

Chapter (3)

Application Packages

3-1 A Review of Application Software

The following are common application programs for business:

- Spreadsheet programs to create a budget.
- Payroll programs to update a master payroll file.
- Accounts receivable programs to print bills.
- An Inventory program to answer inquiries about the quantity on hand for each item in stock.

Types of Software

- ❖ *Systems Software* supervises processing.
- ❖ *Application Software* satisfies user needs. Application software can be:
 - **Packaged.**
 - **Custom-designed.**

Packages are cheaper than custom programs but they do not fully satisfy all user needs.

Productivity Tools: The Basic Packages were reviewed in the 2-d chapter.

3-2 Additional Productivity Programs

3-2-1 Communication Software: It allows setting parameters that enable computers to send and receive messages and files. This software, for accessing Internet, is called *Browser*.

Internet Explorer is Microsoft *browser*. In addition to other S/W parts, it includes e-mail (Outlook Express) and Groupware (NetMeeting).

GroupWare Software:

- It facilitates the processing of data by team.
- It helps to resolve incompatibility across platforms.
- It provides extensive data conferencing capabilities.

3-2-2 Desktop Publishing (DTP): The DTP software is used to design and print documents with a wide variety of type and styles and sizes for creating newsletters, advertising pieces, and even full-length texts. Microsoft “publisher” is an example of this software.

3-2-3 Graphics Programs

❖ ***Image Editors***, also known as photo editors, are specialized graphics programs for editing or modifying digital photographs.

Popular professional image editors include Microsoft Paint, Adobe Photoshop, Corel Photo Paint, and Paint Shop Pro.

❖ ***Illustration Programs***, also known as drawing programs, are used to create and to edit vector images (They use geometric shapes or objects that are created by connecting lines and curves).

Popular professional illustration programs include Adobe Illustrator, CorelDraw, Macromedia FreeHand, and Micrografx Designer.

- ❖ **Image Galleries:** They are libraries of electronic images. These images are used for a wide variety of applications. *Clip art* is an example.

Note: There are numerous Web image galleries. Some of these sites offer free images and clip art while others charge a fee.

- ❖ **Graphics Suites**

Some companies are combining or bundling their separate graphics programs in groups called graphics suites. The advantage of the graphics suites is that you can buy a larger variety of graphics programs at a lower cost than if purchased separately.

One of the most popular suites is from the Corel Corporation. The suite, called CorelDraw Graphics Suite, includes five individual Corel graphics programs plus a large library of clip art, media clips, and fonts. Two other popular suites are Adobe's Creative Suites and Macromedia's Studio.

3-2-4 Multimedia Packages

- ❖ **Multimedia:** It is the use of text, graphics, animation, sound, and video in interactive presentation for making presentation, for education...etc.
- ❖ **Multimedia Authoring Programs:** They are special programs used to create multimedia presentations. They bring together all the video, audio, graphics, and text elements into an interactive framework.

Widely used authoring programs include Macromedia Director, Authorware, and Toolbook.

3-2-5 WEB Site Design

A Web site is an interactive multimedia form of communication. Designing a Web site begins with determining the site's overall content. The content is then

broken down into a series of related pieces of information.

Web Authoring Programs: They are specialized programs that are typically used to create sophisticated commercial sites.

Widely used Web authoring programs include Macromedia Dreamweaver, NetObjects Fusion, and Microsoft FrontPage.

3-2-6 Video & Audio

❖ *Software for creating videos:* It is designed to manipulate and edit images.

Two commonly used video editing software programs are Apple's iMovie and Windows Movie Maker.

❖ *Audio Editing Software:* It allows you to create and edit audio clips.

Some commonly used audio editing software programs are Ableton's Live and Sony's ACID.

3-2-7 CAD / CAM

❖ *Computer-Aided Design (CAD) Packages* are used to design products with the assistance of computer. They allow to:

- Create complex drawing with a high degree of precision.
- Automatically calculate and display the dimensions of an illustration.
- Place objects in precise locations by specifying x & y coordinates.
- Store library of symbols on disk.
- Insert, scale, and rotate figures as needed.

