

HTML

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Agenda

- HTML Basic
- HTML 5
- Interview Questions
- GitHub

HTML Basic

- Introduction
- Tag
- DOM Tree
- Render Path
- HTML Lint

<http://www.w3schools.com/html/default.asp>

HTML

HTML is a **markup language** for describing web documents (web pages).

- HTML stands for **H**yper **T**ext **M**arkup **L**anguage
- A markup language is a set of **markup tags**
- HTML documents are described by HTML tags
- Each HTML tag describes different document content

Tags

HTML tags are keywords (tag names) surrounded by angle brackets:

`<tagname>content</tagname>`

- HTML tags normally come in pairs like `<p>` and `</p>`
- The first tag in a pair is the start tag, the second tag is the end tag
- The end tag is written like the start tag, but with a slash before the tag name

Example

A small HTML document:

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

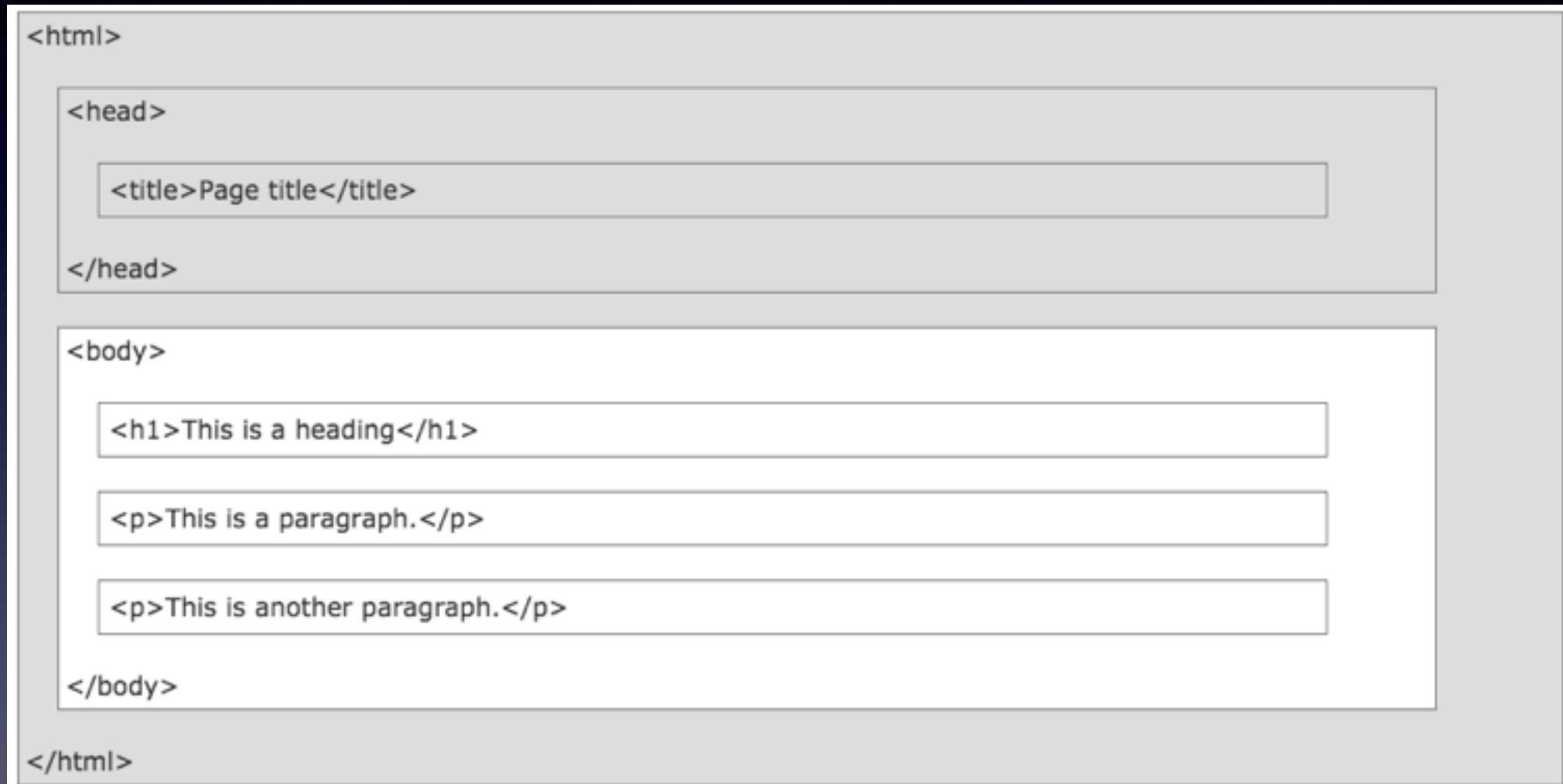
</body>
</html>
```

In Plunker

Example Explained:

- The DOCTYPE declaration defines the document type to be HTML
- The text between <html> and </html> describes an HTML document
- The text between <head> and </head> provides information about the document
- The text between <title> and </title> provides a title for the document
- The text between <body> and </body> describes the visible page content
- The text between <h1> and </h1> describes a heading
- The text between <p> and </p> describes a paragraph

HTML Page Structure



