

Feature Article

THE INTERNET AND LOTUS NOTES

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The Internet is a very common word in today's electronic world. In general, the Internet means a collection of TCP/IP (a communication protocol, Transmission Control Protocol/ Internet Protocol) based network of computers. Millions of computers around the world are connected to the Internet. The Internet domain is like another world with vast and unbounded space! Some people call the Internet as *Cyberspace*. The digital bits in the form of packets travel the Internet like cars running in the super fast highway. Due to fast information flow, the Internet is also called the *Information Super Highway*.

Surfing the Internet has become a part of daily life activity. We send and receive e-mail and browse the Internet web sites. In the morning we read the news from various news sites. When we become tired of surfing the net, we click the mouse to an audio site to listen music and relax. Internet has many functions: 1. Mail Services 2. FTP (File Transfer Protocol) 3. Online Chat 4. Web Site Browsing 5. Search Engines 6. Electronic Commerce (E-Commerce)

Mail is the most important service of the Internet. We communicate and exchange mails with friends, office mates and relatives around the world via the Internet.

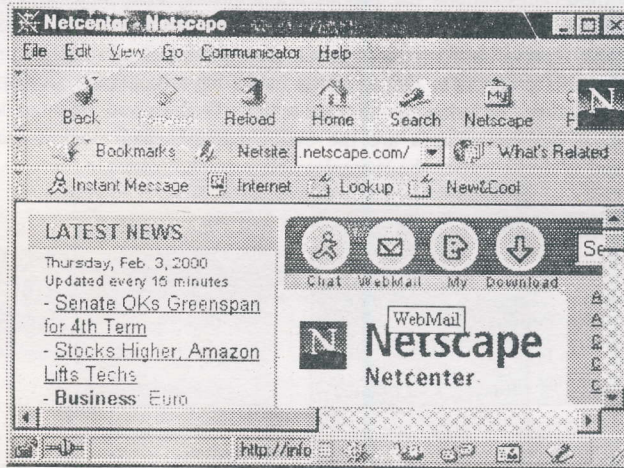


Figure- 1: Netscape Web Browser

FTP sites provide download facility for programs, games, drivers, updates and fixes. Another hot topic of the Internet is the online Chat. Young people mostly students communicate online with their friends and talk hours and hours. This service is free of charge. Web sites are very common terms nowadays. All dot com sites can be browsed in browsers like Netscape and Microsoft Internet Explorer. Search engines are utility programs for searching and locating topics on the web. Most used search engines are Yahoo, AltaVista, Lycos, Excite, About.com and WebCrawler. There are utilities in the search engines as well, like calendars, stock quotes, yellow pages, people search, weather forecasts and road maps etc. Netscape is a product of Netscape Communications, a leading Internet company and a subsidiary of Americal On-line (AOL). There are over 25 millions registered Netscape usres worldwide.

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The Internet becomes the key business development. It provides ways of expanding business that are faster, easier and efficient.

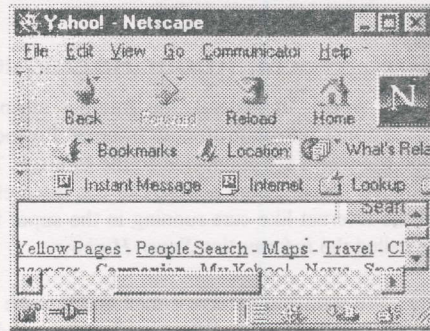


Figure 2: Yahoo.com - Search Engine

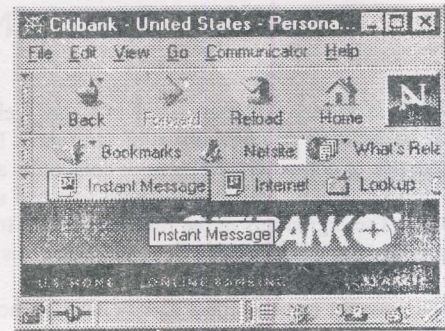


Figure 3: Citibank Web site for online banking

Private, commercial, educational, government and organizational web sites are in the Internet. Another hot topic of the Internet world is the E-commerce. E-commerce is business transactions done over the network. One can setup virtual shops, malls, offices and entertainment, sports, travel, music, books and CD stores on the web. The common thing of all Internet startup is the medium of online communications. People can go to these sites, check the products and prices, and shop with credit card accounts. Transactions are secured. Airline and Broadway show tickets can be purchased via web sites. One can purchase airline tickets, reserve hotel rooms and even shop grocery from sites like priceline.com. This site offers to quote customers own price. Most of the banks have their own web site. Inquiring account status, bill payment and check ordering can be done online. Flowers and gifts can be ordered and sent to loved ones. The most interesting sites are the online auctions and stock trading. E-Trade, Datek, Ameritrade, NDB and Waterhouse are the examples online stock brokers in the web.



Figure - 4: Priceline.com

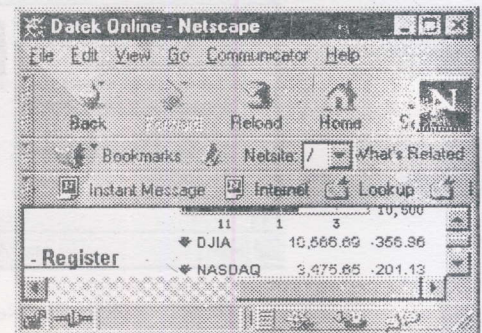


Figure - 5: Datek Online Stock Trading

For home PC's, a modem is needed to connect to the Internet. The PC with the help of a modem and a dial-up software, dials in over an analog (phone) line to the Internet Service Provider's (ISP) Server. Common ISPs are America On-line (AOL), AT&T and EarthLink.

