WFDD Week2

https://breeswish.org/blog/page/wfdd

Today's Topic

- URL, URI

- * SSL, TLS, HTTPS

- HTTP/1.1 protocol

- HTML, XML, W3C

- Web 1.0, Web 2.0

- HTML entities

- Basic HTML structure

- \<meta\>, \<title\>

- \<a\>, \<p\>, \<b\>, \<i\>, \<blockquote\>

- CSS Introduction

- \<img\>

- Table

- Form

- \<h1\> ~ \<h6\>, \<div\>, \<span\>

Introduction

理论知识很无聊，但总得知道一些基本常识

{ No recitation needed }

URL

- Uniform Resource Location

- 统一资源定位符

URL

hl	zh-CN
newwindow	1
q	同济大学

Host
服务器

https://xie.lu/search?hl=zh-CN&newwindow=1&q=同济大学

协议　　　　　　　路径　　　　　　　　　　　　查询

Scheme　　　　　　Path　　　　　　　　　　　　Query

URL

http://localhost:8080/a/b/c.html

协议   服务器   端口   路径

Scheme   Host   Port   Path

URL

http://localhost:8888/hello-world.html#top

协议	服务器	端口	路径	片段
Scheme	Host	Port	Path	Fragment

Not in standard URL

URL & URI

- URL: 统一资源定位符

- URI: 统一资源标识符(Uniform Resource Identifier)

URI → URL http://localhost/1.html

URI → URN urn:isbn:0-486-27557-4

URI Scheme Protocols

- http（超文本传输协议） Port: 80

- http**s**（超文本传输安全协议） Port: 443

- ftp（文件传输协议） Port: 21

- ftp**s**（文件传输安全协议）

- sftp://, scp://, smb://, ssh://, data://, git://, file://

* SSL, TLS, HTTPS

- SSL: Secure Sockets Layer

- TLS: Transport Layer Security

- SSL: by Netscape

- TLS: Standardized from SSL (RFC 2246), by IETF

- HTTP + SSL/TLS = HTTPS

* What is Secure?

- Eavesdropping resistance

- Tampering resistance

Hypertext Transfer Protocol

- HTTP/1.1 RFC 2616

- Request methods: GET, POST, PUT, DELETE, HEAD, …
  http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html

- Status codes: 200(OK), 500(Server Internal Error), 404(Not Found), 403(Forbidden), …
  http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html