Only the `<body>` area (the white area) is displayed by the browser.
—Not right, but destroy the page structure.
Example in Sublime or Plunker

How it work

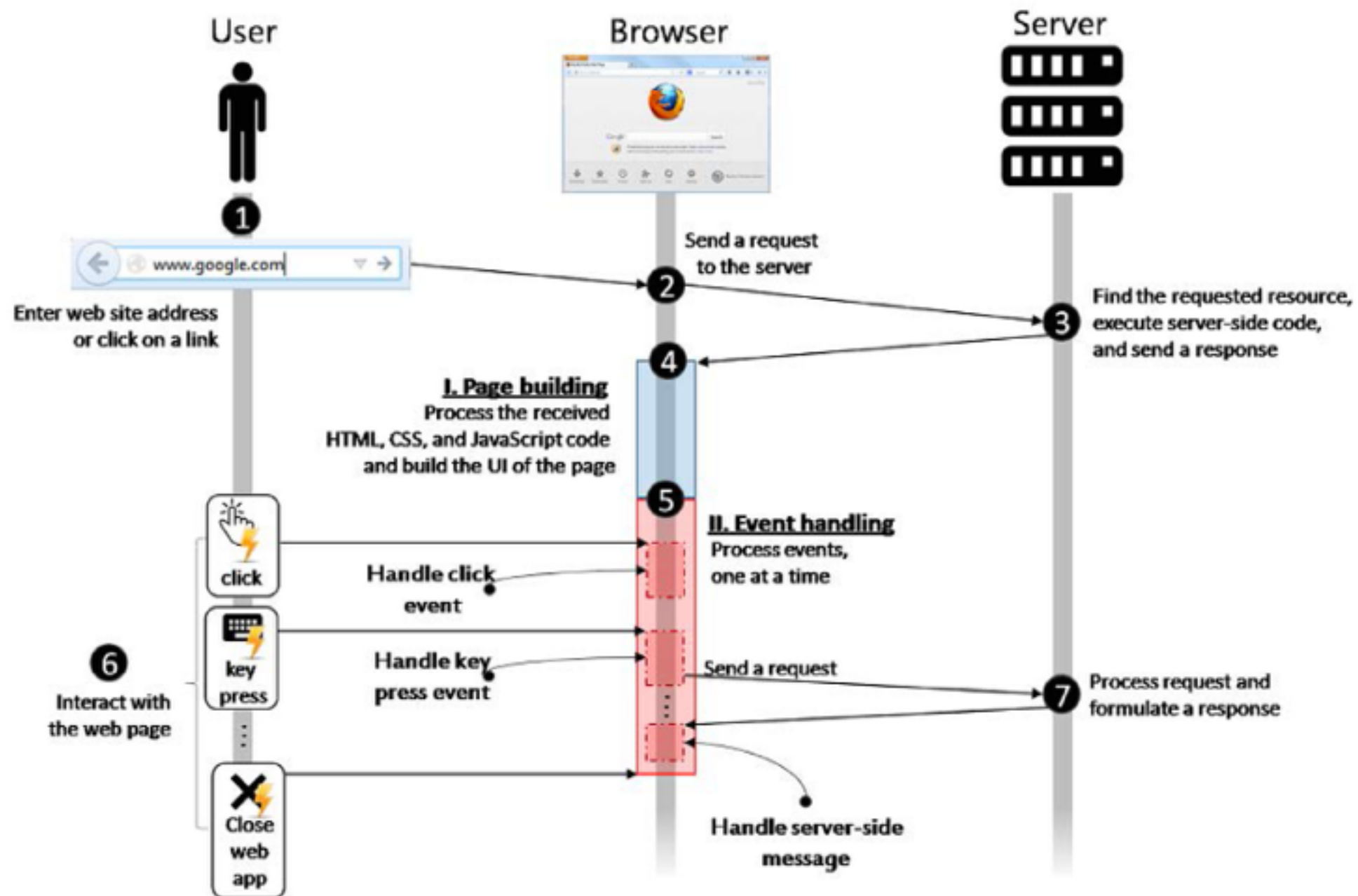


Figure 2.1 The lifecycle of a client-side web application starts with the user specifying a web site address (or clicking on a link) and ends when the user leaves the web page.

Browser

- Chrome
- Inspect Element
- Elements
- Network
- Sources
- Timeline
- Console

<!DOCTYPE> Declaration

The <!DOCTYPE> declaration helps the browser to display a web page correctly.

To display a document correctly, the browser must know both type and version.

The doctype declaration is not case sensitive. All cases are acceptable.

One interview question — however never be asked

Common Declarations

HTML5

<!DOCTYPE html>

HTML 4.01

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

XHTML 1.0

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

HTML Versions

Version	Year
HTML	1991
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML	2000
HTML 5	2014

HTML Tags

- Headings
- Paragraphs
- Links
- Images
- Comments
- Lists
- Tables

http://www.w3schools.com/html/html_basic.asp

Head

The HTML `<head>` element has nothing to do with HTML headings.

The HTML `<head>` element contains meta data. Meta data are not displayed.

The HTML `<head>` element is placed between the `<html>` tag and the `<body>` tag

www.techbow.com see the Head: `<head>`

Heading

<h1> defines the most important heading. <h6> defines the least important heading.