The maximum speed of a regular modem connection over phone line is around 56 Kbps (Kilo Bits Per Second). The ISP server has high speed connection to the Internet. Once the PC gets connected to the ISP server, one can browse the web site through the Browser. Web sites are designed by HTML (Hyper Text Markup Language) and run by a special addressing protocol called *http* (Hyper Text Transport Protocol). Usually, ISPs' charge a monthly rate for unlimited Internet access through local phone numbers. They also provide the customers with e-mail accounts. Moreover, sites like Yahoo, Netscape and Hotmail encourage users with free Internet mail accounts. People can access their mails from anywhere in the world as long as they are connected to the Internet.

In the corporate environment, communication to the Internet is different. The workstations are connected to the Local area Network (LAN) by Network Adapter Cards (NIC) and cables. Common network topologies are Token Ring and Ethernet. The LAN segments are connected to the Internet via a Router. CISCO routers are very common. TCP/IP is the default protocol used for Internet connectivity.

In large corporations, mail applications are either Lotus Notes or Microsoft Outlook. Companies setup their own network, mail and other database servers for security reasons. They want their data and information to be secured and confidential. The access to the data is controlled, secured and managed by company Administrators. Lotus Notes is a user friendly and client/server application. The internal and external mails, files and links to Intranet and Internet are most common features. Intranet is the internal private network that uses the same protocol and standards of the Internet. Most corporations have their own Intranet web servers for internal uses.

For Lotus Notes mail, each user has an user ID and Password. The mail files are grouped in the Mail Server Mail Boxes. Mails reside in these Mail Boxes in the servers. Once the workstation is connected to the LAN, one can open up the mails by opening the mail icon on the Notes workspace. The user gets a notification for new mail. Mails can be read, replicated and archived. The mail database can be replicated on the local hard drive. In the event of a network outage, user can still be able to access the last replicated mail and work on the local copy which is saved in the PC hard drive.

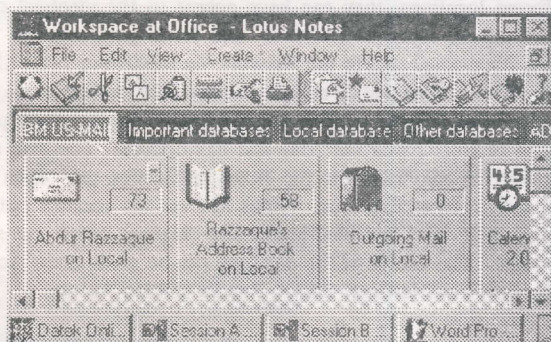


Figure 6: Lotus Notes Desktop

Mails can be forwarded to another user inside or outside the company. File attachment, Internet and Document links can be established as well. As a part of client/server feature, database can be created and saved in local or remote Notes Domino Server. Lotus Notes has Mail Inbox, Calendar, To Do List, Meetings features.

The local Address Book can save e-mail addresses and phone numbers of Notes and other e-mail users for ready reference. Forms are the main component of the Notes Application. Data and documents can be created and stored in the forms. Most databases have several forms. Forms may have text, graphics, tables, OLE object, attachments, links and action buttons. The buttons have lotus scripts embedded for particular actions.

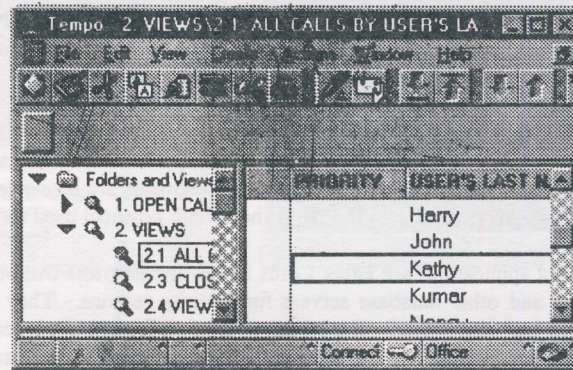


Figure 7: A local Notes Database named Tempo with Views

Forms can have several sub forms as well. Notes database uses the fields. Fields are the individual entity in the form to store data. Fields can be of different types, like texts, numbers, dates and currency. Under design feature, there are options for Forms and Views. These two are the main components of a database. Forms accept data input and Views display different queries.

Lotus Notes has various advantages. It allows multiple users to access the same data since the data reside on the Notes Server. The updates can be saved at the same time and users can get same data. Even if the users are in different locations, they can have access to the identical data. The changed information can be replicated in all the servers over LAN and WAN environments. The user can also work in disconnected mode and once connected to the Network via Modem or LAN the server copy will be updated and both local and server copies will be sinked. While in Networked mode, replication can be done automatically in the background as per intended time interval. This is a very good feature of the Notes Application. Lotus Notes support Electronic Mail and Fax options. The mail can be sent to and received from the Internet. Also the link feature in the Notes application can open any web page via Netscape Navigator or Microsoft Internet Explorer. Notes has various security options, common are server-level, database-level, document-level and filed-level. The database owner can restrict the access of confidential data to other users. The access of the database can be given under access control list in the database with different permission as Manager, Editor, Reader and No Access.

Lotus Notes can run in most of the operating systems. It supports OS/2, UNIX, Macintosh and Windows 9x and NT. Notes Release 5 has more options than the earlier version of 4.5.3. Lotus is an IBM subsidiary company. Notes Developers are constantly updating and adding new features to the application. For consistency, the updates are being propagated through the design replacement of the database templates from the servers. Notes is used in 80 countries of the world. Due to its Internet connectivity and client/server features, Lotus Notes has become a popular mail and database application.

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