



Lesson # 1

Introduction to the World of Web Development

TABLE OF CONTENTS

Profession in web development	3
Introduction	3
Professions in web development	3
How websites work.	5
Hosting	5
Domain name.....	5
HTML: Hyper Text Markup Language	6
HTML document basic structure	7
Current document type.....	7
HTML tag.....	8
Site head	8
Site body	8
Text formatting tags.....	9
Attributes	10

Profession in web development

Introduction

In the IT world, there are many industries, therefore, many are often confused in this big and complex world. However, future *IT guys* simply need to be skilled in all areas.

Within the course, such an IT area as **Web** will be considered.



***Web development** is the creation of any **web technologies**, in other words it is all that can be seen on the Internet, this is web technology.*

In more detail, the course will deal with the creation of websites. As for any web technology, **websites**, you can distinguish two different parts:

- **Frontend** – development of the user part (this means design and its capabilities);
- **Backend** – development of the server part (this is what makes the site work).

Professions in web development

Designer is the person who develops the appearance of the website.

Usually the design is created in graphic editors (*Photoshop*, *Illustrator* and others). It is important for the designer to create website with usable functionality and make it pleasant and user-friendly.

Developer is a person who is engaged in the implementation of the design. Developers can deal with *frontend*, *backend* or all at once.

Tester is a person who checks the site for its efficiency. They are trying their best to find errors on a website of various kinds and to fix them or to inform the developer about them.

Newbie testers can simply tell the developers about the error. More experienced testers can indicate the possible cause of the error.

SEO-specialist is a person who promotes the site on the Internet.

Most sites are created for commercial purposes. For their success, it is necessary that more people visit the site. Therefore, for any site the vital task is to promote the site.

SEO-specialist is engaged in advertising the site, adjusting the site for search engines and other tasks of this kind.

How websites work

Hosting



Hosting is a service that provides a place for posting information on a server permanently connected to the Internet.

In fact, hosting is a computer on which you can host your site, and any user will have access to it.

You can also do hosting with your computer at home, but there are a few requirements:

- constantly working computer;
- permanent access to the Internet;
- static IP address.

Domain name

To host a site on the Internet, it's not enough to get hosting. This is just a place where the site is stored. You need to create quick access to your site for any user.



Domain name is a unique name of the site, which serves as a key to access the hosting. Example domain: *site.com*, *site.org*.

There cannot be identical domain names on the Internet. However, the names *site.com* and *site.org* are not considered the same.

HTML: Hyper Text Markup Language



HTML (Hyper Text Markup Language) is a standardized markup language for documents on the World Wide Web.

Most web pages contain a description of markup in HTML (or XHTML).

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>Example</title>
5          <link rel="stylesheet" href="sty
6      </head>
7      <body>
8          <h1>
9              <a href="/">Header</a>
10         </h1>
11         <nav>
12             <a href="one/">One</a>
13             <a href="two/">Two</a>
14             <a href="three/">Three</a>
15         </nav>
```

Fig. 1. Example of HTML code

In HTML, there are no images or other information besides the text. HTML code contains the structure of the site page (and also a set of directives, where to get the necessary resources (images, video, etc.) and how to display them).

HTML document basic structure

```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=utf-8">
5     <title>Example web-page</title>
6   </head>
7   <body>
8     <h1>Caption</h1>
9     <!-- A comment -->
10    <p>First paragraph</p>
11    <p>Second Paragraph.</p>
12  </body>
13 </html>

```

Tag is the main component of the HTML page (<tag>). These are the labels that tell the browser how to represent the website. There are two kinds of tags:

- single – they do not need to be closed (<!DOCTYPE html>).
- paired – they need to be closed (<h1>Header</h1>).

Current document type

<! DOCTYPE html> indicates the document type.

This is necessary for the browser to understand how to interpret the current web page, because HTML exists in several versions.

There is XHTML (EXtensible HyperText Markup Language), similar to HTML, but different in syntax.

For the browser “not to get confused” and to know the standard for displaying a web page, it is necessary to set <! DOCTYPE> in the first code line.

HTML tag

The `<html>` tag specifies the beginning of the HTML file, the header (`<head>`) and the body of the document (`<body>`) are stored inside it.

Site head

The header of the document, also called the `<head>` block, can contain text and tags, but the contents of this section are not displayed directly on the page, except for the `<title>` container.

The `<meta>` tag is universal and adds an entire class of features; in particular, using meta tags, as the tag is commonly called, you can change the page encoding, add keywords, document description. This string is added for the browser to understand that it is dealing with UTF-8 encoding (*Unicode transformation format*).

The `<title>` tag defines the title of a web page, this is one of the important elements for solving a variety of tasks. In the Windows operating system, the title text is displayed in the upper left corner of the browser window.

Site body

The document `<body>` is intended for placing tags and the content of a web page.

For example, HTML offers six text headings of different levels that show the relative importance of a section located after the heading. The `<h1>` tag is the most important

heading of the first level, and the `<h6>` tag is used to indicate the heading of the sixth level and is the least significant. The heading of the first level is displayed in the largest font; the subsequent headings are of smaller size. The `<h1> ... <h6>` tags refer to block elements, they always start at a new line, and the subsequent elements are displayed in a new line.

Text can be hidden from the display in the browser, making it a comment. Comments are needed to make your entries in the code that do not affect the page view. They begin with the tag `<!--` and end with a tag `-->`. This is convenient when creating pages.

All that is between these two tags will not be displayed on the web page.

The `<p>` tag defines the paragraph of the text. If there is no closing tag, it is considered that the end of the paragraph coincides with the beginning of the next block element. The `<p>` tag is a block element, that is, the text always starts in a new line.

If you want to make a line break in one paragraph, use the `
` tag.

Text formatting tags

```
1 <br><b>The text is bold</b>
2 <br><strong>The text is bold (logical selection)</strong> - analog tag <b>
3 <br><em>Italic text</em> - analog<i></i>
4 <br><u>Underlined text</u>
5 <br><del>Strikethrough text</del>
6 <br><big>Enlarged text</big> и <small>Small text</small> Text compared to the current one
7 <br><sup>The superscript</sup> - x2
8 <br><sub>The subscript</sub> - x2
9 <br><tt>Fixed pitch text</tt> - Typewriter
```

Attributes

In some tags, you need to enter additional information. This additional information is called an *attribute*.

```
8 | <h1 style="color:red">Title</h1>
```

Attributes are always written inside the tag, followed by an equal sign and attribute details enclosed in double quotes.

The semicolon after the attribute is used to separate commands of different styles. We will return to the attributes in the following lessons.



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