

# ABOUT HTML

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# AFTER THIS PRESENTATION

- You'll understand the way in which HTML is used
- You'll appreciate the Single Page Application as a modern model
- You'll be able to differentiate between HTML and SVG

# HTML

HTML is the main language for building a web page

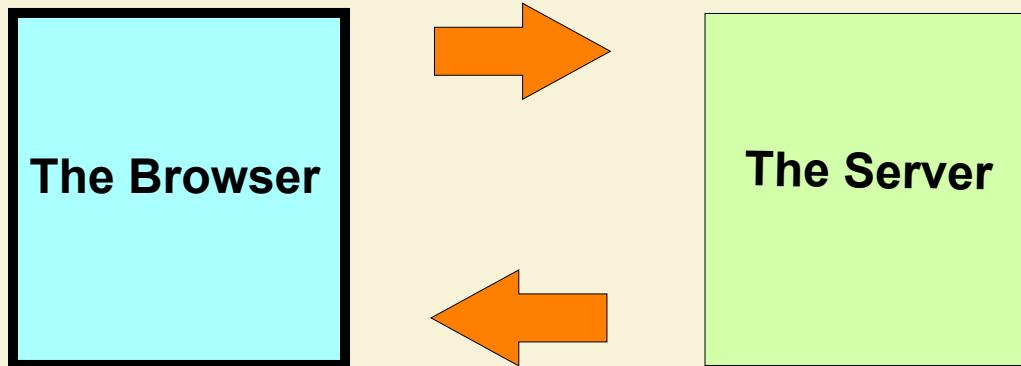
Around since the 1990's

Latest version is HTML 5, which we use

# USING HTML

This is the original way in which HTML was conceived

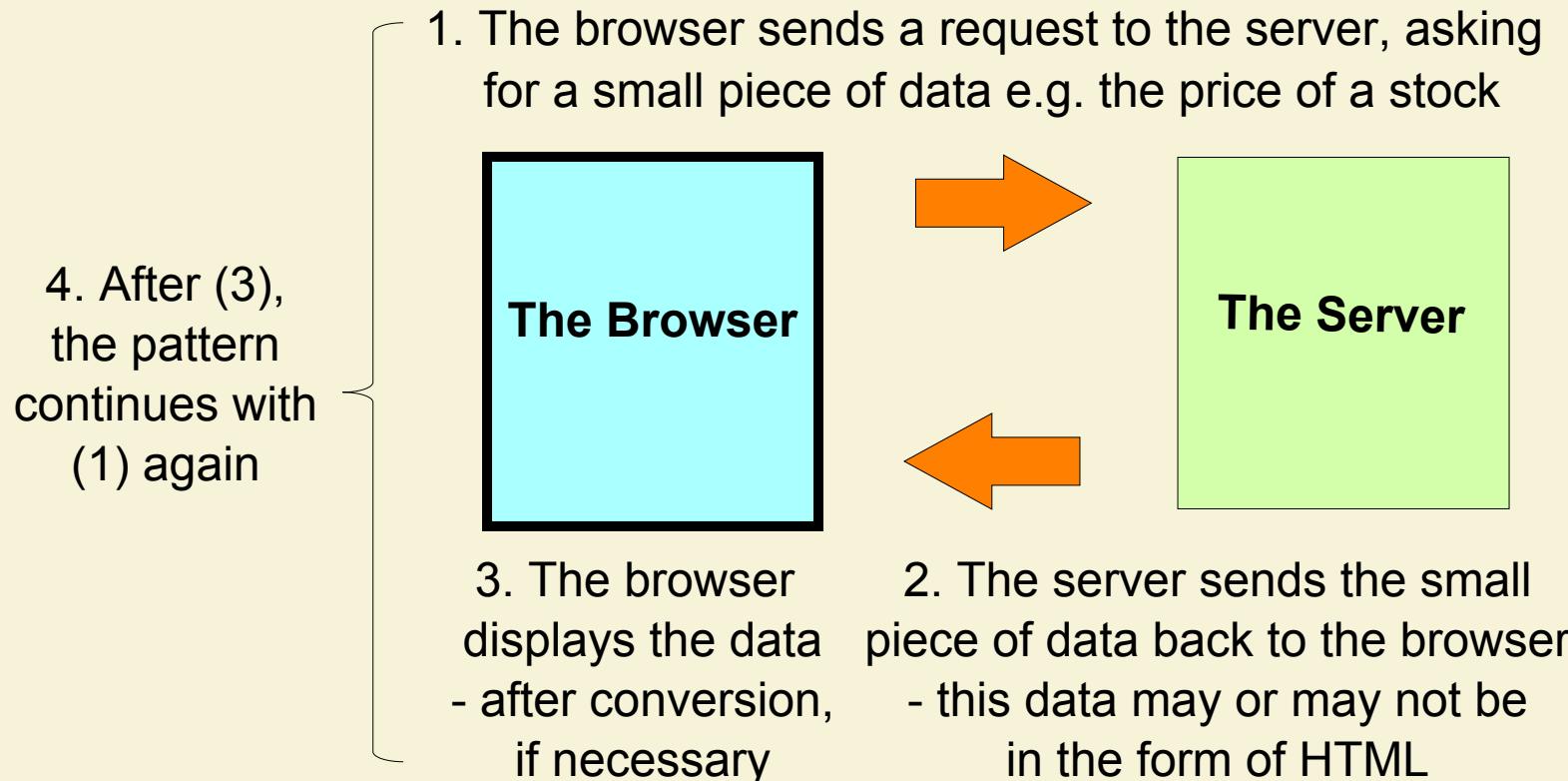
1. The browser sends a request to the server, asking for a web page such as index.html