```
<h1>This is a heading</h1>
```

```
<h2>This is a heading</h2>
```

```
<h3>This is a heading</h3>
```

Best Practice:

Use HTML headings for headings only. Don't use headings to make text BIG or bold.

Search engines use your headings to index the structure and content of your web pages.

Paragraphs

- The HTML `<p>` element defines a paragraph.
- Using `
` to break if necessary.
- `<pre>`—- not recommended

http://www.w3schools.com/html/html_paragraphs.asp

Formatting

Best Practice:

Using ``, not ``

Using ``, not `<i>`

http://www.w3schools.com/html/html_formatting.asp

Comments

<!-- This is a comment -->

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

<!-- Remember to add more information here -->

Links

- `Visit our HTML tutorial`
- `Visit our HTML tutorial`
- `Visit W3Schools!`
- Anchor(Bootstrap): `Visit the Useful Tips Section`
- `Send Mail`
- Others: www.hanwei.us

http://www.w3schools.com/tags/tag_a.asp

List

```
<ul>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>
```

```
<ol type="A">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>
```

Tips: Inline Style to form the nav bar

http://www.w3schools.com/html/html_lists.asp

Block and Inline

Block-level Elements

- `<div>`
- `<h1>` - `<h6>`
- `<p>`
- `<form>`

Inline-level Elements

- ``
- `<a>`
- ``

More at CSS part

Table

```
<table border="1" style="width:100%">
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
</table>
```

http://www.w3schools.com/html/html_tables.asp

Forms

- Inputs
- Selection
- Textarea
- Button

http://www.w3schools.com/html/html_form_elements.asp

Inputs

- Text
- Password
- radio
- checkbox
- button
- submit
- color
- date
- datetime
- datetime-local
- email
- month
- number
- range
- search
- tel
- time
- url
- week

Try it!

http://www.w3schools.com/html/html_form_input_types.asp

Input Attribute

- value
- placeholder
- disabled
- readonly
- min and max
- required
- step

Tips: <http://caniuse.com/>

http://www.w3schools.com/html/html_form_attributes.asp

Selection

