- Education or e-learning
- Entertainment

INTERNET ACCESS PROVIDERS

- Internet Service Provider (ISP)
  - Common way to access the Internet
  - Provide a path to access the Internet
  - Use telephone lines, cable, and/or wireless connections
- Most common providers
  - Verizon, Comcast, Sprint, T-Mobile, AT&T
- ISPS connect using connection technologies
  - DSL, Cable, Wireless

SECURITY SUITES

- Designed to maintain your security and privacy while on the web
- Two best known suites
  - McAfee Internet Security
  - Symantec Norton Internet Security

COMMUNICATION

- E-mail
  - Transmission of electronic messages over the Internet
  - Three elements:
    - Header
    - Address
    - Subject
  - Attachments
    - Message
    - Signature
- E-mail Systems
  - Client-based
    - E-mail client
    - Must be installed on computer
    - Apple Mail
    - Microsoft Outlook
  - Web-based
    - Webmail client
    - No installation necessary – Free
    - Google's Gmail
    - Microsoft's Hotmail
    - Yahoo!'s Yahoo!mail
- SPAM:
  - Unwanted-some-mail
  - Computer viruses:
    - Destructive programs
    - Attached to unsolicited email
  - CAN-SPAM Act:
    - Created antispam laws for control
  - Every marketing related e-mail must provide an opt-out option
  - Spam blockers / spam filters:
    - Identify and control spam
    - Free programs
    - SPAMBigbear
    - Intego Personal Antispam for Mac

MESSAGING

- Text messaging / texting
  - SMS (short message service)
  - Short electronic message
- Multimedia Messaging Service (MMS)
- Send
  - Images
  - Videos
  - Sounds
- Instant messaging
  - Extension of email that provides direct, live communication between two or more people
  - Most programs include video conferencing features, file sharing and remote assistance
  - Facebook Messenger
  - Google Hangouts

SOCIAL NETWORKING

- Connecting people and organizations that share a common interest or activity
  - Three most popular:
    - Facebook
    - Facebook Profiles
    - Facebook Pages
    - Facebook groups
      - Google+
      - Circles
      - Hangouts
      - Linkedin
      - Business-oriented

BLOGS/MICROBLOGS

- Web logs or blogs
  - Personal news pages
  - Date/time-stamped
  - Arranged with the most recent items shown first
- Microblogs
  - Short status updates
  - Most common is Twitter
  - Tweets are Twitter messages

WEBCASTS, PODCASTS, WIKIS

- Webcast
  - Streaming technology for live broadcast of audio and video
  - No files after streaming ends
- Podcast
  - Most download files to use
  - Can transfer to media player
- Wiki
  - Specially designed Web site
  - Allows visitors to edit the contents
  - Supports collaborative writing

SEARCH TOOLS

- Search Services
  - Operate websites
  - Spiders
  - Look for new information and update websites
- Search Engines
  - Assist in locating specific information
- Specialized Search Engines
  - Focus on subject specific websites

CONTENT EVALUATION

- Not everything on the Internet is accurate
  - Authority
  - Accuracy
  - Objectivity
  - Currency

INTERNET OF THINGS (IOT)

- Continuing development of the Internet
  - Allows objects embedded with electronic devices to send and receive data
  - Smartphones
  - Wearable devices
  - Uses Web 2.0 Applications

ELECTRONIC COMMERCE

BUSINESS TO CONSUMER (B2C)

- Sale of product or service to general public
  - Fastest growing type of e-commerce
  - Three most widely used B2C applications:
    - Online banking
    - Financial trading
    - Shopping
  - Amazon.com is one of the most widely use B2C sites

CONSUMER TO CONSUMER (C2C)

- Web auctions
  - Buyers and sellers seldom meet
  - Bids are submitted electronically
  - Person-to-person auction sites

BUSINESS TO BUSINESS (B2B)

- Sale of a product or service from one business to another
  - Primarily a manufacturer supplier relationship

SECURITY

- Payment methods must be fast, reliable, and secure
- Provide a convenient way to submit buyers information
  - Two options
  - Credit card
  - Fast and convenient
  - Digital cash
  - Internet's equivalent to traditional cash
  - Converts digital cash to currency through 3rd party

CLOUD COMPUTING

- Shifts computing activities from users' computers to computers on the Internet
  - Frees end-users from owning, maintaining, and storing software programs and data
  - Three basic components:
    - Clients (end-users)
    - Service providers
    - The Internet

CHAPTER 3 ; Basic Application Software

- Application Software
  - User Interface
    - • Graphical User Interface (GUI) consists of: • Icons • Pointer • Windows • Menus • Toolbars • Buttons • Dialog Boxes
    - Ribbon GUI
      - Ribbons
      - Tabs
      - Groups
      - Contextual tabs
      - Galleries
      - Spell checkers
      - Alignment
      - Font and Font Sizes
      - Tables
      - Reports
  - General Purpose Applications
    - Word Processor Programs
      - Memos, letters, and faxes Newsletters, manuals, and brochures Word processing programs ;
        - Microsoft Word
        - Most popular Apple Pages Google Docs
        - Corel WordPerfect
        - OpenOffice Writer
      - Flyer
        - Flyer Features ; • Spell Checker • Center-alignment • Grammar Checker • Fonts • Font Sizes • Word Wrap • Character Effects
      - Report
        - Report Features ;
          - AutoCorrect
          - Footnote
          - Header or Footer
          - Captions and Cross References
          - Tables
    - Spreadsheet Programs
      - Organize, analyze, and graph numeric data
        - Spreadsheet programs
        - Microsoft Excel
        - Most widely used
        - Apple Numbers
        - OpenOffice Calc
        - Corel Quattro Pro
        - Google Sheets
    - Presentation Graphics Programs
      - Presentation programs
        - Microsoft PowerPoint
        - OpenOffice Impress
        - Apple Keynote
        - Google Slides
        - Corel Presentations
      - Presentation Features
        - Document Theme
        - Animation
        - Templates
    - Database Management Systems (DBMS)
      - Two most widely used systems
        - Microsoft Access
        - OpenOffice Base
        - Apple FileMaker
        - Google Obvibase
      - Database Features
        - Primary Key
        - Fields
        - Record
        - Table
        - Form
  - Specialized Applications
    - Programs that more narrowly focused on specific disciplines and occupations
    - Graphics Programs
      - Web Authoring Programs
  - Graphics Programs
    - Desktop Publishing Programs
    - Image Editing Programs
    - Illustration Programs
    - Image Galleries
  - Desktop Publishing Programs
    - Mix text and graphics to create brochures, newsletters, newspapers and textbooks
    - Popular programs:
      - Adobe InDesign
      - Microsoft Publisher
      - QuarkXPress
  - Image Editors
    - Editing or modifying digital photographs
    - Popular image editors
      - Adobe Photoshop
      - Corel PaintShop Pro
      - GIMP (GNU Manipulation Program)
      - Windows Live Photo Gallery
  - Illustration Programs
    - Drawing programs
      - Create and edit vector images
      - Vector illustrations
      - Geometric shapes or objects
      - Created by connecting lines and curves s
    - Popular Illustration Programs
      - Adobe Illustrator
      - CorelDraw
      - Inkscape
  - Video Editors
    - Edit videos to enhance quality and appearance
    - Windows Live Movie Maker
      - Apple iMovie
      - YouTube Video Editor
  - Video Game Design Software
    - Guide user through game design process
      - Character development
    - YoYo GameMaker
      - Stencyl
      - Unity
  - Web Authoring Programs
  - Mobile Apps
  - App Stores
  - Software Suites