❖ *Computer-Aided Manufacturing (CAM) Packages:* They help engineers in production facility.

❖ *CAD/CAM software* integrates CAD with CAM: The products designed in the CAD system are directly inputted to the CAM system.

3-2-8 Statistical Packages

These Packages can perform virtually any statistical operation such as determining standard deviations and variances, to help managers analyze data. Many of the functions in statistical packages are now commonly found in spreadsheets.

3-2-9 Artificial Intelligence Software

- ❖ *Artificial Intelligence (AI)* refers to devices, software, and applications that exhibit human intelligence. AI applications have the ability to learn or adapt to additional information.
- ❖ *Expert System Package* is software intended to model or simulate the performance of human expert in technical field. It performs the role of a consultant or adviser to users.

To create *an expert system*, in a specific field, the knowledge of experts, called **knowledge base**, has to be translated into a series of rules in the form of “*If – Then*” relationships.

The main components of an expert system are:

- Knowledge in the form of database.
- Rules in the form of “**If – Then**” relationship.
- Human interaction: users respond to queries.
- An inference engine (component of s/w) to draw conclusion.

Expert systems are best suited for providing advice or support to the decision-makers. But they are not substitutes for human expertise, because human factors such as intuition, creativity, and experiences are not easily built into such systems.

In business, expert systems are used for many purposes:

- Evaluating stocks.
- Determining seating capacity and airplane utilization for various airlines.

- Marketing and planning to help establish prices, provide sales forecasts, and make profitability estimates.
- Diagnosing equipment failure.

3-2-10 Business and other Packages

❖ *General Business Packages such as Accounting Software*

Some small businesses function well with spreadsheet packages for all their financial and accounting needs.

Other businesses need S/W to computerize the overall account function. The 3 most commonly used modules are those that manage:

- The general ledger.
- Accounts receivable.
- Accounts payable.

Other modules can be added (depending on the nature of business):

- Inventory module.
- Payroll module.

Other common features of accounting packages include a **system manager program** that integrates the modules, specialized report writers, and charting and graphing routines.

A good accounting program includes:

- Error-detection procedures.
- Extensive audit trails (to trace transactions).
- Year-end closing (i.e. create complete financial statement that summarize the activity of the year).

Some S/W companies have a line of accounting S/W and upgrade policies (start with one version and move up to a more sophisticated version as the need arises).

In large businesses, networked versions of accounting programs make it possible for several people to enter data or to handle specific duties, such as billing, and writing checks, from different workstations.

Accounting packages come ready to run. Most of them automatically produce statements, invoices, and paychecks.

Discussed above accounting S/W can be used in wide variety of organizations. Other types of general packages include payroll, inventory, and sales management S/W.

❖ ***Industry-specific Software***

Many packages have been developed to meet the specialized needs of industry such as the medical profession. One example is S/W used to perform the tasks of optometrist's offices: Schedule appointments, maintain patient records, send bills, and keep track of employees' work schedules.

❖ ***Packages for Consumer Use***

Many of the discussed packages are used in home and office PCs. Some Packages enable users to computerize their checkbook processing and provide portfolio management for investors.

3-3 Choosing and Using Software

3-3-1 To make or Buy Software Decision

| | Pros | Cons |
|--------------------------|--|---|
| Packaged Programs | <ul style="list-style-type: none"> - Immediately usable on acquisition. - Widely tested. - Less expensive for each user. - Well documented. | <ul style="list-style-type: none"> - Likely to meet most, but not all, of user's requirements. - After acquisition, user is dependent on outside support (e.g. telephone hot lines) rather than having programmers available if modifications are needed or problems arise. |
| Custom Programs | <ul style="list-style-type: none"> - Designed to satisfy individual user needs. - More easily modified if the need arises. - Developers readily available to support implementation and modification if needed. | <ul style="list-style-type: none"> - More expensive because costs are not shared among many users. - Take more time to implement. |

Versions of software: Popular s/w products are updated with some frequency. Versions numbers provide information about the level of the update: Version 2.0, for example, is a significant improvement over 1.0, whereas version 2.2, which has the same integer as 2.0, is likely to have minor improvements. A file created using version 1.0 will typically *be usable* with all newer versions, but files created under newer versions *may not be usable* with older ones.

