Online Internet Sales Penetration
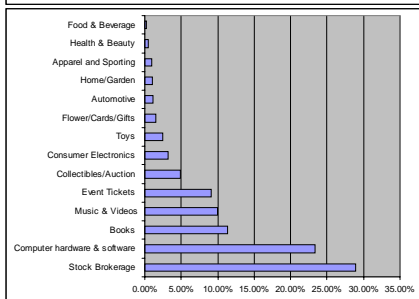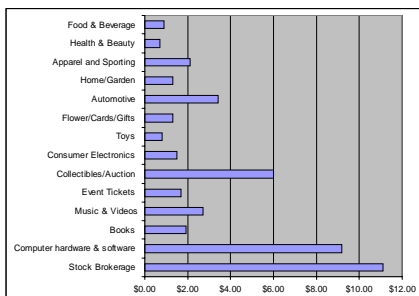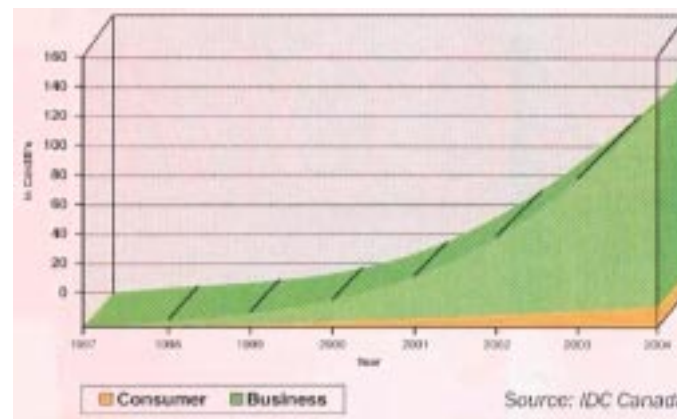
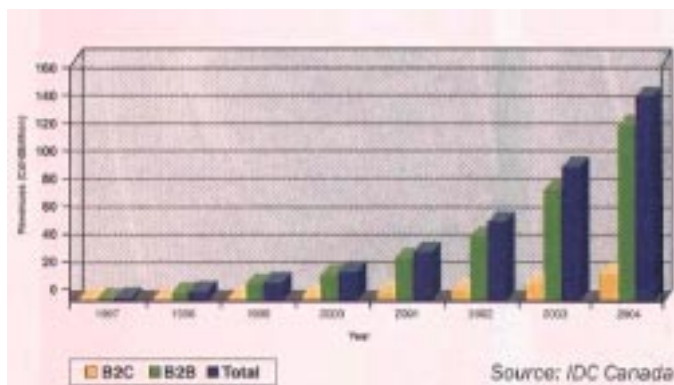| Industry or market sector	Online sales 2000 (in US$ billions)	Online as % of total market
Stock Brokerage	$11.10	28.90%
Computer hardware & software	$9.20	23.40%
Books	$1.90	11.40%
Music & Videos	$2.70	9.90%
Event Tickets	$1.70	9.10%
Collectibles/Auction	$6.00	4.90%
Consumer Electronics	$1.50	3.20%
Toys	$0.80	2.40%
Flower/Cards/Gifts	$1.30	1.50%
Automotive	$3.40	1.10%
Home/Garden	$1.30	1.00%
Apparel and Sporting	$2.10	0.90%
Health & Beauty	$0.70	0.50%
Food & Beverage	$0.90	0.20%

Sources: Shops.org, Boston Consulting Group, Wall Street Journal
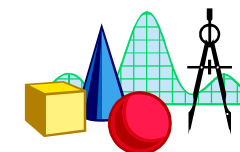

Growth of E-Commerce in Canada

Predicted to be over $148 billion by 2004.

B2C and B2B Market Shares

Business-to-Business is already more important in Canada than Business-to-Consumer. B2B is predicted to represent 87% of the total by 2004.

Course Project

- The project implementation will have two major modules:
  - Retail   (What the customers see)
    - Selecting, ordering, shopping cart, personalization, recommendation, etc.
  - Management (what the store manager sees)
    - customer management, shipping, billing, stock, etc.
- Teams (of 4) will divide as they wish to implement these modules
- All projects will implement an e-gardening store

Class Presentation

- There will be class presentations (by students) on a variety of relevant technologies:
  - **PHP, WAP, Flash, Instant Messaging, ActiveX „.Net, COM/DCOM/COM+, RDF, ATM, Streaming Video, ASP, ...**
- 2 students per topic presented, working together
- 10 minutes per presentation, as well as a report to be put on-line.
- Evaluation based on Report, Presentation and Peer evaluation.

What Is PHP?

- PHP is a server-side preprocessor for HTML-embedded scripting language.
- HTML pages are embedded with some code that is parsed by the server and replaced by the result of the execution before sending the page.
- Web-pages: http://www.php.net

  http://WWW.php.net/manual/en/html/

  http://www.php.net/FAQ.php

What is WAP?

- The Wireless Application Protocol is a set of open, global protocols for developing applications and services that use wireless networks and optimized for wireless purposes.
- WML is the WAP equivalent to HTML. Wireless Markup Language is actually an extension of XML.
- Web pages: http://www.wapforum.org/

  http://www.wap.com/

What is Flash?

Macromedia Flash 5

- Flash is the Web technology for vector graphics and animation introduced by Macromedia.
- Macromedia Flash can be used to create compact navigation interfaces, technical illustrations, animations, and various special effects for web site.
- Web site:

  http://www.macromedia.com/software/flash/

What is Internet Messaging?

- A technology introduced by Netscape to allow users communicate and be aware of other user's presence on the net.
- Based on a client-server architectures.
- Many web applications take advantage of this technology.

What is ActiveX?

- Technology from Microsoft
- ActiveX is a set of technologies that enable software components to interact with one another in a networked environment, regardless of the language in which the components were created.
- An ActiveX control is a user interface element created using ActiveX technology.
- Web page:
  http://www.microsoft.com/com/tech/ActiveX.asp

What is .Net?

- According to Microsoft:
  - Microsoft .NET will enable developers to create programs that transcend device boundaries and fully harness the connectivity of the Internet.
  - The .NET platform will fundamentally change the way that companies interact with their customers and partners over the Internet.
- Web page:
  http://www.microsoft.com/net/default.asp

COM-DCOM-COM+
What are these Technologies?

- The Component Object Model (COM) is a software architecture that allows applications to be built from binary software components.
- The Distributed Component Object Model (DCOM) is a protocol that enables software components to communicate directly over a network in a reliable, secure, and efficient manner.
- COM+ is an extension to COM
- Web pages:
  http://www.microsoft.com/com/presentations/default.asp

What is RDF?

- Resource Description Framework from the W3C.
- RDF is a framework for metadata (data about data)
- RDF provides interoperability between applications that exchange machine-understandable information on the Web.
- Web page: http://www.w3.org/RDF/

What is ATM?

- Asynchronous Transfer Mode: A transfer mode in which the information is organized into cells. It is asynchronous in the sense that the recurrence of cells containing information from an individual user is not necessarily periodic. (ATMForum)
- Web pages: http://www.atmforum.com
  http://cell.onecall.net/cell-relay/FAQ/ATM-FAQ/d/d.htm

Streaming Video

- How do we produce Streaming Video (and Audio) for the Web?
- What are the challenges?
- What are the technologies available?

What is ASP?

- Active Server Pages
- Server-side technology from Microsoft
- The code inside ASP is mixed in with standard HTML.
- Pages with ASP are parsed by server before sending to browser.
- Web page: http://www.learnasp.com/learn/