

6.1 BASIC DEFINITIONS

The Internet is a global computer network, basically networked computers around the world. Every computer on the Internet has a address (URL), through which it can be connect. Individual Internet users then have on these computers its Internet web site and / or email address

- Web pages contain a great amount of easily accessible information, and are interconnected by hyperlinks, so switching between them is very simple
- e-mail, is a fast and cheap form of communication for both business and private life

Further we will describe some areas of work with Internet – first we need to define some basic definitions which we will encounter during our work:

- web - most used Internet service. Translates sometimes as World Wide Web (which characterizes the density interconnection of computers around the world)
- link (link) - allows an immediate transition to a different location in the document or to another document anywhere in the Internet. Link is activated by pressing the left mouse button.
- URL address - the unique computer identification on the Internet. Every computer and every document on the Internet, accessible through a web service must have a unique address. According to identifying the appropriate protocol for transferring data, where the data has to deliver or what page to be transmitted.
- Protocol - the method of data transfer for a particular service Internet. E. g. HTTP protocol is used to transfer Web pages, FTP protocol is used for file transfers, POP is a protocol for working with e-mail, etc.
- Multimedia - document or program is a multimedia one when it allows working with text, images and audio
- Web server - a computer on the Internet, storing Webpages
- client - is a computer that only obtains information from the Internet (e. g. your PC if you are just browsing the Internet)
- Web browser - a program that allows you to browse internet websites.

6.1.1 WEB ADDRESS, DOMAINS

Web address (or URL address) is a unique identification computer or specific information on the Internet. It consists of several parts. Top-level domain indicates either global domain without territorial restrictions (consists of three characters) or the country where the domain (address) is registered (the length of two characters).

For the domain names following principles apply:

- domain name can contain only characters [az,0-9, -]
- maximum length of the domain name is 63 characters
- the domain name cannot begin or end with "-"
- domain name cannot contain two characters "-" behind each other
- Each domain name must be unique

EXAMPLES OF HIGHEST ORDER DOMAINS:

a) Global domains

- .com – commercial organizations
- .net – network sources
- .edu – education organizations
- .gov – government organization
- .org – non-commercial organization

b) Examples of national domains

- .cz – Czech republic
- .eu – European Union
- .de – Germany
- .uk – Great Britain

Entering the domain name into the address field in your web browser (the line at the top of the window) will get you to the website – e.g. www.google.com.

6.2 SEARCHING THE WEB

6.2.1 SEARCH ENGINES AND DIRECTORIES

To search the web we use the services of so called **search engines** or **directories**.

Each search engines consist of few parts:

- **A spider** (also called a "crawler" or a "bot"): that goes to every page or representative pages on every Web site that wants to be searchable and reads it, using hypertext links on each page to discover and read a site's other pages
- **Index**: database containing a copy of each Web page or other file gathered by the spider
- **Search and retrieval mechanism**: a program that receives your search request, compares it to the entries in the index, and returns results to you.

An alternative to using a search engine is to explore a **structured directory of topics** (sometimes called **catalogue search engine**). A number of Web portal sites offer both the search engine and directory approaches to finding information.

Search engines and the **directories** are two different services available to the Web community. Search engines have databases built up by "robots", which visit a websites and add information to their database. On the other hand, directories are human edited and build their indexes with editors who visit websites, and add to the directory the sites that they consider to be a valuable resource.

Examples of search engines: www.google.com , www.search.com , www.ask.com

Examples of directories: www.yahoo.com , www.business.com , www.dmoz.org

Directories usually include only the main page of a website, while search engines can include many pages from a website. Directories, unlike search engines, use a tree hierarchic structure to organize their database. This hierarchic organization allows the existence of specialized directories, by subject or by geographic location.

What is better, a search engine or a directory?

It depends on what are you looking for. If you are looking for information quickly, a search engine might be better. But if you like browsing categories or looking for industry specific information; a directory can be a better option. Also if you are looking for information related to a specific geographic location, try to find first local directory web service (for example, in the Czech Republic, we have www.seznam.cz).

6.2.2 VALUABLE RESOURCES ON THE INTERNET

Because we focus on e-learning, we need to mention some hints to find good online resources for teaching. In case you are looking for data that can be used to teach specific subject, look here:

- www.teachertube.com
- www.wikipedia.org
- www.merlot.org
- www.teach-nology.com

6.2.3 LICENSING IMAGES AND OTHER RESOURCES FROM THE INTERNET

By default, all resources (text, images, audio, video) on the internet are copyrighted. That means, in case the author does not specify otherwise, nobody is allowed to use his resources in any way. Practically, this means that in case you need to use a photo of a chair in your study material and you just type "chair" into google (selecting searching only images) and you pick up the first image that appears, you are most likely violating somebody's rights.

Because this is pretty inconvenient concept, there is a database of non-licenced (free to use) material. This database is called **Wikimedia Commons**. You can use the material you find there for almost whatever purpose and you do not need to worry about violating somebody's rights.

- <http://commons.wikimedia.org>

6.3 ONLINE APPLICATIONS OVERVIEW

A web (or online) application is an application that is accessed by users over a network (most often Internet or an intranet).

Web applications are popular due to the ubiquity of web browsers, and the convenience of using a web. The ability to update and maintain web applications without distributing and installing software on potentially thousands of client computers is a key reason for their popularity, as is the inherent support for cross-platform compatibility. Common web applications include webmail, online retail sales, online auctions, wikis and many other functions (such as Moodle).

Benefits of web applications

- they do not require any complex "roll out" procedure to deploy in large organizations. A compatible web browser is all that is needed;
- Browser applications typically require little or no disk space on the client computer;
- They require no upgrade procedure since all new features are implemented on the server and automatically delivered to the users;
- They also provide cross-platform compatibility in most cases (i.e., Windows, Mac, Linux, etc.) because they operate within a web browser window.

Drawbacks of web applications

- In practice, web interfaces, compared to normal applications installed in PC, typically force significant sacrifice to user experience and basic usability.
- Web applications absolutely require compatible web browsers. If a browser vendor decides not to implement a certain feature, or abandons a particular platform or operating system version, this may affect a huge number of users;
- Browser applications rely on application files accessed on remote servers through the Internet. Therefore, when connection is interrupted, the application is no longer usable.
- They depend entirely on the availability of the server delivering the application. If a company goes bankrupt and the server is shut down, the users have little recourse. Traditional installed software

keeps functioning even after the demise of the company that produced it (though there will be no updates or customer service);

- The company can theoretically track anything the users do. This can cause privacy problems.

6.3.1 GOOGLE DOCS

Google Docs is a free, Web-based office suite and data storage service offered by Google. It allows users to create and edit documents online while collaborating in real-time with other users. Google Docs combines the features of **writer and spreadsheet applications with a presentation program**. Data storage of files up to 1 GB total in size was introduced on January 13, 2010, but has since been increased to 10 GB, documents using Google Docs native formats do not count towards this quota. Documents, spreadsheets, presentations can be created with Google Docs, imported through the web interface, or sent via email. Documents can be saved to a user's local computer in a variety of formats (ODF, HTML, PDF, RTF, Text, Microsoft Office). Google Docs serves as a collaborative tool for editing amongst in real time. Documents can be shared, opened, and edited by multiple users at the same time.

Additionally, google offers Google Apps – more complex service providing several other products - It features several **web applications with similar functionality to traditional office suites**, including Gmail, Google Groups, Google Calendar, Talk, Docs and Sites.

Google Apps for business is free for 30 days, \$5 USD per user account and month thereafter or \$50 per year. Google Apps for Education is free and combines features from the Standard and Premier editions