

HTML, CSS and JavaScript

< Overview >

www.curiousart.org/internet/overview.pdf



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The Internet:

Transports a variety of “File Types”:

- Text: (.txt)
- Graphic: (.jpg, .gif, .png, etc.)
- Multimedia: (.mov, .flv, .mp4, wav)

Using a “Suite” of Protocols:

- Foundation protocols: (TCP/IP)
- Various other transport layer protocols: (UDP RTSP)
- Various application layer protocols: (SMTP, POP3, DHCP)

The Internet / Web:

- Designed as “Peer-to-Peer” network
- Evolved largely through wide adoption of free software
- Free software movement started at MIT (Richard Stallman)
- Free “as in freedom” vs free “as in beer”
- Primary free license: GNU Public License (GPL)

The Internet:

The World-Wide-Web:

- ♦ HTML accessed via HTTP

To create the World Wide Web, Tim Berners-Lee proposed

- a new file type: “HyperText Markup Language” files: (.html)
- and a new Internet protocol: the HyperText Transfer Protocol” (http).

Together, they facilitated for the first time, documents displaying formatted, integrated text and images that *implemented Hypertext functionality.*

The Internet / Web:

CSS and JavaScript didn't exist when html version 1 was created, but in current practice, they form the 3 layers of contemporary pages:

- HTML is for authoring *Content*
- CSS is for rendering *Presentation* (how the page looks)
- JavaScript is used to program *Behavior*



Sir Timothy John "Tim" Berners-Lee, inventor of the World Wide Web. He made a proposal for a new information management system in March 1989 while working at The European Organization for Nuclear Research (CERN).



Engineer Vannevar Bush wrote in 1945 describing a machine that could implement what we now think of as **hypertext**. His aim was to help achieve a collective human memory with such a machine and avoid the use of scientific discoveries for destruction and war.

Markup: Concept

Our stories disclose in a general way what we used to be like, what happened, and what we are like now. If you have decided you want what we have and are willing to go to any length to get it -- ~~then you are ready to follow directions.~~ *take certain steps*

but we could not At some of these you ~~may~~ balked. *we* You ~~may think~~ *we thought we could* you can find an easier, softer way. ~~We doubt if you can.~~ With all the earnestness at our command, we beg of you to be fearless and thorough from the very start. Some of us have tried to hold on to our old ideas and the result was nil until we let go absolutely.

Remember that ~~you are~~ *we are* dealing with alcohol -- cunning, baffling, powerful! Without help it is too much for ~~you~~. But there is One who has all power -- That One is God. ~~You must find Him now!~~ (?)

Half measures ~~will~~ *do you* avail you nothing. *we stand* You stand at the turning point. ~~When~~ *we* asked yourself under His protection and care with complete abandon. *when we were*

receive the response Now ~~we think~~ you can take it! Here are the steps we took, which are suggested as ~~your~~ Program of Recovery:

1. Admitted we were powerless over alcohol -- that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care and direction of God as we understood Him.
4. Made a searching and fearless moral inventory of ourselves.

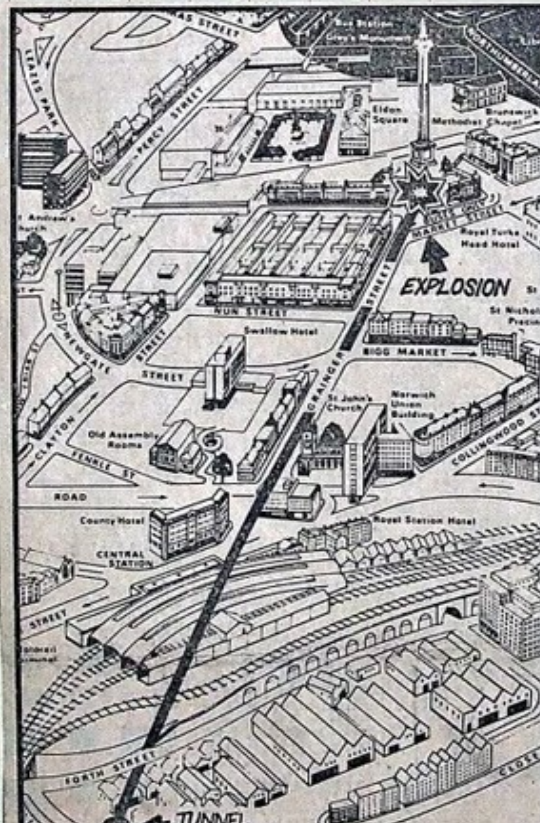
...been around since there have been editors and publications

Markup: Concept

(Used / Interpreted by "Paste-Up Artists"):

One dead, ten hurt in midnight tunnel drama **GAS BOTTLE THEORY IN METRO EXPLOSION**

Where it happened...