3. The browser displays the web page
2. The server sends the web page back to the browser

# SINGLE PAGE APPLICATION (SPA)

HTML usage now can be more complex



# AN ALTERNATIVE TO HTML

Here's a simple web page which uses only SVG

```
<svg xmlns="http://www.w3.org/2000/svg">
  <text x="10" y="30"
    style="font-weight:bold; font-size:34">My Web Page</text>
  <text x="10" y="80"
    style="font-size:34">This web page is so awesome!</text>
</svg>
```

**My Web Page**  
This web page is so awesome!

# ANOTHER SVG EXAMPLE



Select here to open

# COMPARISON

- SVG - graphics approach, few libraries
- HTML - text approach, many libraries

SVG: scalable vector graphics, do not have many libraries as html(for example, html is more suitable for mobile application)

# GETTING TO KNOW HTML

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# AFTER THIS PRESENTATION

- You'll be able to build a simple web page
- You'll appreciate the use of an HTML editor

# HTML ELEMENTS WE WILL LOOK AT

Structure    <html> <head> <body>

---

In <head>    <meta> <author>

---

                  <style> <link> <script> <base>

---

In <body>    <h1> <p>

# THE HTML SPECIFICATION

HTML is designed by the World Wide Web Consortium (W3C)

The HTML 5 specification is

<http://www.w3.org/TR/html5/>

If you are a beginner, don't go there!

# HTML COMMANDS

HTML commands are called *elements*

Usually, an element has a start tag and an end tag e.g.

```
<p> . . . </p>
```

There are some exceptions, discussed later

# HTML PAGE STRUCTURE

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

```
<head>
```

*... header elements go here ...*

```
</head>
```

```
<body>
```

*... the main web page content goes here ...*

```
</body>
```

```
</html>
```

# A VERY SIMPLE WEB PAGE

```
<!DOCTYPE html>
<html>
<head>
    <title>A Simple Web Page</title>
    <meta name="author" content="David Rossiter">
</head>
<body>
    <h1>My Web Page</h1>
    <p>This web page is so awesome!</p>
</body>
</html>
```

# My Web Page

This web page is so awesome!

