Hypertext & Hypermedia

Laboratory

HTML and CSS basics

1. On the disk indicated by the lecturer, create a directory named with your own name and surname. Place the skeleton of the page downloaded from Moodle in it. Any text editor can be used to create the task. You can use the Visual environment or an ordinary notebook to work with files. The task should be run in the browser.

2. Familiarize yourself with the downloaded files. Analyze the index.html file, pay attention to the structure of the document, used tags etc. Find out where is the section contains the header, footer, menu and page content. Run the index.html file in the browser, see the effect of processing the index.html file through the browser. As you can see, the information displayed on the website is not formatted. At the beginning we will take care of completing content and functionality on the website and then the look of the page.

3. (0,5pt) In the `footer` section, enter your name, index and group number. Refresh the page in the browser.

4. (1pt) In the `section` section, place the content downloaded from the file text.doc. Divide the content into two paragraphs using the <p> tag. Format fragment of the text using <strong> and <em> tags. Refresh the page in the browser.

5. **Ask the teacher to check your work.**

6. (0,5pt) Put the image with Vannewar Bush in the section `section`. Use the <img> tag.

7. (0,5pt) In the structure.html file, put four paragraphs (`p` tag) for the lecture, laboratory, project and additional information in sequence. Each paragraph should have its own header (tags `h2` or `h3` ...).

8. (0,5pt) In the structure.html file, in the laboratory section, add a numbered list and place the topics of three laboratories on it.

9. **Ask the teacher to check your work.**

10. Familiarize yourself with the style.css file. Pay attention to the styles assigned to individual tags, created classes, identifiers, and pseudo-classes. In the index.html file, add a link to the style.css file. Run the page in the browser, pay attention to changes in the appearance of the page. Also pay attention to the responsiveness of the page and rules, which are responsible for this.

11. (0,5pt) In the css file, change the background color to the one you choose. Change the font color for the used header tags (`h1`, `h2`, ...)

12. (0,5pt) Image with Vannewar Bush should be placed on the left side in the `section` section. You shoul create class (`.left`) in the style.css file and use it.

13. (0,5pt) Using the pseudo-class `hover`, get the effect of changing the transparency of images with Vannewar Bush after hovering over them with the cursor. After hovering over the image, the cursor should change to something other than default (`cursor` property).

14. (0,5pt) Note that the `active` class defined in the style.css file is used to highlight the menu item that is currently selected. Set the `active` class in the appropriate places for the remaining subpages, just as it was done for the main page in the index.html file.

15. **Ask the teacher to check your work.**

16. (0,5pt) On the page in the project section, place the following table (in the file structure.html). In the css file, you must format the table cells.

Title of the project	Score
HTML, XML, XML Schema	25
XML, XSLT	15

17. (1pt) In the index.html file, add a text "go to the top of the page". This text should allow to navigating to the top of the page. Use the the <a> tag. Create a class to put the text in the proper place on the website.
18. (0,5 pt) For small screens the table in the file structure.html should not be displayed (property display)(add rule for responsive web design).
19. (0,5pt) In the structure.html file, in the section on additional information, add links to two pages ("HTML w3schools" and "XML w3schools"). Pages should open in a new window (target attribute)
20. **Ask the teacher to check your work.**
21. (2,5pt) Similarly to the previous documents, prepare the contact.html file. In the file, create a form that will contain the text box, radio button, check box and will allow you to send and clear the form. Create a new css file and format the created subpage.
22. **Ask the teacher to check your work.**