```
<select name="cars">  
  <option value="volvo">Volvo</option>  
  <option value="saab">Saab</option>  
  <option value="fiat">Fiat</option>  
  <option value="audi">Audi</option>  
</select>
```

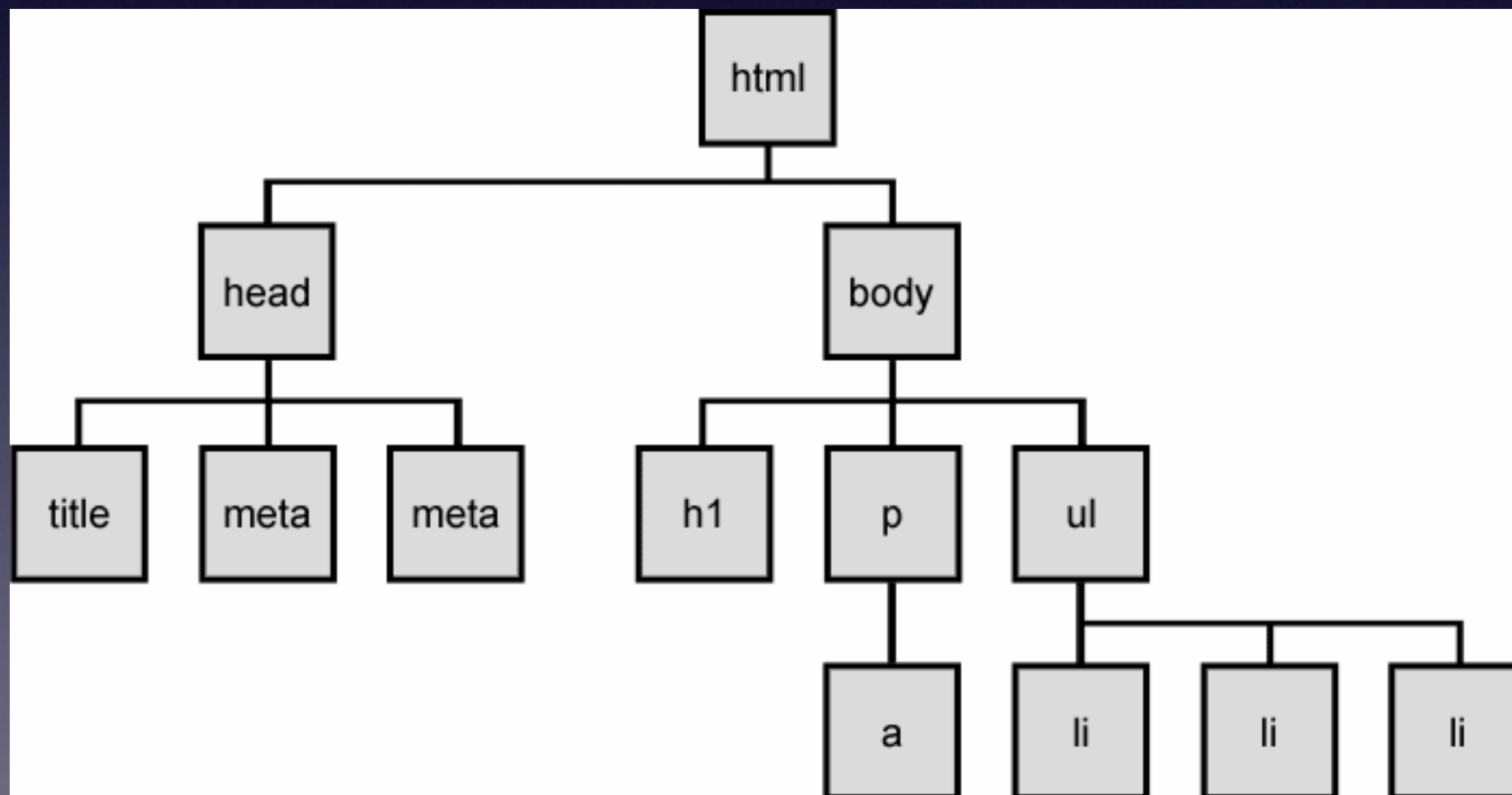
HTML 5

- Semantic elements: <header>, <footer>, <article>, and <section>.
- Form control attributes: number, date, time, calendar, and range.
- Graphic elements: <svg> and <canvas>.
- Multimedia elements: <audio> and <video>.
- HTML5 API's: HTML Local Storage, Web Workers and etc.

http://www.w3schools.com/tags/tag_a.asp

DOM Tree

Document Object Model (DOM)



DIY Elements