HTTP Example Request

```
GET /index.html HTTP/1.1
Host: www.example.com
```

HTTP Example Response

```
HTTP/1.1 200 OK
Content-Type: text/html; charset=UTF-8
Content-Length: 50
Accept-Ranges: bytes
Connection: close

<html>
<body>
  <h1>It works!</h1>
</body>
</html>
```
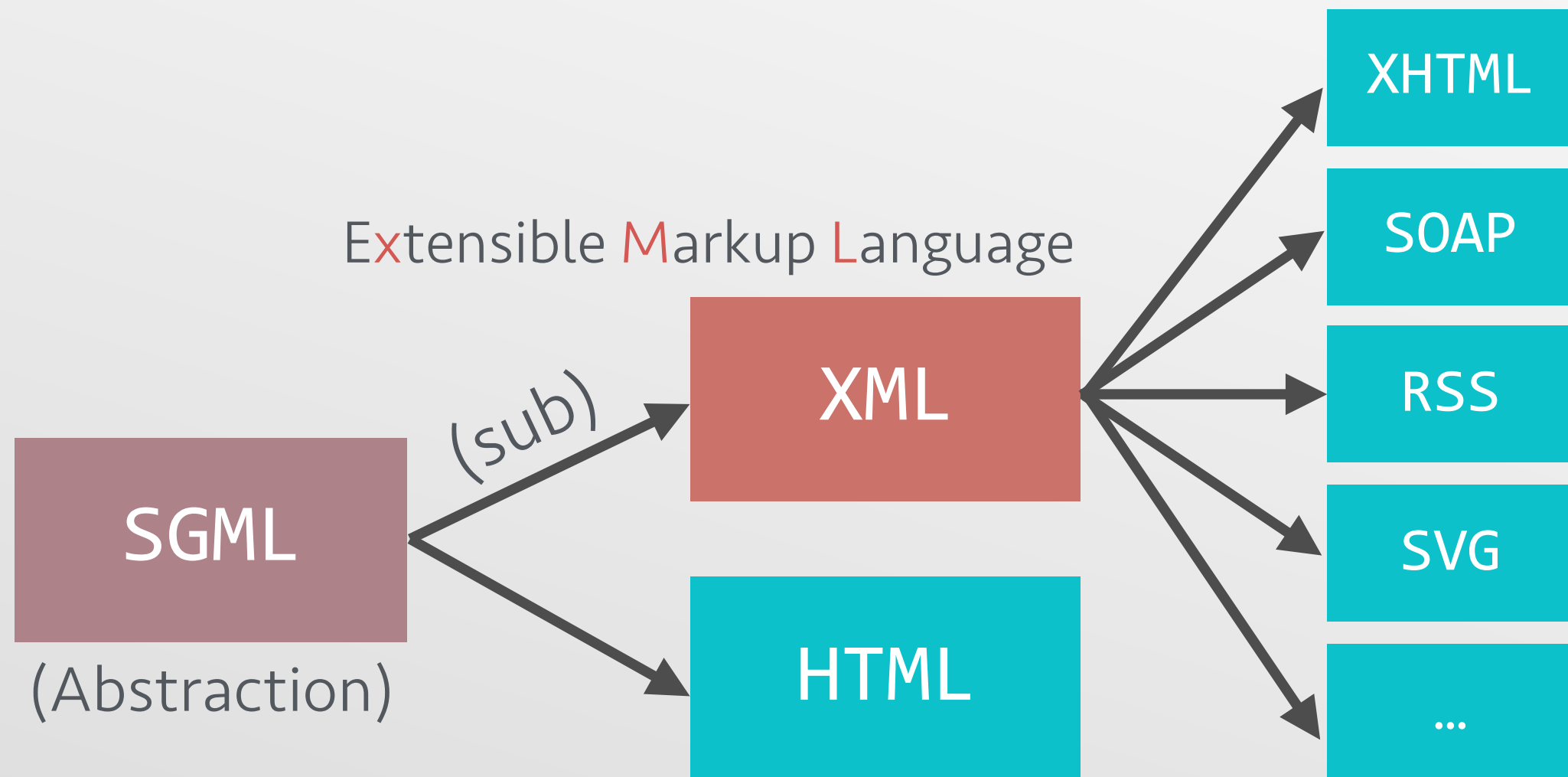
HTML, XML, * SGML

Extensible Markup Language

SGML
(Abstraction)

(sub) → XML

HTML

XML →
- XHTML
- SOAP
- RSS
- SVG
- ...

XML & HTML

XML

- 面向数据
- 语法严格
- 空白也是内容

HTML

- 用来表示网页
- 语法松散
- 空白一般被忽略

XML is useful

W3C (World Wide Web Consortium)

