Class announcements

- Assignment 3 due Thursday
- Reading for next class
  - Messerschmitt Ch 5, Sun Case
  - Suggestion: Read Messerschmitt Ch5 first.
- MIDTERM NEXT WEEK!!!
  - 10/28

Student Presentations

E-Commerce

- Major Categories
  - Consumer (B2C)
  - Inter-consumer (C2C)
  - Inter-enterprise (B2B)

Consumer e-commerce (B2C)

- What have you bought on the Internet, or what do you buy most often?
- What are the advantages and disadvantages compared to a retail store or direct mail catalog?

Some Advantages

- For the Consumer
  - Check prices at many vendors with minimal effort
  - Price many options
  - Anonymity
  - Order tracking
- For the Business
  - Global reach
  - Automate order taking (cost savings)
  - Price Discrimination
Inter-Consumer (E-commerce)

- Prime Example
  - E-Bay

- Other examples?

- What value does something like E-bay add over a simple classifieds listing like craigslist?

Inter-Enterprise E-Commerce (B2B)

- **Procurement**
  - One enterprise purchases goods or services from another

- **Direct Procurement**
  - Ongoing, consistent, and scheduled procurement

- The relationship between firms involved in direct procurement often called a **Supply Chain**

- The set of problems associated with managing a supply chain is called **Supply Chain Management (SCM)**

SCM

- Thousands of orders per day, each with different requirements!
- Adjusting orders from suppliers constantly according to demand
- Minimal inventories
  - Cut costs
  - Much more sensitive to errors or disruptions
- **mass customization** requires sophisticated SCM

Networked Computing in direct Procurement

- History predates Internet

- **Electronic Data Interchange (EDI)**
  - Exchange order information between firms involved in direct procurement
  - Usually large firms who could who afford proprietary communication links
  - Initially order and invoice
  - Existed since 70’s

- **Financial EDI (FEDI)** later added EFT payment capability

Networked Computing in direct Procurement

- XML (Extensible Markup Language) is another data interchange format making an impact on inter-enterprise commerce

- We will talk more about this later in the quarter.

Indirect Procurement

- Sporadic purchase of goods and services to support organizational objectives
  - Example: Office Furniture
Alibris

- Why did Interloc succeed so early on?

Alibris

- If Interloc is so successful, why change it?
- What will change as Interloc becomes Alibris?

Alibris

- Why did Manley feel they needed the Sparks facility?
- How does the Sparks facility keep them from becoming disintermediated?

Alibris

- Should Alibris actually buy books and fill up the Sparks facility?

Alibris

- What problems is Alibris having with its e-commerce capabilities?
- Why is Alibris having so much trouble setting up simple e-commerce capabilities?
- Is this really that hard??
- Is it rare for a new-software product from an established, reputable vendor not to work properly?

Alibris

- Should Alibris stick with Oracle? Or switch back to Thunderstone?
**Alibris**

- Should Manley take the "white knight's" offer and fire the whole IT staff??!

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**Alibris**

- Rejects "white knight" offer
- Manley secures another bridge loan
- Goes Live 1998
- Thunderstone's software works ok
- 1 million books at Sparks warehouse by 2000
  - Originally all on consignment from dealers
  - Later, purchases books
- 2002 - Revenue $31 million, loss $7.2 million
- 2003 - Revenue $45.5 million, loss $4.8 million
- March 2004 files for "auction based" IPO
  - May 2004, withdraws IPO after price too low
  - Still Relying on Private Financing

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**Data and information**

by

David G. Messerschmitt

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**Key concept**

The key commodity manipulated by information technology is **information**

To be manipulated in a computing/networking environment, information must be represented by data

**What is information?**

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**Information**

From a user (human) perspective...

...recognizable patterns that influence you in some way (perspective, understanding, behavior...)

In the computing infrastructure, information has a somewhat different connotation as structure and interpretation added to data
Data

A bit is "0" or "1" — the atom of the information economy

Data is a collection of bits, like

- "0101110110101110"
- "00000111"
- "11101110101111010111010110110"

Note: the terms data and information are not always used consistently!

Representation

- Take the place of the original
- Equivalent to, in the sense that the original can be reconstructed from its representation
- Often the original can only be approximately reconstructed, although it may be indistinguishable to the user
  - e.g. audio or video

ASCII

<table>
<thead>
<tr>
<th>Character</th>
<th>Hex</th>
<th>Binary</th>
</tr>
</thead>
<tbody>
<tr>
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<td>A71</td>
<td>01000111</td>
</tr>
<tr>
<td>#</td>
<td>A70</td>
<td>01000110</td>
</tr>
<tr>
<td>$</td>
<td>A6F</td>
<td>01000101</td>
</tr>
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<td>%</td>
<td>A6E</td>
<td>01000100</td>
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<td>&amp;</td>
<td>A6D</td>
<td>01001110</td>
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<td>(</td>
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<tr>
<td>/</td>
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<td>01000011</td>
</tr>
<tr>
<td>0</td>
<td>A66</td>
<td>01000010</td>
</tr>
</tbody>
</table>

Note that this representation is not unique…

…this one happens to be a standard
(ANSI X3.110-1983)

A picture

This picture conveys information

This information is represented in this computer, but how?

Representation of picture: image

Expanding a small portion of the picture, we see that it is represented by square pixels…

Structure

…300 tall by 200 wide…

Interpretation

…with a range of 256 intensities per pixel

300 • 200 • 8 bits = 480,000 bits (but it can be compressed)

Color picture

A color picture can be represented by three monochrome images…

At the expense of three times as many bits
Terminology

Data → Information Representation → Data processing

Communication data to another user or organization

Data