```
<h1>My First Heading</h1>
```

```
<p>My first paragraph.</p>
```

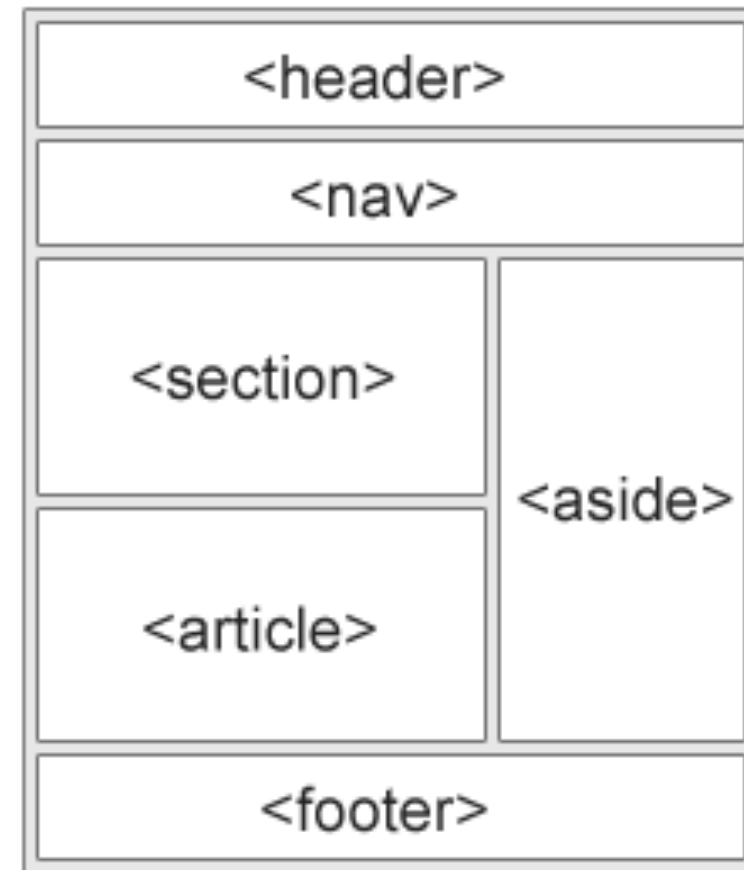
```
<myHero>My First Hero</myHero>
```

However:

Internet Explorer 8 and earlier, does not allow styling of unknown elements.

HTML 5 New Elements

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>



http://www.w3schools.com/html/html5_new_elements.asp

Style Guide

Important !

http://www.w3schools.com/html/html5_syntax.asp

HTML5 Canvas and SVG

<Canvas> is an element that manipulates two-dimensional (2D) pixels while (SVG) Scalable Vector Graphics works in 2D and three-dimensional (3D) vectors

Canvas	SVG
<ul style="list-style-type: none">• Resolution dependent• No support for event handlers• Poor text rendering capabilities• You can save the resulting image as .png or .jpg• Well suited for graphic-intensive games	<ul style="list-style-type: none">• Resolution independent• Support for event handlers• Best suited for applications with large rendering areas (Google Maps)• Slow rendering if complex (anything that uses the DOM a lot will be slow)• Not suited for game applications

http://www.w3schools.com/html/html5_canvas.asp
http://www.w3schools.com/html/html5_svg.asp

HTML 5 Video and Audio

Browser Support

- The first web browsers had support for text only, limited to a single font in a single color.
- Later came browsers with support for colors and fonts, and even support for pictures!
- The support for sounds, animations, and videos is handled differently by various browsers. Different types and formats are supported, and some formats requires extra helper programs (plug-ins) to work.
- Hopefully this will become **history**. HTML5 multimedia promises an easier future for multimedia.

http://www.w3schools.com/html/html5_video.asp

HTML 5 Video and Audio

Local Video and Audio:

```
<video width="320" height="240" controls>  
  <source src="movie.mp4" type="video/mp4">  
  <source src="movie.ogv" type="video/ogg">  
Your browser does not support the video tag.  
</video>
```

Audio is similar to use.

http://www.w3schools.com/html/html5_video.asp

Youtube