# H1 AND P

Let's look at main content

`<h1>` means *level 1 heading*

```
<h1>My Web Page</h1>
```

`<p>` means *paragraph*

```
<p>This web page is so awesome!</p>
```

# CODE THAT GOES IN HEAD

Anything in `<head>` is information *about* the web page,  
and does not usually get shown in the page

Let's look at the two lines in `<head>`

```
<title>A Simple Web Page</title>  
  
<meta name="author" content="David Rossiter">
```

**<meta ...> tells the browser some information**  
Obviously, these state the title and author

# OTHER THINGS YOU MIGHT USE IN HEAD

## Style - later

```
<style>  
body {background-color:yellow}  
</style>
```

```
<link rel="stylesheet" href="stylerules.css">
```

## Other meta information

```
<meta name="description" content="An example">  
<meta name="keywords" content="HTML, CSS, JavaScript">  
<meta charset="UTF-8">
```

# OTHER THINGS YOU MIGHT USE IN HEAD

## Script - later

```
<script>  
function surprise() {  
    alert("Hello!");  
}  
</script>
```

```
<script src="mycode.js"></script>
```

a link to a js code      The location of the main file

```
<base href="http://www.ust.hk/" target="_blank">
```

# ATTRIBUTES

You need to use speech marks for any HTML attributes:

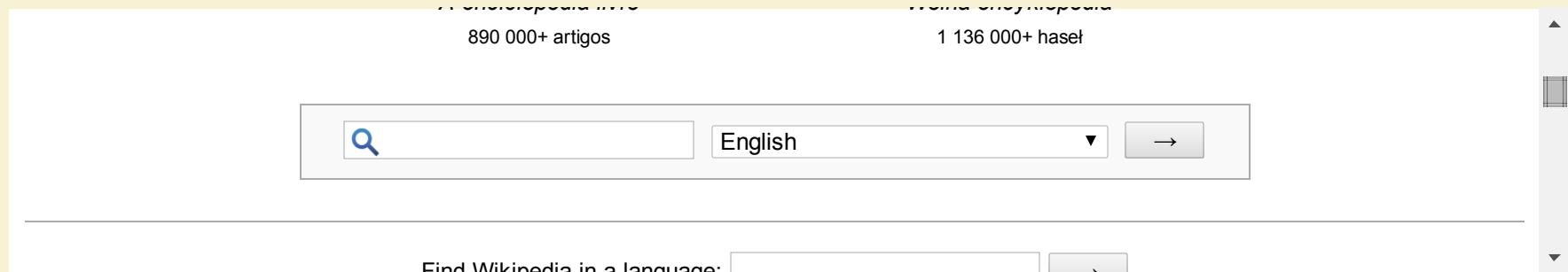
```
<meta name="author" content="David Rossiter">
```

Double speech marks " and single speech marks ' are both OK:

```
<meta name='author' content='David Rossiter'>
```

# VIEWING THE HTML OF ANY PAGE

For example: <http://www.wikipedia.com>



Keyboard: Ctrl-U (PC browsers) or  
⌃⌘U (Mac Chrome, Safari) or ⌘U (Mac Firefox)

```
<!DOCTYPE html>
<html lang="en" dir="ltr" class="client-nojs">
<head>
<meta charset="UTF-8" />
<title>Wikipedia, the free encyclopedia</title>
<meta name="generator" content="MediaWiki 1.26wmf8" />
. . .
```

# THIS PRESENTATION

This presentation is written in HTML

The presentation system is called reveal.js

It uses some of the HTML we will learn

You can view the source code to learn more

# HTML EDITORS

There are hundreds of HTML editors (google search!)

They give you a GUI environment to help create HTML

HTML editors are good for *complementing* learning

# EXAMPLE OF AN HTML EDITOR

Here's an example of an HTML editor

This particular editor is called TinyMCE

File ▾ Edit ▾ Insert ▾ View ▾ Format ▾ Table ▾ Tools ▾



p

# SOME COMMON HTML ELEMENTS

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# AFTER THIS PRESENTATION

- You'll be able to apply headings and sections within your page
- You'll be able to create different types of lists
- You'll be able to write comments in the code

# ELEMENTS WE WILL LOOK AT

Headings      `<h1> <h2> <h3> <h4> <h5> <h6>`

---

Sections      `<section>`

---

Lists      `<ul>` and `<ol>` together with `<li>`

---

Comments      `<!-- a comment -->`

# QUICK REMINDER - SIMPLE WEB PAGE

```
<!DOCTYPE html>
<html>
<head>
    <title>A Simple Web Page</title>
    <meta name="author" content="David Rossiter">
</head>
<body>
    <h1>My Web Page</h1>
    <p>This web page is so awesome!</p>
</body>
</html>
```