THE METRO blast which killed one man and injured 10 others under the heart of Newcastle may have been caused by an exploding gas bottle.

An earlier theory that the explosion came after a seepage of gas from earth workings was "most unlikely," said Mr. Stephen Grant, head of the regional Factory Inspectorate this afternoon.

He said the inspectorate could decide whether there was an "on-going risk."

If the cause of the blast was unresolved a prohibition order would be slapped on the site until the inspectorate decided it was safe.

The explosion, just west of Grey's Monument, came shortly after midnight as 13 men tunnelled at the site.

During the four-hour rescue operation, firemen carried the injured nearly 200 feet under the city through a sequence of decompression doors to an entrance shaft in Forth Street.

The blast cut off underground lighting and the injured lay shocked and bleeding in darkness. Works inspector Mr. Terrence Vigarage, aged 36, said there was an explosion and suddenly four men came running out of the workings.

Mr. Vigarage ran back into the darkness of the workings and managed to get two more men out.

As emergency lighting was set up at the head of the shaft the first firemen went down in a crane-operated skip to hunt for the workmen.

As the injured were brought to the surface they were ferried to Newcastle hospitals.

Five were taken to the General Hospital and four admitted to the burns unit.

Crawled

One man was said to be critical, the others very ill. Another is satisfactory in the intensive care unit. In the early hours...

Markup Languages -for electronic documents:

IBM's "GML" -> SGML -> HTML

SGML example:

```
urkunde1.cte - Text
<text type=charter [t:div type=invocatio በስመ ሥሉስ ቅዱስ ዕባዩ መሰከቱ ዘኢይትክህል ለተነግሮ ቀዳማዊን ዘኢያ
ም ሥጢሮ ወዳጋራዊን ዘኢረከበ አሰሮ ዓቢይ ወግሩም ዘአልቦ ዘያገምሮ ንጉሠ ነገሥት ዘኢይሁብ ለባዕድ ኩባሮ [ [t:/div [t:div
type=date[t:datestruct calendar=Egypt [t:yearበ፫፱ በ፲፱ በ፴፭ [t:/year ዓመተ ምሕረት አምእዳሳ
በሐሳቡ ለግብጻዊያን [t:/datestruct [t:datestruct calendar=ethiopic [t:year፺፭ [t:/year ዓዕ
በሐሳብ ለኢትዮጵያዊያን [t:/datestruct [t:datestructtype=Dawit በመዋዕሊሁ ለንጉሥን ዳዊት
[t:/datestruct[t:note n=1König Dawit (II.) regierte von 1379-1412 n. Chr., kommt
für diese Datierung nicht mehr in Frage. Für die fragliche Zeit ist kein Monarch
Namens bekannt, allerdings handelt es sich um eine Periode von Thronwirren und r
Wechsels verschiedener Herrscher; vgl. TTProb. 511 ff. So bleibt wohl nur die
Möglichkeit, das Zeugnis dieser und der folgenden Urkunde anzunehmen und in die
einen sonst nicht belegten -kurzfristigen- Herrscher Dawit anzusetzen [t:/note
[t:datestruct type=Patriarch ወእንዘ [t:rs type=title ሊቀ ጳጳሳት [t:/rs [t:note (von
Alexandrien) [t:/note [t:persName[t:addname type=honorific አባ [t:/addname [t:foren
ዮሐንስ [t:note XI.; 1428-1453 n. Chr.) [t:/note
```

HTML Structure Tags:

<html>

<head>

<body>

</html>

HTML Structure Tags:

<html>

<head>

</head>

<body>

</body>

</html>

HTML Structure Tags:

```
<html>
```

```
<head>
```

```
<title>Title of the document</title>
```

```
</head>
```

```
<body>
```

```
(Content goes here.) Hi, Mom!
```

```
</body>
```

```
</html>
```

Minimal HTML Document:

```
<!--DOCTYPE html-->
```

```
<html>
```

```
<head>
```

```
<meta charset="utf-8">
```

```
<title>Title of the document</title>
```

```
</head>
```

```
<body>
```

```
(Content goes here.) Hi, Mom!
```

```
</body>
```

```
</html>
```

Adding images:

(relative pathname)

```
<!--DOCTYPE html-->  
<html>  
<head><meta charset="utf-8">  
<title>Image document</title>  
</head>  
<body>  
  
  
  
</body>  
</html>
```

