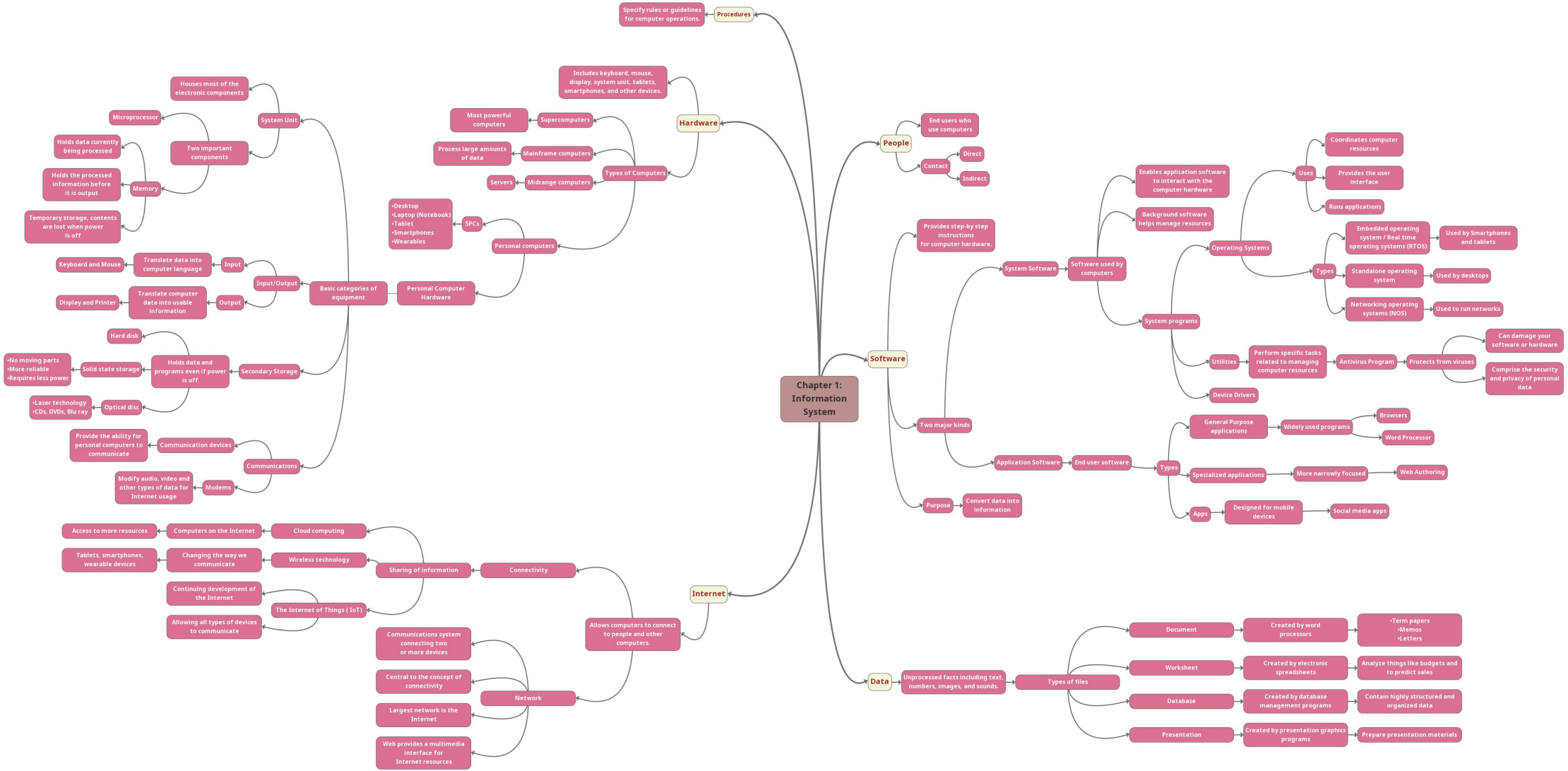
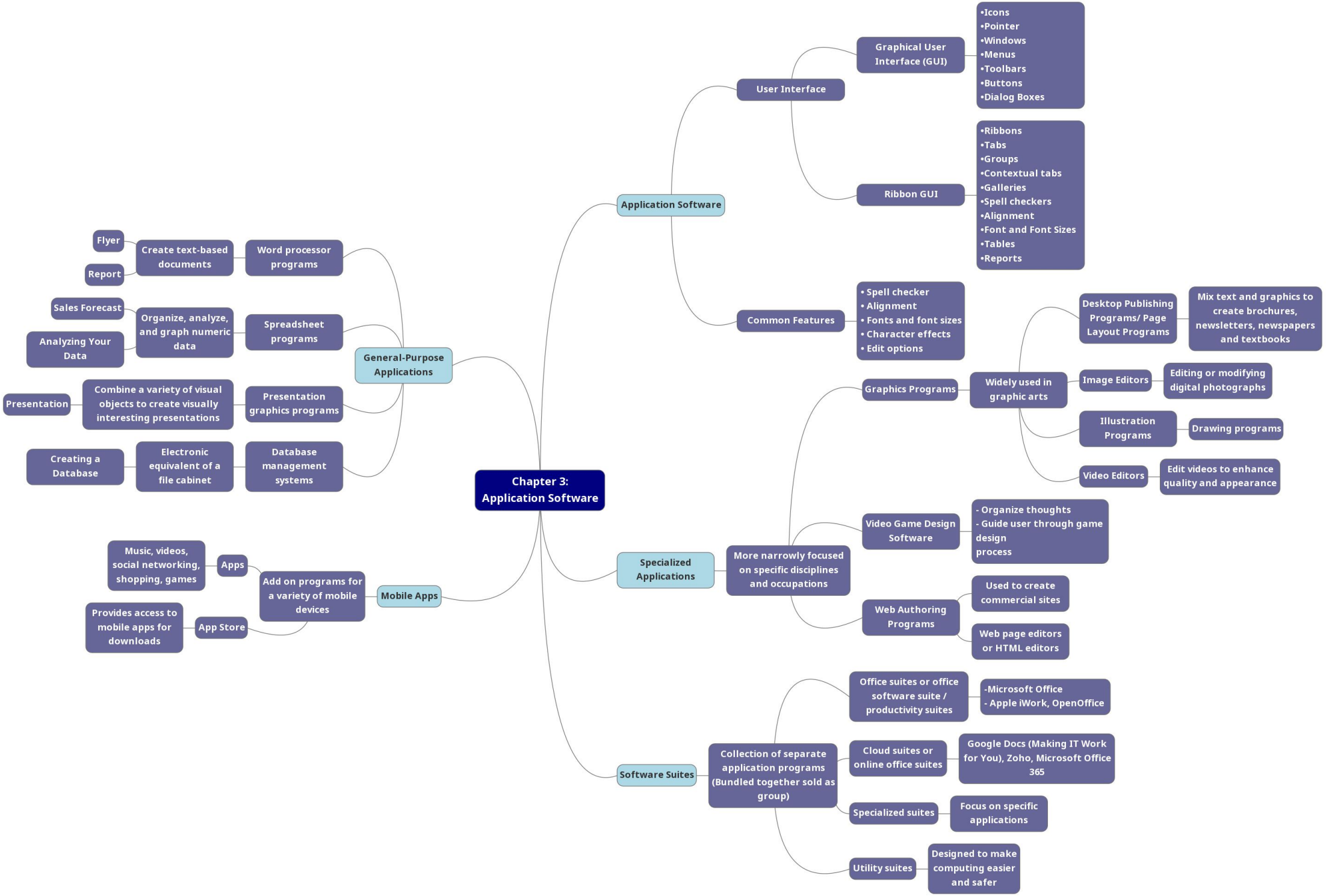

Chapter 1: Information System
Procedures
Specify rules or guidelines for computer operations.