# HTML HEADINGS

`<h1>` `<h2>` `<h3>` ... `<h6>` are used for headings

Browsers show `<h1>` bigger than `<h2>`  
`<h2>` bigger than `<h3>`, and so on

People often 'cheat' by using these elements  
to easily generate different size text

# HEADING TAGS

A simple example of heading elements

```
<h1>Introduction to Something</h1>
<h2>An Area of Something</h2>
<h3>A Sub-Area...</h3>
<p>This sub-area is fun! Let's discuss it here in detail.</p>
```

# **Introduction to Something**

## **An Area of Something**

### **A Sub-Area...**

This sub-area is fun! Let's discuss it here in detail.

# LOOKS BORING?

The elements are shown using the default browser style

We can apply a different style to make things look better

Let's apply the style used by this presentation

Later we will look at style in depth

# INTRODUCTION TO SOMETHING

AN AREA OF SOMETHING

A SUB-AREA...

This sub-area is fun! Let's discuss it here in detail.

# USING SECTION

<section> is used to indicate a section

```
<section>
    <h1>Introduction to Something</h1>
    <p>Let's discuss something here!</p>
</section>
```

# **Introduction to Something**

Let's discuss something here!

# A SIMPLE LIST USING BULLETS

Now let's consider HTML lists

`<ul>` means *unordered list*, `<li>` means *list item*

```
<ul>
  <li>The first item</li>
  <li>The second item...</li>
  <li>Yes... the third item!</li>
</ul>
```

<ul>在缺省的情况下，右边有一个实心的圈

- The first item
- The second item...
- Yes... the third item!

# A SIMPLE LIST USING NUMBERS

`<ol>` means *ordered list*

```
<ol>
  <li>The first item</li>
  <li>The second item...</li>
  <li>Yes... the third item!</li>
</ol>
```

<ol>在缺省的情况下会有“1， 2， 3”出现在左边

1. The first item
2. The second item...
3. Yes... the third item!

# CHANGING THE START NUMBER

Add `start="number"` to fix the starting number

```
<ol start="1999">
  <li>In this year I was born...</li>
  <li>In this year I learned to walk...</li>
  <li>In this year I learned to program...</li>
  <li>In this year I learned SPA techniques...</li>
</ol>
```

指定开始的数字为“1999”

- 1999. In this year I was born...
- 2000. In this year I learned to walk...
- 2001. In this year I learned to program...
- 2002. In this year I learned SPA techniques...

# REVERSING THE ORDER

Add reversed to reverse the order

```
<ol start="2002" reversed>
  <li>In this year I learned SPA techniques...</li>
  <li>In this year I learned to program...</li>
  <li>In this year I learned to walk...</li>
  <li>In this year I was born...</li>
</ol>
```

2002. In this year I learned SPA  
techniques...

2001. In this year I learned to  
program...

2000. In this year I learned to walk...

1999. In this year I was born...

# USING A LETTER

Add type="A" to use a letter

```
<ol type="A">
  <li>is for 'Anchor'...</li>
  <li>is for 'Body'...</li>
  <li>is for 'Cdata'...</li>
  <li>is for 'Div'...</li>
</ol>
```

此处从大写的"A"开始；也可以从“a”开始

- A. is for 'Anchor'...
- B. is for 'Body'...
- C. is for 'Cdata'...
- D. is for 'Div'...