```
<iframe width="420" height="315"  
src="http://www.youtube.com/embed/XGSy3_Czz8k?  
autoplay=1">  
</iframe>
```

Very useful and easy to use.

http://www.w3schools.com/html/html_youtube.asp

HTML5 Geolocation

Google Map

navigator.geolocation

Very common in Contact page

see techbow.com

http://www.w3schools.com/html/html5_geolocation.asp

HTML 5 Local Storage

With local storage, web applications can store data locally within the user's browser.

Before HTML5, application data had to be stored in cookies, included in every server request. Local storage is more secure, and large amounts of data can be stored locally, without affecting website performance.

Unlike cookies, the storage limit is far larger (at least 5MB) and information is never transferred to the server.

Local storage is per **domain**. All pages, from one domain, can store and access the same data.

http://www.w3schools.com/html/html5_webstorage.asp

Online Resources

<http://thatjsdude.com/interview/index.html>

The Coursera logo, featuring the word "coursera" in a blue, sans-serif font with a stylized infinity symbol or "c" shape.The Pluralsight logo, featuring the word "pluralsight" in a lowercase, sans-serif font, with "hardcore developer training" in a smaller font below it, and an orange play button icon to the right.

Interview Questions

- Why do u need doctype?
- What is the use of data-* attribute?
- What is the difference between HTML4 and HTML5?
- Describe the difference between a cookie, sessionStorage and localStorage.
- Can you explain the difference between GET and POST?
- What is “Semantic HTML?”
- Describe the difference between <script>, <script async> and <script defer>.
- Why is it generally a good idea to position CSS <link>s between <head></head> and JS<script>s just before </body>?
- What are optional closing tag? and why would u use it?
- What is the difference between SVG and <Canvas>?

Q: Why do u need doctype?

A: Defines the version of html the document is using,
and inform the browser about how browser should render it.

`<!DOCTYPE html>`

Compared to:

`<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"
"http://www.w3.org/TR/html4/strict.dtd">`

Q: What is the use of data-* attribute?

A: Allow you to store extra information/ data in the DOM.
JavaScript can easily access by dataset

Q: What is the difference between HTML4 and HTML5?

A:

HTML4 vs HTML5

- more semantic text markup: <header>, <footer>, <article>, and <section>.
- new form elements: number, date, time, calendar, and range.
- video and audio
- new javascript API: <SVG> and <canvas>
- new communication API
- geolocation API
- web worker API
- new data storage

Q:Describe the difference between a cookie, sessionStorage and localStorage.

A: Cookies are for storing small amounts of website data, such as a user name. HTML5 Web Storage is a faster, improved means of storing website data. sessionStorage is for temporary data, and localStorage is for persistent data.

window.localStorage - stores data with no expiration date, per domain

window.sessionStorage - stores data for one session (data is lost when the tab is closed)

Q: Can you explain the difference between GET and POST?

A: They are two types of HTTP requests. GET represents a specific resource. Should not have and side effect like insert/update because they may be requested by robots. GET use url to send data. POST represent actions on resources, like insert/update/delete. They usually sent from HTML form. Large data could be sent by POST. Data is send along with HTTP header, instead of data of GET in the URL.

Q: What is “Semantic HTML”?

A: Semantic HTML is a coding style where the tags embody what the text is meant to convey. In Semantic HTML, tags like `` for bold, and `<i></i>` for italic should not be used, reason being they just represent formatting, and provide no indication of meaning or structure. The semantically correct thing to do is use `` and ``. These tags will have the same bold and italic effects, while demonstrating meaning and structure (emphasis in this case).

Q: Describe the difference between `<script>`, `<script async>` and `<script defer>`?

A: The `<script>` tag is used to define a client-side script, such as a JavaScript.

If `async="async"`: The script is executed asynchronously with the rest of the page (the script will be executed while the page continues the parsing)

If `async` is not present and `defer="defer"`: The script is executed when the page has finished parsing

If neither `async` or `defer` is present: The script is fetched and executed immediately, before the browser continues parsing the page.

Q: Why is it generally a good idea to position CSS <link>s between <head></head> and JS<script>s just before </body>?

A:

Reference: <https://www.udacity.com/course/website-performance-optimization--ud884>

The image shows a book cover with a light blue background and faint architectural line drawings. The title 'Website Performance Optimization' is in a large, bold, dark blue font. Below it, the subtitle 'The Critical Rendering Path' is in a smaller, bold, dark blue font.

Website Performance Optimization

The Critical Rendering Path

Q: What is the difference between SVG and <Canvas>?

A: <Canvas> is an element that manipulates two-dimensional (2D) pixels while (SVG) Scalable Vector Graphics works in 2D and three-dimensional (3D) vectors

Canvas	SVG
<ul style="list-style-type: none">• Resolution dependent• No support for event handlers• Poor text rendering capabilities• You can save the resulting image as .png or .jpg• Well suited for graphic-intensive games	<ul style="list-style-type: none">• Resolution independent• Support for event handlers• Best suited for applications with large rendering areas (Google Maps)• Slow rendering if complex (anything that uses the DOM a lot will be slow)• Not suited for game applications

Q: What are optional closing tag? and why would u use it?

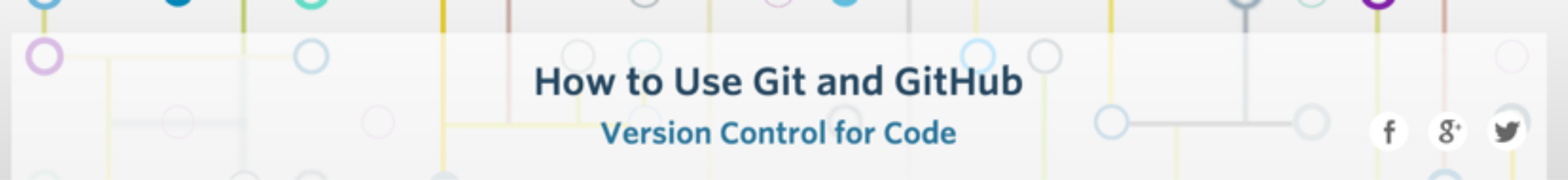
A: p, li, td, tr, th, html, body, etc. you don't have to provide end tag. Whenever browser hits a new tag it automatically ends the previous tag. However, you have to be careful to escape it.