Hardware
Includes keyboard, mouse, display, system unit, tablets, smartphones, and other devices.
Types of Computers
Supercomputers
Most powerful computers
Mainframe computers
Process large amounts of data
Midrange computers
Servers
Personal computers
SPCs
•Desktop
•Laptop (Notebook)
•Tablet
•Smartphones
•Wearables
Personal Computer Hardware
Basic categories of equipment
System Unit
Houses most of the electronic components
Two important components
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
Input
Translate data into computer language
Keyboard and Mouse
Output
Translate computer data into usable information
Display and Printer
Secondary Storage
Holds data and programs even if power is off
Hard disk
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
People
End users who use computers
Contact
Direct
Indirect
Software
Provides step-by step instructions for computer hardware.
Two major kinds
System Software
Software used by computers
Enables application software to interact with the computer hardware
Background software helps manage resources
System programs
Operating Systems
Uses
Coordinates computer resources
Provides the user interface
Runs applications
Types
Embedded operating system / Real time operating systems (RTOS)
Used by Smartphones and tablets
Standalone operating system
Used by desktops
Networking operating systems (NOS)
Used to run networks
Utilities
Perform specific tasks related to managing computer resources
Antivirus Program
Protects from viruses
Can damage your software or hardware
Comprise the security and privacy of personal data
Device Drivers
Application Software
End user software
Types
General Purpose applications
Widely used programs
Browsers
Word Processor
Specialized applications
More narrowly focused
Web Authoring
Apps
Designed for mobile devices
Social media apps
Purpose
Convert data into information
Internet
Allows computers to connect to people and other computers.
Connectivity
Sharing of information
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
Data
Unprocessed facts including text, numbers, images, and sounds.
Types of files
Document
Created by word processors
•Term papers
•Memos
•Letters
Worksheet
Created by electronic spreadsheets
Analyze things like budgets and to predict sales
Database
Created by database management programs
Contain highly structured and organized data
Presentation
Created by presentation graphics programs
Prepare presentation materials

(Chapter 2: The Internet, the Web, and Electronic Commerce)

- **Internet Access**
  - **Providers**
    - **Internet service provider (ISP)**
      - Provide a path to access the Internet
      - Use telephone lines, cable, and/or wireless connections
      - Some common providers: AT&T, Comcast, Sprint, T-Mobile, and Verizon
      - ISPS connect using connection technologies (DSL, Cable, Wireless)
  - **Browsers**
    - Popular Web browsers: Mozilla Firefox, Apple Safari, Microsoft Edge, Google Chrome
    - Allow you to explore the web
      - - Uncomplicated interface to the Internet
        - Connect to remote computers
        - File transfer
        - Display many varieties of multimedia
    - Provide access to web resources
      - Uniform Resource Locator (URLs)
        - Location or address of resource
          -

        - Two parts
          - Protocol
            - Rules for exchanging data
          - Domain name
            - Where resource is located
            - Top Level Doman (TLD)
              - Identifies the type of organization
      - Hypertext Markup Language (HTML)
        - 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
- **Communication**
  - **E mail**
    - Transmission of electronic messages over the Internet
      - Client based
        - Must be installed on computer
      - Web based
        - No installation necessary- free
  - **Messaging**
    - Text messaging / texting
      - SMS (short message service)
    - Multimedia Messaging Service (MMS)
      - Send Images, Videos, Sounds
    - Instant messaging
      - Extension of email that provides direct, live communication between two or more people
        - - Facebook Messenger
          - Google Hangouts
  - **Social Networking**
    - Connecting people and organizations that share a common interest or activity
      - Facebook
      - Google+
      - LinkedIn
  - **Blogs, Microblogs, Webcasts, Podcasts, and Wikis**
    - Web logs or blogs
      - Personal news pages
    - Microblogs
      - Short status updates
    - Webcast
      - Streaming technology for live broadcast of audio and video
    - Podcast
      - Must download files to use
    - Wiki
      - Specially designed to allow visitors to use their browser to add, edit, or delete the site's content
- **Internet of Things (IoT)**
  - Allows objects embedded with electronic devices to send and receive data
- **The Internet and the Web**
  - **Internet**
    - Large network that connects together smaller networks all over the globe.