为解决web应用中不同平台、技术和开发者带来的不兼容问题，保障Web信息的顺利和完整流通，万维网联盟制定了一系列标准并督促Web应用开发者和内容提供者遵循这些标准。标准的内容包括使用语言的规范，开发中使用的导则和解释引擎的行为等等。W3C也制定了包括XML和CSS等的众多影响深远的标准规范。(Wikipedia)
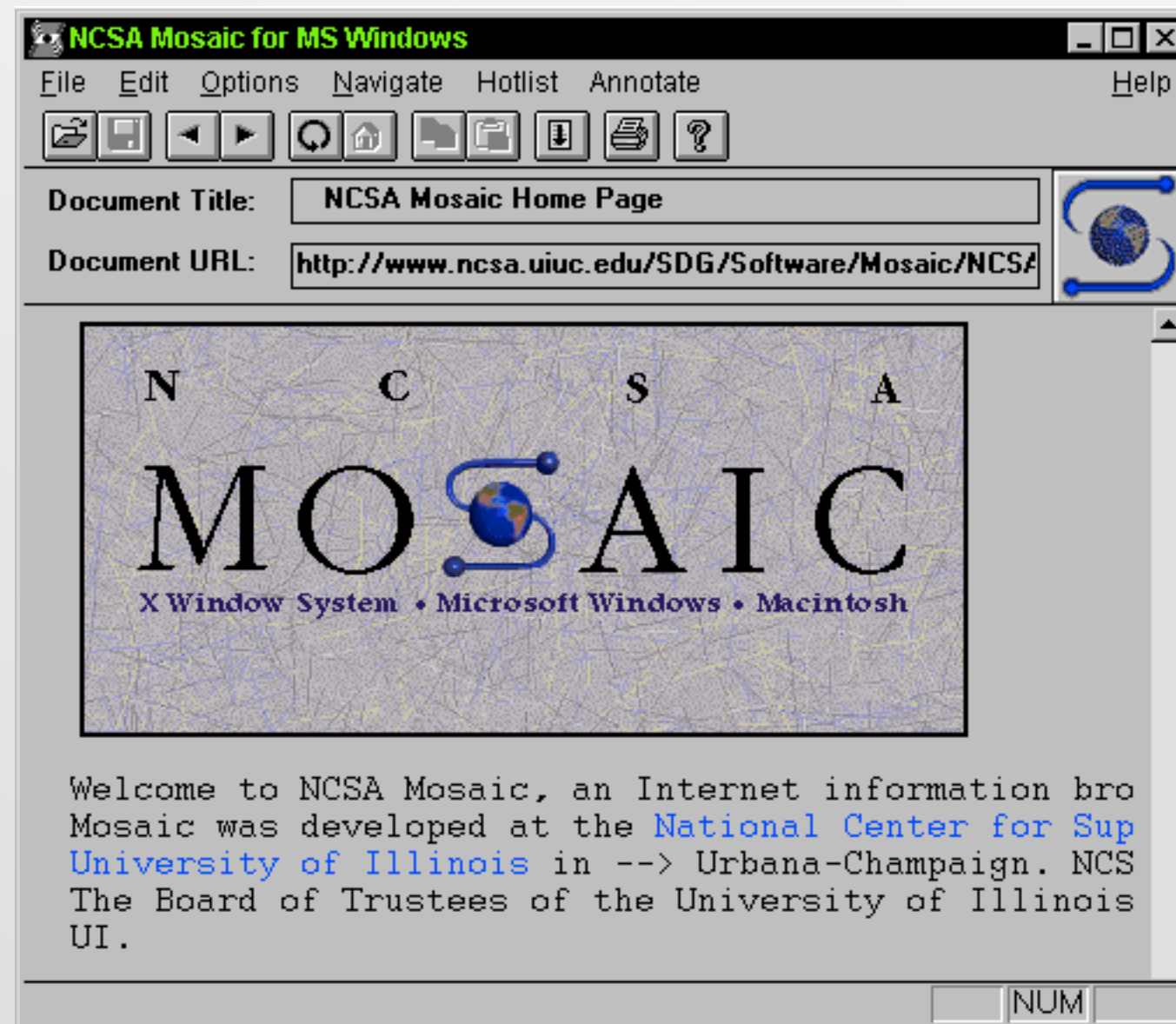
Web 1.0

- 一种早期的互联网模式

- 公司生产内容（门户网站等）

- 以静态网页为主（内容存储在文件系统中）

Web 1.0

Web 1.0

Web 1.0

Web 2.0

- 用户产生内容

  Example: Facebook / Blog / Forum / Wiki

- 动态网页，数据存储于数据库

Web 3.0?

HTML & CSS

HTML Entities

```
<h1>It works!</h1>
```

Here is the issue, how to express '<' and '>' ?

Commonly used HTML Entities

Char	Entity Name	Entity Number
(space)		
<	<	<
>	>	>
&	&	&

General HTML Structure

- DTD (Document Type Declarations)

  `<!DOCTYPE html>`

- Head part: **`<head></head>`**

- Body part: **`<body></body>`**

<head>

Used to wrap(contain) head elements.