# COMMENTS

A comment looks like this: <!-- *a comment* -->

```
<html>
<!-- This is a simple demonstration of using comments in a web page --&gt;
&lt;head&gt;
    &lt;meta name="author" content="David Rossiter"&gt;
    <!-- I can't believe how amazing that guy really is! --&gt;
&lt;/head&gt;
&lt;body&gt;
    &lt;!-- Here's my simple 'to do' list --&gt;
    &lt;p&gt;Items I need to fix in my business:&lt;/p&gt;
    &lt;ol&gt; &lt;li&gt;The people&lt;/li&gt;
        &lt;li&gt;The process&lt;/li&gt;
        &lt;li&gt;The product&lt;/li&gt; &lt;/ol&gt;
    &lt;!-- That's a lot of things to fix! I better get started soon. --&gt;
&lt;/body&gt;
&lt;/html&gt;</pre>
```

Comments can be added anywhere

# FORMATTING HTML TEXT

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# AFTER THIS PRESENTATION

- You'll be able to apply many types of text formatting

# ELEMENTS WE WILL LOOK AT

Italic and Bold

`<i> <em> <b> <strong>`

---

Underline

`<u>`

---

Big and Small

`<big> <small>`

---

Highlighted

`<mark>`

---

Subscript & Superscript

`<sub> <sup>`

---

Inserted & Deleted

`<ins> <del>`

# ITALIC TEXT

`<i>` makes the text italic; `<em>` does the same thing.  
The difference is that `<em>` emphasises importance

```
<p>He said <i>I am just going outside and may be some time</i>.</p>
```

```
<p>If you don't have a vaccination <em>you may catch malaria and die</em>.</p>
```

italic: 斜体

html里，`<p>`和`<em>`在显示上没有什么区别

He said *I am just going outside and may be some time.*

If you don't have a vaccination *you may catch malaria and die.*

# BOLD TEXT

<b> makes the text bold; <strong> does the same thing.  
The difference is that <strong> emphasises importance.

```
<p>She said <b>If you want something said, ask a man;  
        if you want something done, ask a woman</b>.</p>
```

```
<p>If you can't repay your mortgage <strong>you may lose your home</strong>.</p>
```

bold: 加粗变黑

html里，<b>和<strong>在显示上没有什么区别

**She said If you want something said, ask a man; if you want something done, ask a woman.**

**If you can't repay your mortgage you may lose your home.**

# UNDERLINE

Try not to use underline - confusing/multiple meanings

```
<p>The viewer <u>may be confused</u> if you use underline.</p>
```

```
<p>Her name is <u>Cheng</u> Sin Ying.</p>
```

The viewer may be confused if you use underline.

Her name is Cheng Sin Ying.

# BIG AND SMALL TEXT

`<big>` and `<small>` do exactly what you expect.  
However, `<big>` is not part of the latest HTML standard.

```
<p>It's dangerous to use <big>big</big> because it isn't part of HTML 5!</p>
<p>I'm embarrassed to say it loudly so here it is: <small>I love you!</small></p>
```

It's dangerous to use **big** because it isn't part of  
HTML 5!

I'm embarrassed to say it loudly so here it is: I  
love you!

# HIGHLIGHTING TEXT

<mark> highlights the text

```
<p>Send us your bank details and you may become a <mark>millionaire</mark>!</p>
```

Send us your bank details and you may become  
a millionaire!

# SUBSCRIPT AND SUPERSCRIPT

<sub> and <sup> are used for offsetting

```
<p>
If x<sub>1</sub>=2 and x<sub>2</sub>=4 then
x<sub>1</sub><sup>2</sup> + x<sub>2</sub><sup>3</sup> equals 68
</p>

<p>
Some video streaming may use XML<sup>1</sup>
</p>

<p>
<sup>1</sup> G. Lam & D. Rossiter, 'A Web Service Framework
Supporting Multimedia Streaming', IEEE Transactions on Services Computing, 2013
</p>
```

If  $x_1=2$  and  $x_2=4$  then  $x_1^2 + x_2^3$  equals 68

Some video streaming may use XML<sup>1</sup>

<sup>1</sup> G. Lam & D. Rossiter, 'A Web Service Framework Supporting Multimedia Streaming', IEEE Transactions on Services Computing, 2013

# INSERTED AND DELETED TEXT

`<ins>` and `<del>` are used for showing edits

```
<p>Let's do this edit: Prof. Rossiter is <ins>truly</ins> the most intelligent.</p>
<p>Also this: Prof. Rossiter has an <del>astonishingly</del> old car.</p>
```

Let's do this edit: Prof. Rossiter is truly the most intelligent.

Also this: Prof. Rossiter has an ~~astonishingly~~ old car.