CSC 170 - Introduction to Computers and Their Applications

Lecture 5 – Software

Software Categories

- Software
  - Systems Software
  - Applications Software
    - Operating Systems
    - Device Drivers
    - Utilities
    - Programming Languages
Software Categories

Operating Systems

- DOS
- Windows
- Linux
- UNIX
- MacOS

Software Categories

Software

- Systems Software
- Applications Software

- Document Production
- Spreadsheet Software
- Accounting/Finance
- Math Modeling
Application Software

- Productivity software can be defined as any type of application software that has the potential to help people do their work more efficiently.
- Groupware is designed to help several people collaborate on a single project using local networks or Internet connections.

Utility Software

- Utility software (a type of system software) is designed to help you monitor and configure settings for your computer system equipment, the operating system, or application software.
- A desktop widget is a specialized utility program that appears on a computer’s screen-based desktop.
Device Drivers

- A device driver is software that helps a peripheral device establish communication with a computer
- Windows Device Manager

Popular Applications

- Document Production Software
- Spreadsheet Software
- “Number Crunching” Software
- Database Software
- Graphics Software
- Music Software
- Video Editing and DVD Authoring Software
- Educational and Reference Software
- Entertainment Software
- Business Software
Document Production Software

• Assists you with composing, editing, designing, printing, and electronically publishing documents
  – Word processing
  – Desktop publishing
  – Web authoring
Document Production Software

• Document production software may include:
  – Spelling checker
    • Spelling dictionary
  – Thesaurus
  – Grammar checker
  – Feature to analyze the reading level
    • Readability formula
  – Search and Replace feature

Document Production Software

• The format for a document refers to the way that all elements are arranged on the page

<table>
<thead>
<tr>
<th>Font Style</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Times New Roman Font</td>
<td>8 pt.</td>
</tr>
<tr>
<td>Times New Roman Font</td>
<td>10 pt.</td>
</tr>
<tr>
<td>Times New Roman Font</td>
<td>12 pt.</td>
</tr>
<tr>
<td>Times New Roman Font</td>
<td>16 pt.</td>
</tr>
<tr>
<td>Times New Roman Font</td>
<td>16 pt. Bold</td>
</tr>
<tr>
<td>Times New Roman Font</td>
<td>16 pt. Green</td>
</tr>
<tr>
<td>Arial Font</td>
<td>16 pt.</td>
</tr>
<tr>
<td>Comic Sans MS</td>
<td>16 pt.</td>
</tr>
<tr>
<td>Georgia Font</td>
<td>16 pt. Bold Gold</td>
</tr>
<tr>
<td>Dotto</td>
<td>24 pt. Orange</td>
</tr>
</tbody>
</table>
Document Production Software

**Figure 3.10**
In this document, headings were formatted by selecting a style with a single click instead of individually selecting a font color, font size, and font style. Now if the Hunting style is changed to green, for example, all the headings will automatically change from black to green. Your digital textbook walks you through the process of defining and using styles.

Document Production Software

**Figure 3.11**
DTP frames give you exact control over the position of text and graphical elements on a page. Start the tour for this figure in your digital textbook.
Document Production Software

• Mail merge automatically creates personalized letters by combining the information in a mailing list with a form letter
• Additional capabilities of word processing software include:
  – Automatically generating table of contents and index
  – Numbering and positioning footnotes
  – Providing document templates
  – Exporting to HTML format

Spreadsheet Software

• A spreadsheet uses rows and columns of numbers to create a model or representation of a real solution
• Spreadsheet software, such as Microsoft Excel, iWork Numbers, or OpenOffice Calc, provides tools for creating electronic spreadsheets
Spreadsheet Software

When a cell contains a formula, it displays the result of the formula rather than the formula itself. To view and edit the formula, you use the Formula bar.

Spreadsheet Software

- A formula tells the computer how to use the contents of cells in calculations
  - Cell references
    - Relative reference
    - Absolute reference
  - Mathematical operators
  - Functions
  - Automatic recalculation
Spreadsheet Software

As shown in the examples, relative references within a formula can change when you change the sequence of a worksheet’s rows and columns. An absolute reference is anchored so that it always refers to a specific cell.

