COURSE OUTLINE:

- E-Commerce and its types, Internet and WWW Basics, Internet standards and protocols, IP addressing, Data communication on internet, Domain name system
- Networking devices – Bridges, Switches, Routers etc., Role of ISP's on Internet, Getting Domain name and IP addresses, Understanding electronic mail
- Markup languages and the Web, Web designing using HTML, CSS and JavaScripting
- Client side & server side processing, Cookies, Maintaining state in a stateless environment, Two tier/n-tier architecture
- Security issues on the internet, Firewalls, Proxy Server, Virtual Private Network
- Cryptography and Public key infrastructure (PKI), Certification Authorities and Digital Certificates, Digital signatures Technology
- Electronic Payment Systems – VirtualPin payment system, Centralized account system, Electronic Check, E-Cash, SSL and SET based payment systems
- E-business– advantages/disadvantages, Paper and electronic catalogues
- Electronic Data Interchange (EDI)
- E-business models
- Internet marketing
- Data mining and knowledge discovery Process, OLAP, Types and business application of data mining
- E-business strategy, supply chain/value chain analysis and Porter's model, role of e-commerce in competitive strategy
- E-banking, ERP
- Legal/policy issues in e-commerce –salient features of Electronic Transactions Ordinance, 2002 in Pakistan
- Territorial jurisdiction and conflict of laws, online contracts, online defamation, Copyright in Cyberspace
- Issue of ISP's liability, domain-name and trade mark conflicts, privacy issue on the internet, Cyber crimes

SUGGESTED BOOKS

- Electronic Commerce (4th edition) by Gary P. Schneider
- Electronic Commerce : Security, Risk Management and Control by Greenstein & Feinman
- Electronic commerce – A Managerial Perspective by Turban et al.
- Absolute Beginner's Guide to Networking (3rd edition) by Joe Habraken
- Creating a Web Page (5th edition) by Paul Mcfedries
- Web Security, Privacy & Commerce by Garfinkel & Spafford
- Data Mining – Concepts & Techniques by Han Kamber
- E-commerce – Strategy, Technologies and Applications by David Whiteley
- Internet Law in Canada (6th edition) by Michael Geist

E-COMMERCE – DEFINITION

Electronic commerce is an emerging concept that describes the process of buying and selling or exchanging of products, services and information via computer networks including the internet

E-COMMERCE – CLASSIFICATION

A common classification of EC is by the nature of transaction:

- Business-to-business (B2B): electronic market transactions that take place between organizations
- Business-to-consumer (B2C): retailing transactions with individual shoppers – typical shopper at Amazon.com is a consumer
- Consumer-to-consumer (C2C): consumer sells directly to consumers, examples - individuals selling in classified ads, auction sites allowing individuals to put up items for auction – e.g, e-bay
- Consumer-to-Business (C2B): individuals who sell products or services to organizations and those who seek sellers and conclude a transaction
- Intra business (organizational) EC: all internal organizational activities involving exchange of goods, services or information, selling corporate products to employees, online training and cost reduction activities
- Non-business EC: academic institutions, not-for-profit organizations, religious/social organizations and government agencies using EC to improve their operations, customer service and reduce expense

BASIC DEFINITIONS

- Web client- machine that initiates internet request
- Web server – machine that services internet request
- Browser - software at the client side to interact with web data
- Intranet – an internal network of computers confined to a single place
- Extranet – when two or more intranets are connected with each other, they form an Extranet – e.g, Virtual Private Network
- Internet – a global network of networks is defined as internet

Internet presents a two-way client server communication model as shown in Fig. 1 below:

Client-Server Model

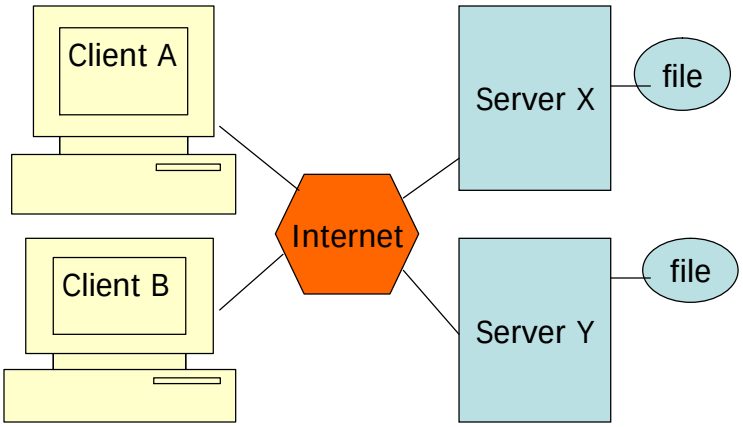

Fig. 1

WHAT IS THE WEB?

The Web is a protocol that uses the internet as the communication structure. It links documents stored in computers that communicate on the internet. It is based on Hypertext Transfer Protocol (HTTP) - native protocol of WWW designed for making web page requests.

HTTP IS A FOUR STEP PROCESS PER TRANSACTION

1. Client
   - Makes an HTTP request for a web page
   - Makes a TCP/IP connection
2. Sever accepts request
   - Sends page as HTTP
3. Client downloads the page
4. Server breaks the connection

HTTP is stateless because in the fourth step the server breaks the connection. We can say, therefore:

- Each operation or transaction makes a new connection
- Each operation is unaware of any other connection
- Each click is a new connection

SIDE EFFECTS OF HTTP TRANSFERS

A record is left of all web transaction in a file that resides at the server called common log file. Good news is that some user data (record of his visits to the web sites) is recorded in a particular format in the log files. Bad news is that user privacy is not maintained.

WHAT CAN YOU DO WITH THIS DATA?

- Rearrange your site by knowing which portions of your web site are popularly accessed and which are ignored by the users
- Change your marketing strategy – e.g, you can introduce some promotional scheme for boosting the sale of ignored items
- Make a mailing list – you can trace the location from where customers are visiting and prepare a mailing list for marketing purposes