Adding images:

(absolute pathname)

```
<!--DOCTYPE html-->
```

```
<html>
```

```
<head><meta charset="utf-8">
```

```
<title>Image document</title>
```

```
</head>
```

```
<body>
```

```
<img src=
```

```
"http://www.curiousart.org/images/kitten.jpg">
```

```
</body>
```

```
</html>
```

Adding images:

(with "alt" tag)

```
<!--DOCTYPE html-->
```

```
<html>
```

```
<head><meta charset="utf-8">
```

```
<title>Image document</title>
```

```
</head>
```

```
<body>
```

```

```

```
</body>
```

```
</html>
```


Adding hypertext links:

(relative pathname)

```
<!--DOCTYPE html-->
```

```
<html>
```

```
<head><meta charset="utf-8">
```

```
<title>Linking Document</title>
```

```
</head>
```

```
<body>
```

```
<a href="kittenpage.html">Link to kitten page</a>
```

```
</body>
```

```
</html>
```

Adding hypertext links:

(absolute pathname)

```
<!--DOCTYPE html-->
```

```
<html>
```

```
<head><meta charset="utf-8">
```

```
<title>Linking document</title>
```

```
</head>
```

```
<body>
```

```
<a href="http://www.lolcats.com/">cats</a>
```

```
</body>
```

```
</html>
```

CSS (Cascading Style Sheets)

- First specification proposed by W3C (World Wide Web Consortium) in 1996, but didn't achieve broad adoption until mid-2000's
- Adoption depends on how browsers implement

CSS

It looks like this. There's an HTML element (the one being styled) followed by curly braces enclosing a series of properties and their declared value.

Selector

Declaration

```
h1 { color:teal; }
```

↑
Property

↑
Value

CSS

You can include it in the head of a document, in-line in the document or in a separate .css file. Here's what it would look like in the <head>.

```
...  
<head>  
<style>  
body {  
    background-color: #d0e4fe;  
    font-family: "Times New Roman";  
    font-size: 20px;  
}  
</style>  
</head>  
...
```

CSS

Here's how you would reference an external CSS document:

```
...  
<head>  
<link rel="stylesheet" href="style.css"  
type="text/css">  
</head>  
</head>  
...
```

CSS

In addition to styling regular html elements, you can name your own styles and assign their names to elements.

```
<style>
.pinko {
    color:"red";
    font-size: 20px;
}
</style>
```

Then in the body of the page:

```
<p class="pinko">
    This text will be red.
</p>
```

JavaScript

Originally developed under the name “Mocha”, it was officially called “LiveScript” when it first shipped with Netscape Navigator 2.0 in 1995, but it was later renamed “JavaScript”.

Although it shares some features with similar syntax, it shouldn't be confused with the “java” programming language.

JavaScript

Using JavaScript involves writing real programming code. Usually, defining functions which are later invoked (run) by some event (e.g. opening a page, clicking on something, etc.)

```
<script Language="JavaScript">  
  
// A function for calling up an alert box:  
function alertfunction() {  
    alert("Greetings, Earthling!");  
}  
</script>
```

Then in the body of the page:

```
<a href="javascript:alertfunction()">Click here!</a>
```

JavaScript

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```
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// A function for calling up an alert box:  
function alertfunction() {  
    alert("Greetings, Earthling!");  
}  
</script>
```

Then in the body of the page:

```
<a href="javascript:alertfunction()">Click here!</a>
```

JavaScript

Like CSS, JavaScript can be included in a document (in the head or the body) or in a separate .js file. Here's what it looks like if you want a page to reference an external file:

```
<head>
```

```
<script src="showInfo.js" type="text/javascript">  
</script>
```

```
</head>
```

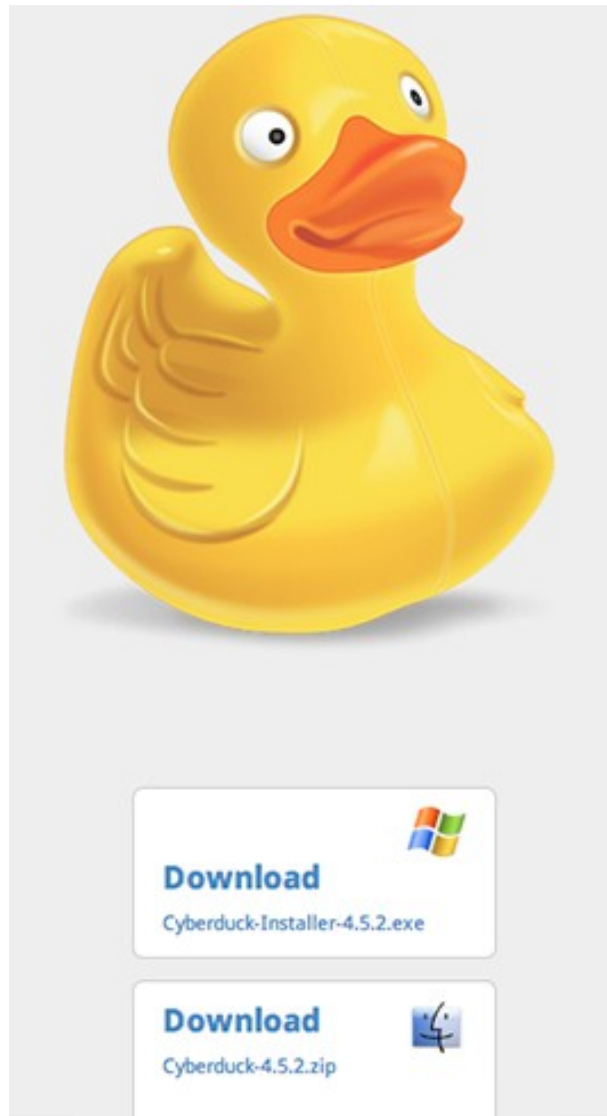
html over http is read only.

...so another protocol is needed
to read and write files on the
server:

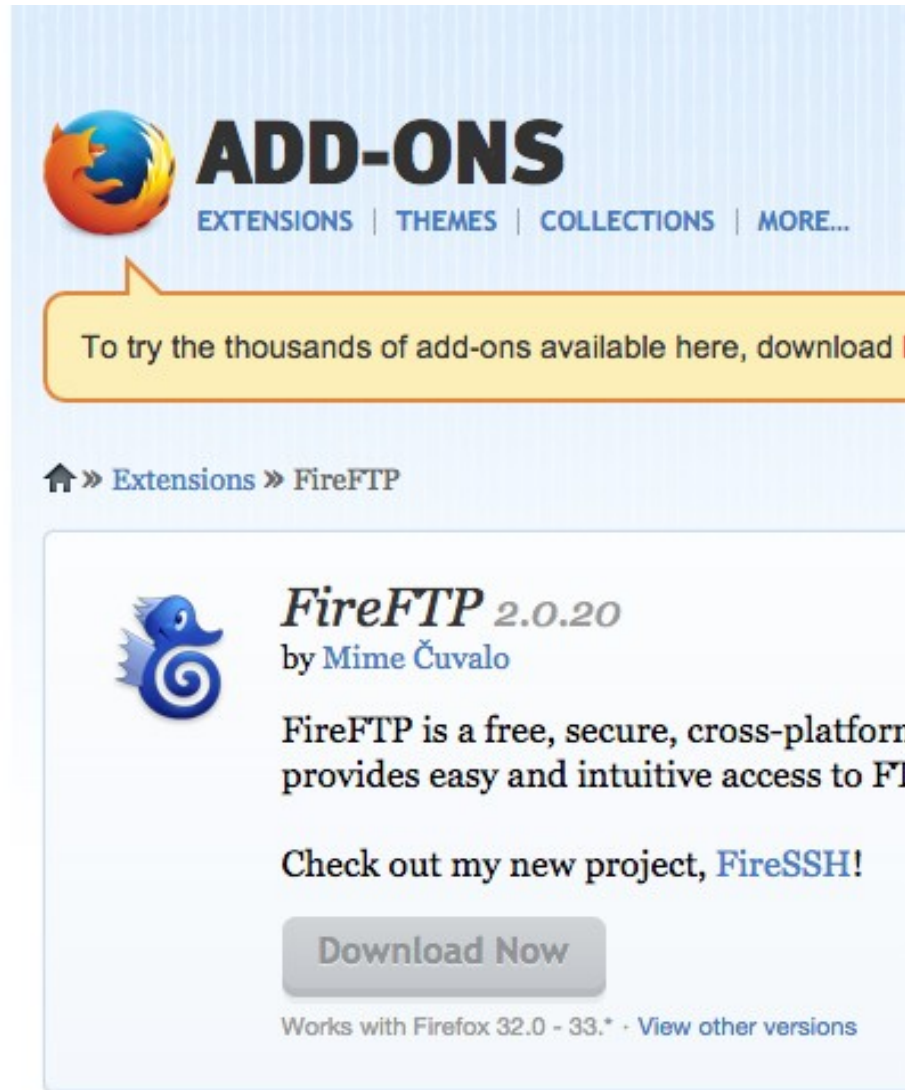
FTP

(File Transfer Protocol)

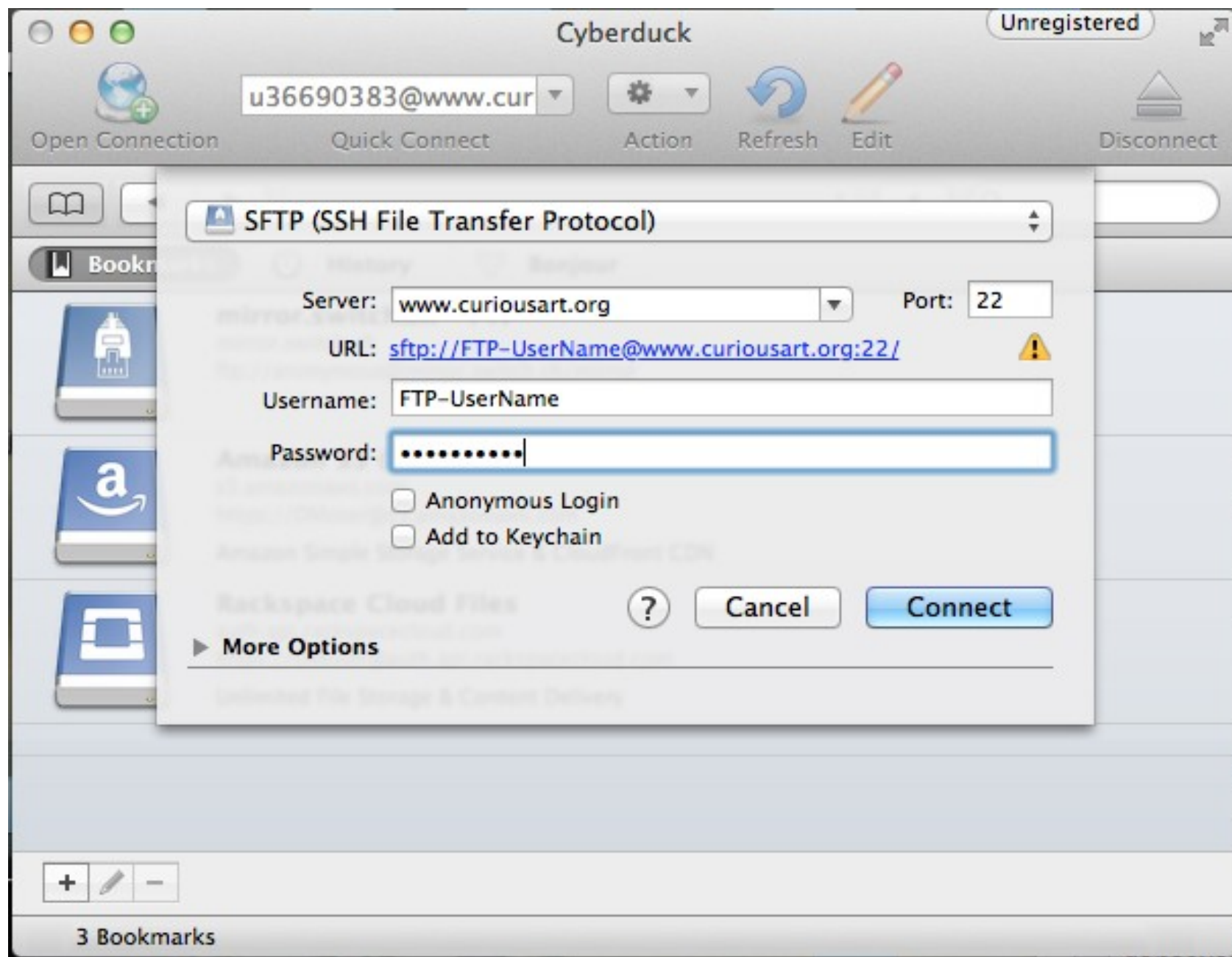
“cyberduck” and “FireFTP” are popular, free FTP clients for Macintosh or Windows.



cyberduck.io



addons.mozilla.org



(Use SFTP instead of whenever possible.)

Traditional method for making webpages:

- > Create a folder on your local machine with all the files in the correct relative locations
- > Edit them until they look the way you want
- > “ftp them” (upload them) to a server
- > “wash, rinse, repeat.”