“Number Crunching” Software

- Provides a structured environment dedicated to a particular number crunching task
  - Statistical software
  - Mathematical modeling software
  - Money management software
    - Personal finance software
  - Tax preparation software
Database Software

• A database is a collection of data
• Database software helps you enter, find, organize, update, and report information stored in a database

Database Software

Database software provides tools for specifying fields for a series of records.
Database Software

• A query language such as SQL (Structured Query Language) provides a set of commands for locating and manipulating data
  – Natural language query
  – Query by example

Graphics Software

• Designed to help you create, manipulate, and print graphics
  – Paint software
  – Photo editing software
  – Drawing software
  – 3-D graphics software
  – CAD software
  – Presentation software
Graphics Software

A computer-based presentation consists of a series of slides, created with presentation software.

Music Software

- Allows you to make your own digital voice and music recordings
  - Audio editing software
  - CD ripper software
  - Audio encoding software
  - Ear training software
  - Notation software
  - Computer-aided music software
  - MIDI sequencing software
Video Editing and DVD Authoring Software

• Provides a set of tools for
  – Transferring video footage from a camcorder to a computer
  – Clipping out unwanted footage
  – Assembling video segments
  – Adding special visual effects
  – Adding a sound track
• DVD authoring software creates DVDs with Hollywood-style menus

Educational and Reference Software

• Educational software
  – Helps you learn and practice new skills
• For older students and adults, software is available for such diverse educational endeavors as learning languages, training yourself to use new software, learning how to play the piano or guitar, improving keyboarding skills, and even learning managerial skills for a diverse workplace
Entertainment Software

• Computer games are the most popular type of entertainment software
  – Role-playing
  – Action
  – Adventure
  – Puzzle
  – Simulation
  – Sports
  – Strategy

Business Software

• Vertical market software is designed to automate specialized tasks in a specific market or business
• Horizontal market software is generic software that just about any type of business can use
  – Payroll software
  – Accounting software
  – Project management software
Consumer Basics

- Most operating systems include a handful of small applications and a good variety of useful utility software

<table>
<thead>
<tr>
<th>Software</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Explorer</td>
<td>Browse the Web</td>
</tr>
<tr>
<td>Windows Explorer</td>
<td>Manage Files &amp; Folders</td>
</tr>
<tr>
<td>WordPad</td>
<td>Basic Word Processing</td>
</tr>
<tr>
<td>NotePad</td>
<td>Edit Text</td>
</tr>
<tr>
<td>Calculator</td>
<td>Basic Calculations</td>
</tr>
<tr>
<td>Paint</td>
<td>Edit bitmap images, such as photos</td>
</tr>
<tr>
<td>Sound Recorder</td>
<td>Digitize music &amp; input voice from a microphone</td>
</tr>
<tr>
<td>Windows Media Player</td>
<td>Play music &amp; videos</td>
</tr>
<tr>
<td>Backup</td>
<td>Back up hard disk files</td>
</tr>
<tr>
<td>Disk Defragmenter</td>
<td>Re-arrange data for better access</td>
</tr>
<tr>
<td>Security Center</td>
<td>Set security levels for web access</td>
</tr>
<tr>
<td>Windows Firewall</td>
<td>Block intruders</td>
</tr>
<tr>
<td>Windows Movie Maker</td>
<td>Edit videos</td>
</tr>
<tr>
<td>Windows Photo Gallery</td>
<td>View digital photos</td>
</tr>
</tbody>
</table>

Software Suites

- A software suite is a collection of application software sold as a single package
Consumer Basics

- Available in many types of stores
- Software contained on distribution media
- Make sure your computer meets the system requirements

Software Copyrights and Licenses

- A copyright is a form of legal protection that grants the author of an original "work" exclusive rights
  - Copyright notice
- Software licenses define the ways in which you may use a computer program
  - Single-user
  - Site
  - Multiple-user
  - Concurrent
  - Shrink-wrap
Software Copyrights and Licenses

- EULA (End-User License Agreement)
- Different types of software licenses
  - Public domain
  - Proprietary
  - Commercial software
  - Demoware
  - Shareware
  - Freeware
  - Open source
  - BSD
  - GPL