    - Launched in 1969
      - United States funded a project that developed a national computer network called Advanced Research Project Agency Network (ARPANET)
    - Physical network
    - Common Internet Uses
      - Communicating
      - Shopping
      - Searching
      - Education or e learning
      - Entertainment
  - **Web / World Wide Web or WWW**
    - Provides an easy to use interface to Internet resources
    - Introduced in 1991
      - Web 1.0
        - Linking existing information focus
          - Search programs such as Google
      - Web 2.0
        - Evolved to support more dynamic content creation and social interaction
          - Facebook
      - Web 3.0
        - Current generation
          - Personalized content creation for users
    - Multimedia interface to the resources available on the Internet
- **Web Utilities**
  - Make using the Internet and the web easier and safer
    - Plug Ins
      - Automatically start and operate as part of your browser
      - Enhanced browsing experience
        - Enables special file formats and multimedia elements
    - Filters
      - Block access to selected sites and can set time limits
      - Monitor total time spent on the Internet and at individual web sites
    - File Transfer Utilities
      - Upload and download files from servers
        - File transfer protocol (FTP) / Secure file transfer protocol (SFTP)
        - Web-based file transfer services
        - Bit Torrent
    - Internet Security Suites
      - Collection of utility programs for security and privacy
- **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
    - - Authority
      - Accuracy
      - Objectivity
      - Currency
- **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
- **Electronic Commerce (E- commerce)**
  - Buying and selling over the Internet
    - Business to consumer (B2C)
      - Sale of product or service to general public
        - Online banking
        - Financial trading
        - Shopping
    - Consumer to consumer (C2C)
      - Individual to individual
    - Business to business (B2B)
      - Sale of a product or service from one business to another
  - Security
    - Credit card
    - Digital cash


Chapter 3: Application Software
Application Software
User Interface
Graphical User Interface (GUI)
•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
Common Features
• Spell checker
• Alignment
• Fonts and font sizes
• Character effects
• Edit options
Specialized Applications
More narrowly focused on specific disciplines and occupations
Graphics Programs
Widely used in graphic arts
Desktop Publishing Programs/ Page Layout Programs
Mix text and graphics to create brochures, newsletters, newspapers and textbooks
Image Editors
Editing or modifying digital photographs
Illustration Programs
Drawing programs
Video Editors
Edit videos to enhance quality and appearance
Video Game Design Software
- Organize thoughts
- Guide user through game design
process
Web Authoring Programs
Used to create commercial sites
Web page editors or HTML editors
Software Suites
Collection of separate application programs (Bundled together sold as group)
Office suites or office software suite / productivity suites
-Microsoft Office
- Apple iWork, OpenOffice
Cloud suites or online office suites
Google Docs (Making IT Work for You), Zoho, Microsoft Office 365
Specialized suites
Focus on specific applications
Utility suites
Designed to make computing easier and safer
General-Purpose Applications
Word processor programs
Create text-based documents
Flyer
Report
Spreadsheet programs
Organize, analyze, and graph numeric data
Sales Forecast
Analyzing Your Data
Presentation graphics programs
Combine a variety of visual objects to create visually interesting presentations
Presentation
Database management systems
Electronic equivalent of a file cabinet
Creating a Database
Mobile Apps
Add on programs for a variety of mobile devices
Apps
Music, videos, social networking, shopping, games
App Store
Provides access to mobile apps for downloads