Hypertext & hypermedia

This is a web page about the Hypertext & hypermedia

Vannevar Bush (1890-1974) is normally considered the "grandfather" of hypertext, since he proposed a system we would now describe as a hypertext system as long ago as 1945. This system, the Memex ("memory extender"), was never implemented, however, but was only described in theory in Bush's papers. Bush actually developed some of his ideas for the Memex in 1932 and 1933 and finally wrote a draft paper on it in 1939. For various reasons [Nyce and Kahn 1989, 1991] this manuscript was not published until 1945, when it appeared in the Atlantic Monthly under the title " As We May Think." Bush described the Memex as "a sort of mechanized private file and library" and as "a device in which an individual stores his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility." The Memex would store this information on microfilm, which would be kept in the user's desk. This desk was intended to have several microfilm projection positions to enable the user to compare different microfilms, in a manner very similar to the windows that became popular on personal computers more than forty years later. The Memex would have a scanner to enable the user to input new material, and it would also allow the user to make handwritten marginal notes and comments. But Bush envisaged that most of the Memex contents are purchased on microfilm ready for insertion. Books of all sorts, pictures, current periodicals, newspapers, are thus obtained and dropped into place. Business correspondence takes the same path.Actually we have not yet reached the state of hypertext development where there is a significant amount of preprocessed information for sale that can be integrated with a user's existing hypertext structure. The main reason Vannevar Bush developed his proposal for the Memex was that he was worried about the explosion of scientific information which made it impossible even for specialists to follow developments in a discipline. Of course, this situation is much worse now, but even in 1945 Bush discussed the need to allow people to find information more easily than was possible on paper. After having described his various ideas for microfilm and projection equipment, he stated that. All this is conventional, except for the projection forward of present-day mechanisms and gadgetry. It affords an immediate step, however, to associative indexing, the basic idea of which is a provision whereby any item may be caused at will to select immediately and automatically another. This is the essential feature of the memex. The process of tying two items together is the important thing.

Hypertext, in other words!

In addition to the establishment of individual links, Bush wanted the Memex to support the building of trails through the material in the form of a set of links that would combine information of relevance for a specific perspective on a specific topic. He even forecast the establishment of a new profession of "trail blazers,""who find delight in the task of establishing useful trails through the enormous mass of the common record." In current terminology, these trail blazers would be people who add value to published collections of text and other information by providing a web of hypertext links to supplement the basic information. But since we do not even have a market for basic hypertexts yet, we unfortunately have to do without professional trail blazers. Amateur trail blazers have come into existence in recent years in the form of people who list WWW sites they find interesting on their home page.The building of trails would also be an activity for the ordinary Memex user, and using his microfilm ideas, Bush assumed that such a user might want to photograph a whole trail for friends to put in their Memexes. Again we should note that current technology is not up to Bush's vision, since it is almost impossible to transfer selected subsets of a hypertext structure to another hypertext, especially if the two hypertexts are based on different systems. Vannevar Bush was a famous scientist in his days and was the science advisor to President Roosevelt during the Second World War, when science-based issues like inventing nuclear weapons were of great importance. After "As We May Think" ran in the Atlantic Monthly , it caused considerable discussion, and both Time and Life ran stories on the Memex. Life even had an artist draw up illustrations of how the Memex would look and a scenario of its projection positions as the user was completing a link. Doug Engelbart, who later became a pioneer in the development of interactive computing and invented the mouse, got part of his inspiration by reading Bush's article while waiting for a ship home from the Philippines in 1945. In spite of all this early interest surrounding the Memex it never got built. As hinted above, our current computer technology is still not able to support Bush's vision in its entirety. We do have computers with most of the Memex functionality but they are based on a completely different technology from the microfilm discussed by Bush. It is interesting to recall that Bush was one of the pioneering scientists in the development of computer hardware and was famous for such inventions as the MIT Differential Analyzer in 1931. Alan Kay from Apple has suggested that the areas about which we know most may be those where we are most in accurate in predicting the future, since we see all the problems inherent in them. Therefore Bush could gladly dream about impossible advances in microfilm technology but he would have been reluctant to publish an article about personal computing since he "knew" that computers were huge things costing millions of dollars.

Jakob Nielsen's book "Multimedia and Hypertext: The Internet and Beyond"

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Lecture

Information about the lecture.

Laboratory

Information about the laboratory.

1. HTML + CSS
   - structure of the page
   - links
   - forms
   - css
2. XML + XML Schema
   - correctly formed XML file
   - creating a hierarchy
   - defining elements, attributes
   - creating types
   - validating XML file
3. XSLT
   - XML -> HTML transformation
   - XML -> pdf transformation

Project

Information about the project.

Title of the project	Score
HTML, XML, XML Schema	25
XML, XSLT	25

Additional information about HTML and XML

- HTML w3schools
- XML w3schools