3-3-2 Evaluating software products

The aim is *how well the product meets your needs*. The factors are:

- 1- Compatibility with existing hardware and software:
 - Can it be run as is with existing equipment ?
 - Can files from other programs be read, or imported into the package?
 - Can files from the new package be written, or exported, to files created by other programs?
- 2- Speed.
- 3- Quality of documentation.
- 4- Ease of learning:
 - Are online tutorials available?
 - Are help menus helpful?
- 5- Ease of use:
 - Are pull-down menus available?
 - Are icons available for selecting commands?
- 6- Error handling ability.
- 7- Technical support:
 - Are there hot lines?
 - Is telephone support available 24 hours a day?
 - Is technical support free?
 - Who pay for phone call?
- 8- Upgrade policy:
 - When new versions of the software become available, can users of the previous versions purchases the product at a discount?
 - Can data created using older versions be used without change?
- 9- Cost of the package.

When you need to evaluate software products, consider also the following:

- ❖ ***Check Reviews in Publications:*** Many magazines like PC world, PC week, and InfoWorld provide periodic reviews of software products. There are also technical publications that specialized in analysis of H/W & S/W.
- ❖ ***Perform Benchmark Tests:*** Benchmark tests, or performance tests, can help you determine the efficiency of a product. These tests involve running various programs and measuring the time, it takes for the computer to perform the tasks. Computer journals publish results of benchmark tests on different types of software.
- ❖ ***Check out the manufacturer:*** When it comes to software development, reputation is extremely important. It is wise to consult other users of the product. They can provide information about the quality of the product and its documentation, the availability of technical support, and so on.

3-3-3 Where to get application packages

| | Pros | Cons |
|--|---|--|
| Mail Order | Tends to be inexpensive since the mail-order house has very little overhead. | Technical support from vendor is minimal. |
| Discount stores | Often as inexpensive, or almost as inexpensive, as a mail order house. | Very little support is provided. |
| Computer, electronic or retail stores | Tends to be moderately expensive. | Technical support may be available if personnel are familiar with the product. |
| Directly from manufacturer | List price. Technical support is available. Manufacturers put all customers on a mailing list for upgrades. | |
| Online subscribe services | You can order s/w or, in some cases, download programs. | Beware of viruses when downloading software. |

3-3-4 The Human Factor: *Security and safety*

❖ *Licensing and Copy protecting software*

Most software that is sold or leased is accompanied by a licensing agreement that specifies how the product should be used. **Licensing agreements** indicate the number of copies users are legally permitted to make. With a **site license** the manufacturer or vendor agrees to sell or lease a fixed number of copies for a set price. Some software manufacturers enforce their licensing agreements by **copy protection**. Copy-protected disks contain some programmed feature that limits the number of copies that can be made. Sometimes a hardware feature is used instead of software for copy protection.

❖ *Computer viruses*

Hackers are computer-proficient hobbyists who take pride in violating systems, breaking codes, or otherwise using computers in unauthorized ways. Some hackers have moved from breaking into systems to wreaking havoc with software. They add some instructions to operating system, or application software that can not only destroy the product but also “infect” every file on disk.

- ❖ *Anti-virus programs:* are software designed to detect viruses and eliminate their threat

CHAPTER SELF-TEST

1. *Name the two main types of application software.*
2. *(T or F) custom software is generally more expensive than off-the-shelf packages.*
3. *(T or F) Communications software is simplified word processing software that can be used to create documents.*
4. *(T or F) Desktop publishing allows you to create high quality documents.*
5. *What do we call specialized software that helps engineers create complex designs?*
6. *(T or F) FrontPage is an example of a DTP package.*
7. *Multimedia software combines text with_____.*
8. *A _____is a set of instructions that when added to an operating system or application program can destroy the product and even infect every file on disk.*

Solutions:

1. *Package (off-the -shelf) and custom (Specially prepared) software.*
2. *T*
3. *F*
4. *T*
5. *Computer-aided design (CAD) programs.*
6. *F*
7. *Animations, graphics, sound, and video.*
8. *Virus*