Information Systems
ISM 3011
Fall 2004
Unit 4A

Assignment for Next Class
• Read chapter 5
• Self-Assessment test chapter 5
• Check that you know the key terms listed on p. 218
• Prepare review questions Chapter 5: 1, 4, 5, 8, 11

Flextronics /QuoteWin
• Review the case (see p. 131)
• What is the problem with QuoteWin from a supplier’s perspective?

An Overview of Software
• Computer program - sequences of instructions for the computer
• Documentation - describes program functions
• Systems software - coordinates the activities of hardware & programs
• Applications software - helps users solve particular problems

The Importance of Software in Business

The Role of the Operating System

Figure 4.1
The role of the operating system is to act as a middle layer between application software and hardware.

Figure 4.2
The role of the operating system is to act as a middle layer between application software and hardware.
Hardware Independence

Examples:
- Accessing Printers (Windows-API) or
- Scanners and Digital Cameras (TWAIN)

Memory Management

Examples:
- Find and reserve free blocks etc.

Processing Tasks

- Multitasking - more than one program (task) can run at a time using a single processor
- Multi-User OS - multiple users can simultaneously use the resources of a single processor
- Scalability - easy adaptation to more users or tasks

System Speed and RAM

- Why does a bigger primary storage capacity (more RAM) increase your PCs speed?
- Does more memory always lead to a higher system performance?

Off-the-Shelf Software

- The book says on page 147 that one should check whether the software manufacturer is financially solvent and reliable. Why?
Proprietary vs. Off-the-Shelf Software

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>Customized to meet specific needs</td>
<td>harder to maintain and update</td>
<td>Low upfront costs</td>
<td>Higher costs for hardware and licensing</td>
</tr>
<tr>
<td>Better long-term support</td>
<td>no discounts on upgrades</td>
<td>More flexibility</td>
<td>less control over software</td>
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<tr>
<td>Can be tailored to fit business needs</td>
<td>requires ongoing support and training</td>
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Data Integration: “One fact at one place”

Functionality Integration: one function can interact with others (copy and paste inside one program)

Application Integration: Two or more software applications can interact.

Process Integration: Two or more business processes are connected.

What is **Integrated** Software?

**Compiler**

Object-Oriented Programming Languages

- **Objects** - data and actions that can be performed on the data
- **Encapsulation** - group items into an object
- **Polymorphism** - one procedure can work with multiple objects
- **Inheritance** - an object in a particular class gets attributes of that class

Object-Oriented Programming Languages

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Thank you!

The slides will be available on the internet at
http://ruby.fgcu.edu/courses/mhepp/ (-> CRN80097)
Case 1: Offshore Outsourcing

Question 1

• Reason 1:
  – Savings due to lower wages (cost of hiring programmers 1/7)

• Reason 2:
  – Shortage of U.S. programmers

• Reason 3:
  – Work can be done around the clock (→ time-zone differences)

Question 2

• Lack of Control
  – Need for strong project management, budget and quality control

• Communications
  – Language, cultural, and social barriers
  – U.S. everyday tasks and requirements must be specified in detail (SSN format,…)

Question 3

• Knowledge must be revealed
  – internal procedures etc.

• Possible Project Failure
  – The results cannot be used as planned.
  – Serious Delays

• Loss of Skills

Question 4

• Send U.S. Project Management Team to Offshore Site

• Establish Short Feedback Cycles
  – Compile prototype daily

Case 2: Crystal Flash, ASP

Question 1

• Crystal Flash Can Focus on Its Competitive Advantages.

• Free Human Resources
Case 2: Crystal Flash, ASP
Question 2
• Flexibility
  – Crystal Flash can define its own sales processes.
• Less Paperwork
  – Sales staff saves time
• Real-time Information/Reports

Case 2: Crystal Flash, ASP
Question 3
• Check www.salesnet.com

Case 2: Crystal Flash, ASP
Question 4
• Customer Data, Sales Processes, etc. Contain Extremely Sensitive Information
  – Nobody else should have access
• Sales Processes Tolerate No Outages
  – Internet outages, technical problems, and the risk of bankruptcy are serious dangers.

Summary: Sales Processes Are Not Suited for Outsourcing/ASP
(please feel free to disagree: mhepp@computer.org ☺)

Case 3: Microsoft
Question 1
• Think of lost work, missed deadlines, nightshifts, unsatisfying grades,…
  …Always make and keep backup copies of important work,
  at least once a day, in the very final stage several times a day.

Case 3: Microsoft
Question 2
• Bug-fixes Can Be Delivered Easily Via The Internet
  – Compare that to product recalls in the automotive industry…
• Market Share Is Extremely Important for Success in the Software Industry

Case 3: Microsoft
Question 3
• Long History of Bugs in MS Software
• Programming Style and Company Culture
• Focus on Innovation and Speed
• Consumer Software: Trade-off between Quality and Price
Case 3: Microsoft Question 4
- Change Release Procedures
- Modify Software Architecture

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