```
<p>Some text  
<p>Some more text  
<ul>  
  <li>A list item  
  <li>Another list item  
</ul>
```

```
<p>Some text</p>  
<p>Some more text</p>  
<ul>  
  <li>A list item</li>  
  <li>Another list item</li>  
</ul>
```

GitHub

<https://github.com/>



How to Use Git and GitHub

Version Control for Code

■ ■ ■ Beginner

📅 Approx. 3 weeks
Assumes 6hr/wk (work at your own pace)

👤 Join 73,789 Students

Course Summary

Effective use of version control is an important and useful skill for any developer working on long-lived (or even medium-lived) projects, especially if more than one developer is involved. This course, *built with input from GitHub*, will introduce the basics of using version control by focusing on a particular version control system called Git and a collaboration platform called GitHub.

This course is part of the [Front End](#) and [Full Stack Nanodegrees](#)..

Start Free Course

[Start free course](#)

💰 Free

You get

- 🎥 Instructor videos
- 💡 Learn by doing exercises

Homework

Orange Udacity Mug



Main Features

- Holds your favorite drink
- Energizing color
- Reminds you to learn

A Good Way to Start a Day

Bacon ipsum dolor sit amet shoulder drumstick spare ribs shank, magna in sirloin. Turducken dolore tempor irure tenderloin pork belly shankle. Excepteur in strip steak pork chop voluptate tongue, hamburger nostrud kevin enim nulla ut cow incididunt. Do pancetta swine hamburger incididunt in excepteur irure pig labore est venison dolor ex adipisicing. Labore capicola veniam, commodo corned beef ut non rump swine pork chop exercitation ball tip ham deserunt.

Ad tri-tip short loin anim beef ribs eu ball tip velit deserunt frankfurter sunt nisi filet mignon. Pork loin quis ham hock mollit cupidatat. Id ground round chuck jerky meatball laborum frankfurter short loin in biltong t-bone doner ea irure. Culpa ex ut id. Nostrud t-bone bresaola pariatur qui tri-tip pork chop, ribeye irure velit pork et in dolore.

Bacon in sunt dolor fatback excepteur turkey chuck velit proident frankfurter quis. Nisi shank sirloin sed tenderloin. Magna short ribs kielbasa biltong minim. In esse t- bone est tail kielbasa dolor ullamco tongue mollit sint sirloin chuck venison anim. Short ribs dolore adipisicing, bresaola venison cupidatat short loin turducken biltong leberkas andouille elit ad in occaecat. Ground round pariatur cupidatat ham hock magna tempor ea jowl duis.