Module 3 - CIS105

General Notes

Application Software

There are two kinds of software:

- ▶ **System Software**

- ▶ **Application Software**

Application software can be divided into three categories:

- **Mobile apps:** Applications designed for cell phones and tablets.
- **General-purpose Applications:** Includes word processing programs, presentation software, spreadsheets, and database management systems.
- **Specialized Applications:** Include thousands of programs that are more narrowly focused on specific disciplines and occupations.

App Stores

An app store is where you can download applications to work with your mobile, laptop, and desktop devices. Three of the best-known app stores are:

- Apple's App Store
- Google Play
- Microsoft Store

Applications are written for a particular type of device.

- For example, an app designed for Apple's iPhone will not work on a Windows laptop. Therefore, most app stores focus on apps for a particular type of device.

More Widely Used App Stores

Store	Focus	Site
Apple App Store	Apple Devices	https://apps.apple.com
Microsoft Store	Windows Devices	https://apps.microsoft.com
Google Play	Android Devices	https://play.google.com
Amazon	Android Devices	https://amazon.com/appstore

User Interface

A **User interface** is the portion of the application that allows you to
control and to interact with the program.

- Most general purpose applications use a **graphical user interface (GUI)**
  that display elements called **icons** to represent familiar objects.

Many applications *(Microsoft applications in particular)* use an interface
known as the **Ribbon GUI**, which changes based on the needs of the user.

- **Ribbons** replace toolbars and menus by organizing commonly used commands
  into
  sets of related activities. These activities are displayed as tabs and appear
  in the first ribbon.
- **Tabs** divide the ribbon into major actiivty areas. Each tab is then
  organized into **groups** that contain related items.
  - Some tabs, called **contextual tabs**, only appear when they are needed
    and
    anticipate the next operation to be performed by the user.
- **Galleries**, like dialog boxes, provide additional options and simplify
  choosing an option by showing the effect.

Common Features

Some of the most common features of applications:

- Spelling and grammar checker � looks for misspelled words or grammatical
  errors.
- Alignment � centers, right-aligns, or left-aligns numbers and characters.
- Fonts and font sizes � specify the size and style of entered numbers and text.
- Character effects � provide a variety of different typefaces, such as bold or
  italics.
- Edit options � provide easy ways to edit text, such as cut, copy, and paste.
- Find and replace � searches a document for a specific word or phrase, with the
  option to replace the word or phrase with something else.

Mobile Apps

Mobile app{lication}s are add-on programs for a variety of mobile devices, including cell phones and tablets.

- Sometimes referred to as simply **apps**.

Apps

- Music apps stream music, organize playlists. and recommend new artists.
- Video apps are a favorite way to watch movie trailers and video blogs.
- Social networking apps let you use your mobile device to share vacation photos, check in at your favorite coffee shop, or invite friends to a party.
- Shopping apps make shopping online quick and easy. These apps will help you find products, read customer reviews, and make purchases.
- Gaming apps are an enjoyable way to pass the time on a cell phone.

General-Purpose Applications

Word Processors

Word processors create text-based documents and are one of the most flexible and widely used software tools.

- Microsoft Word is the most widely used word processor. Other popular word processors include Apple Pages and Google Docs.

Presentation Software

Presentation software are programs that combine a variety of visual objects to create attractive, visually interesting presentations. They are excellent tools to communicate a message and to persuade people.

Spreadsheets

Spreadsheets organize, analyze, and graph numeric data such as budgets and financial reports.

Database Management Systems

A **database** is a collection of related data. It is the electronic equivalent of a file cabinet.

A **database management system (DBMS)** or **database manager** is a program that sets up, or structures, a database.

- It also provides tools to enter, edit, and retrieve data from the database.
- Three popular DBMS:
  - Microsoft Access
  - Apple FileMaker
  - Oracle Database Express Edition

Specialized Applications

General-purpose applications are widely used in nearly every profession, specialized applications are widely used within specific professions.

- Such as graphic programs and web authoring programs.

Graphic Programs

Graphic programs are widely by professionals in the graphic arts profession. They include:

- Video editors
- Image editing programs
- Illustration programs
  - Bitmap images use pixels to represent images
  - Vector images (vector illustrations) use geometric shapes or objects.
    - Defined by mathematical equations
- Desktop publishing programs (Page layout programs)

o low you to mix text and graphics to create publications of professional quality.

Video Game Design Software

Video game design software will help you organize your thoughts and guide you through the game design process, including character development and environmental design.

The video game design software behind some of the biggest games include:

- Unreal Game Engine
- Unity development kit
- GameMaker Studio 2

Web Authoring

Creating a site is called **web authoring**.

More specialized and powerful programs, called **web authoring programs** are typically used to create sophisticated commercial sites.

- Some web authoring programs are **WYSIWYG (What You See Is What You Get)**, which means you can build a page without interacting directly with the HTML code.

Widely used web authoring programs include:

- Adobe Dreamweaver
- Froala 4.0

Other Specialized Applications

- Specialized applications include accounting, personal finance, and project management
- Accounting applications: Intuit QuickBooks
  - Help companies record and report financial operations
- Personal finance applications: Quicken Starter Edition
  - Help individuals track personal finances and investments
- Project management software: Microsoft Project

- Widely used in business to coordinate and plan complicated projects

Software Suites

A **software suite is a collection of separate application programs bundled together and made available as a group. Four types of suites are:

- Office suites
- Cloud suites
- Specialized suites
- Utility suites

Office Suites

- Office suites contain general-purpose application programs.
- Used in business situations.
- Productivity suites commonly include:
    - Word processor
    - Spreadsheet
    - Database manager
    - Presentation application
- Examples:
    - Microsoft Office
    - Apple iWork

Cloud Suites

- Stored on a server on the Internet.
- Accessible anywhere with Internet access.
- Documents can be stored online for easy sharing and collaboration.
- Dependent on server availability.
- Importance of having backup copies and desktop office application.
- Examples:
    - Google Workspace
    - Microsoft 365
    - Apple iWorks

Specialized and Utility Suites

Specialized Suites

- Focus on specific applications.
- Examples:
    - Adobe Creative Cloud (graphics suite)
    - Magix's Sound Forge Pro 15 (recording, audio editing, and mastering suite)
    - Moneytree Software�s TOTAL Planning Suite (financial planning suite)

Utility Suites

- Variety of programs designed to make computing easier and safer.
- Examples:
    - iolo�s System Mechanic Ultimate Defence
    - AVG TuneUp

Careers in IT

Software Engineering

Software engineers analyze users' needs and create application software. Software engineers typically have experience in programming but focus on the design and development of programs using the principles of mathematics and engineering.

Requirements:

- Bachelor's degree or advanced specialized associate's degree in computer science or information systems.
- Extensive knowledge of computers and technology.
- Internships for experience.
- Advantage for those with specific experience with web applications.
- Good communication and analytical skills.

Salary:

- Annual salary range: $63,000 to 148,000$.
- Starting salary dependent on experience and type of software being developed.

- Opportunities for advanced careers in IT for experienced software engineers.