- `<title>`, `<base>`, `<link>`, `<meta>`, `<script>`, `<style>`

<title>

Defines document title (& title in bookmarks, etc).

```
<title>This is a title</title>

<title>0.99999 &lt; 1?</title>

<title>Introduction to <div/> element</title>
```

<meta> Metadata

```html
<meta http-equiv="content-type" content="text/html; charset=UTF-8">

<meta charset="UTF-8">

<meta name="description" content="Awesome Description Here">

<meta http-equiv="refresh" content="5">

<meta name="robots" content="noindex, nofollow">
```

<body>

Represents the content of an HTML document.

```
<body>Hello World!</body>

<body bgcolor="red" text="white">Hello World!</body>
```

<a> Anchor(Hyperlink)

```
<a href="http://www.baidu.com">Baidu</a>

<a href="/login" target="_blank">Sign in</a>
```

Target	Description
_blank	New window
_self	Current window/frame
_parent	Parent frame
_top	Top-level frame

Absolute URI / Relative URI

Current = https://www.google.com/chrome/download.html

URI	Real URI
http://tieba.baidu.com/2333/abc.html	http://tieba.baidu.com/2333/abc.html
/	https://www.google.com/
/search?q=1	https://www.google.com/search?q=1
eula.html	https://www.google.com/chrome/eula.html
../help/index.html	https://www.google.com/help/index.html
//ssl.gstatic.com/abc	https://ssl.gstatic.com/abc
www.baidu.com	https://www.google.com/chrome/www.baidu.com

`<p>` Paragraph

`<p>This is a paragraph</p>`

`<p>This is another paragraph<br>Line2<br>Line3</p>`

<b> Bold, <i> Italic

```
<p>This is a <b>paragraph</b></p>

<p>This is <i>Italic</i> string</p>
```

<font> Defines font style (deprecated)

Avoid using it, use CSS instead.

```
<font color="red" face="Verdana" size="12">Hello!</font>
```

<center> Center align (deprecated)

Avoid using it, use CSS instead.

<center>Hello!</center>

<left>

Doesn't exist :-)

And ~~<right>~~.

<blockquote> Quotation

<blockquote>"小心我挂你" @毛哥</blockquote>

CSS Selectors

HTML:

`<body><p>Paragraph1</p></body>`

CSS:

```
body {
    …
}
```

CSS Properties

HTML:

`<body><p>Paragraph1</p></body>`

CSS:

```
body {
    background: #000;
    color: #FFF;
    font-size: 16px;
}
```

<img> Image

```
<img src="bg.png" alt="The background">
```

Table

```
<table border="1"><tbody>
  <tr>
    <td>Cell 1</td><td>Cell 2</td>
  </tr>
  <tr>
    <td>Cell 3</td><td>Cell 4</td>
  </tr>
  <tr>
    <td colspan="2">Cell 5</td>
  </tr>
</tbody></table>
```

Form

```
<form method="POST">

  <p><input type="text" placeholder="Your username" name="user"></p>

  <p><input type="password" name="pass"></p>

  <p>

    <input type="checkbox" name="savesession" id="ss">

    <input type="hidden" name="extra_key" value="extra_value">

    <label for="ss">Save session</label>

  </p>

  <p><input type="submit" value="Login"></p>

</form>
```

Task1

Write a Google search page (https://xie.lu/search).

Open link in new tabs.(newwindow=1)

Heading

```
<h1>Heading Level 1</h1>

<h2>Heading Level 2</h2>

<h3>Heading Level 3</h3>
```

<div> <span>

<div> (Block element): Wrap sections

<span> (Inline element): Wrap text

"DIV + CSS"

```html
<div class="navigation">

    <span class="nav-item">Item1</span>

    <span class="nav-item">Item2</span>

    <span class="nav-item">Item3</span>
</div>


.navigation { background: #DDD; }
.nav-item { background: #FFF; }
```

CSS Margin & Padding

CSS Box Model
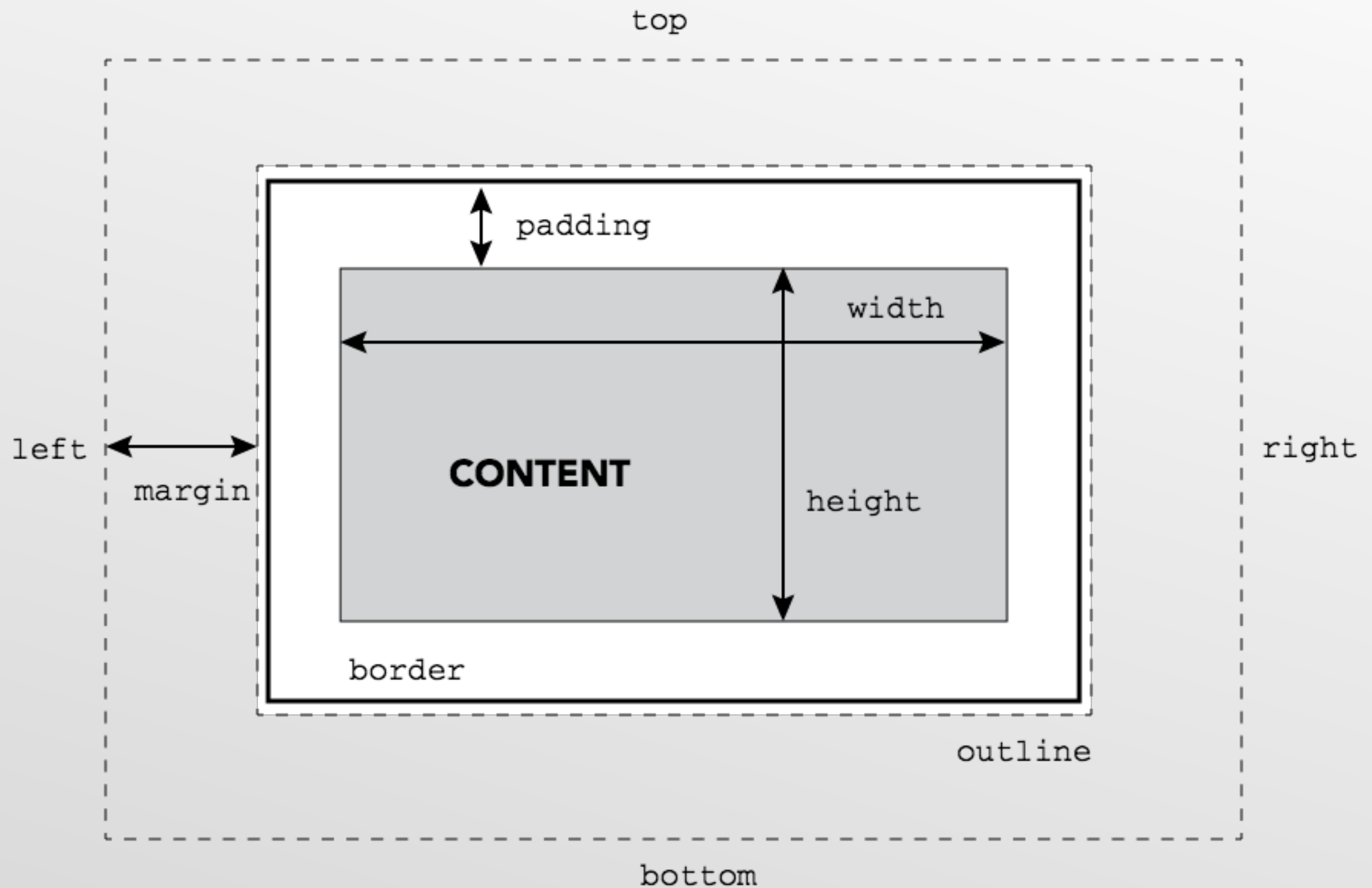
CSS Pseudo classes

```css
a { color: #333; }

a:visited { color: #333; }

a:hover { color: #F99; }


.textbox { border: 1px solid #000; }

.textbox:focus { border: 1px solid #f00; }
```

Task2

Write a navigation bar:

■ #ff867f

| HOME | PRODUCTS | COMPANY | CONTACT |

■ #db5454

Task3

Copy the appearance of 4m3 login page: