HTML5

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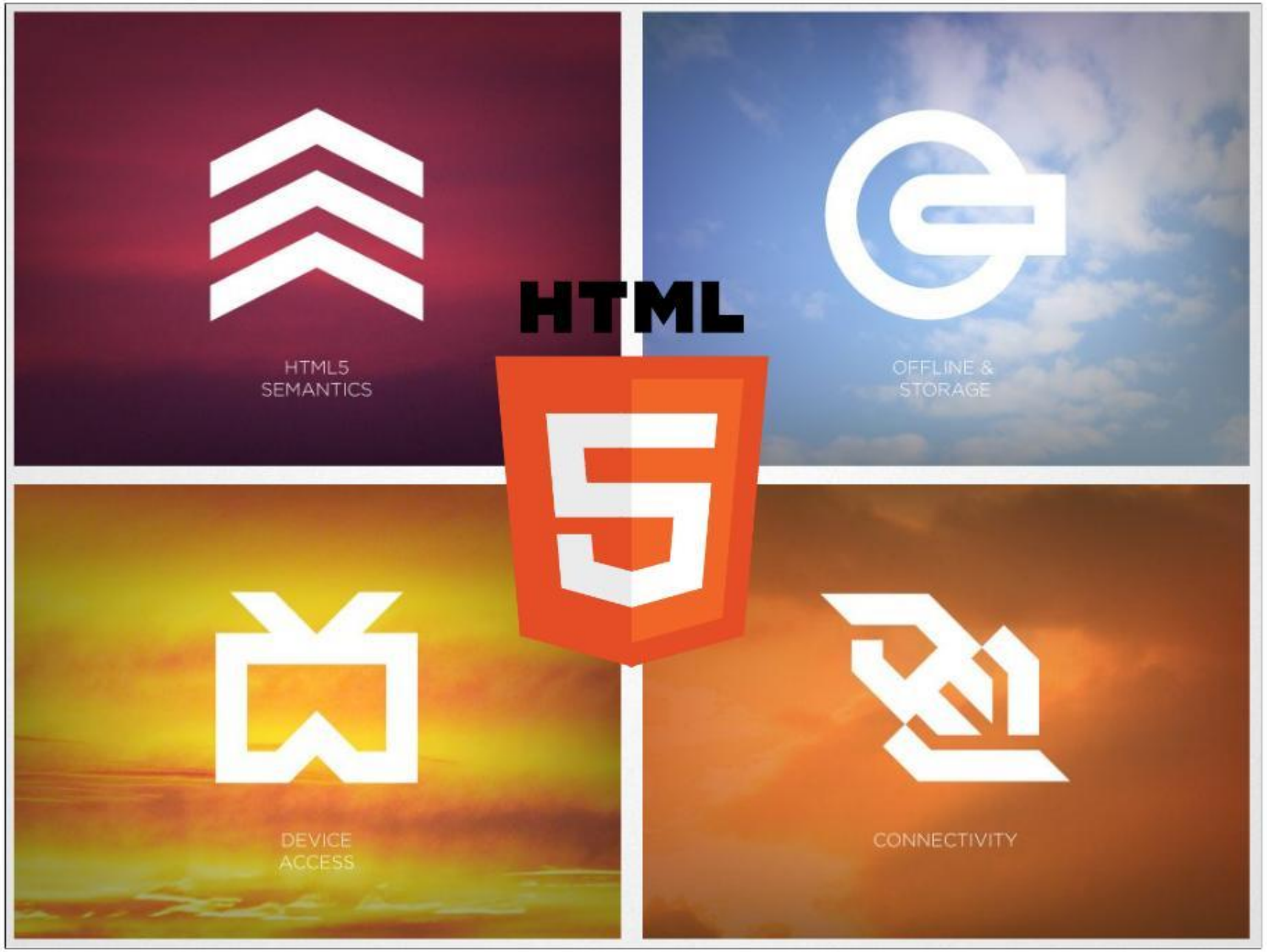
Index

What's HTML5
New Elements
Validations
Assignment

What’s HTML5

https://www.youtube.com/watch?v=mzPxo7Y6JyA

http://www.s3computers.com/images/html5.jpg



New HTML5 Elements

Semantics

CSS3

Multimedia

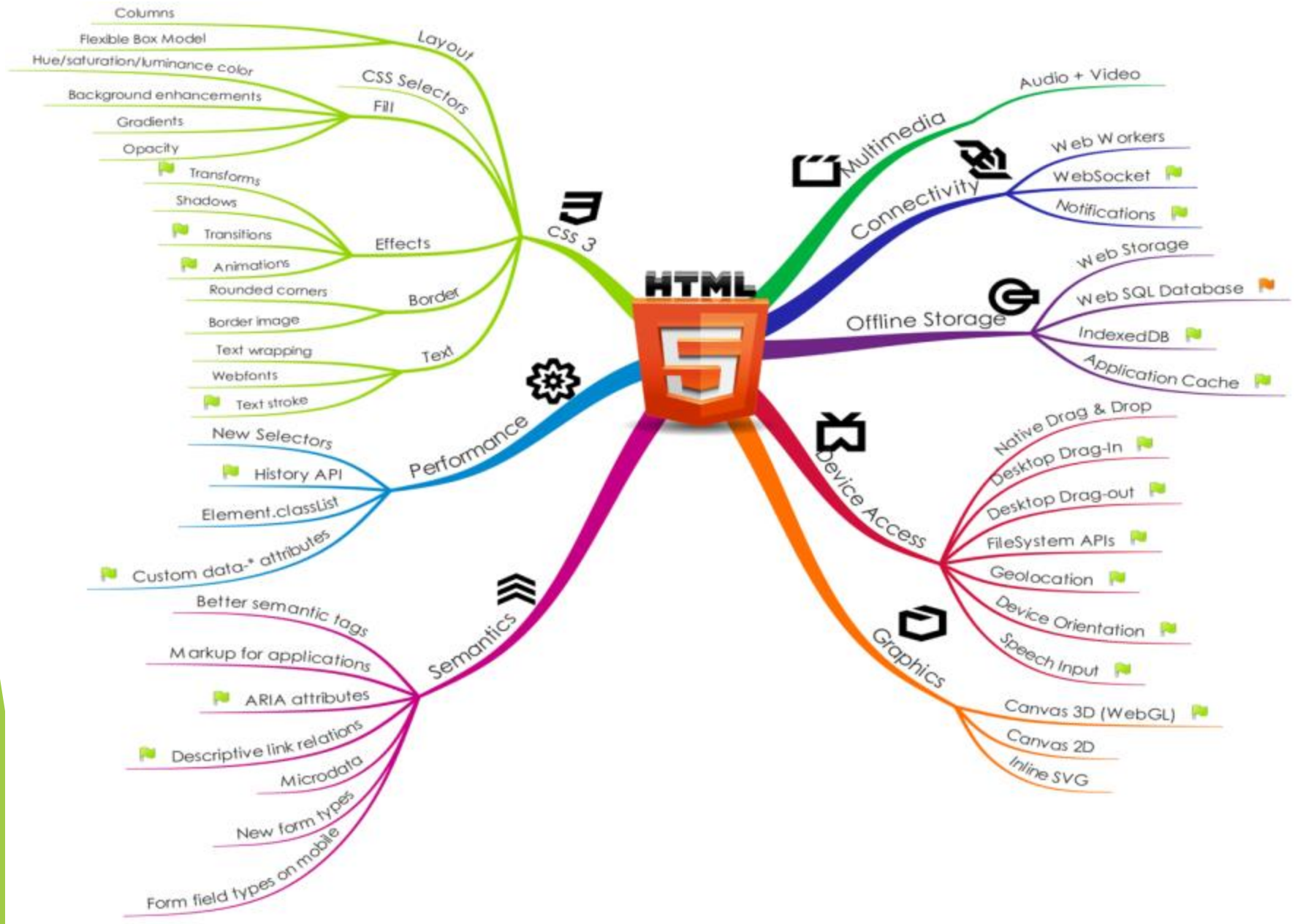
Graphics & 3D

Device Access

Performance

Offline & Storage

Connectivity


HTML
CSS 3
Layout
Columns
Flexible Box Model
CSS Selectors
Hue/saturation/luminance color
Fill
Background enhancements
Gradients
Opacity
Effects
Transforms
Shadows
Transitions
Animations
Border
Rounded corners
Border image
Text
Text wrapping
Webfonts
Text stroke
Multimedia
Audio + Video
Connectivity
Web Workers
WebSocket
Notifications
Offline Storage
Web Storage
Web SQL Database
IndexedDB
Application Cache
Device Access
Native Drag & Drop
Desktop Drag-In
Desktop Drag-out
FileSystem APIs
Geolocation
Device Orientation
Speech Input
Graphics
Canvas 3D (WebGL)
Canvas 2D
Inline SVG
Performance
New Selectors
History API
Element.classList
Custom data-* attributes
Semantics
Better semantic tags
Markup for applications
ARIA attributes
Descriptive link relations
Microdata
New form types
Form field types on mobile

New Semantic/Structural Elements

Tag	Description
<article>	Defines an article in the document
<aside>	Defines content aside from the page content
<details>	Defines additional details that the user can view or hide
<dialog>	Defines a dialog box or window
<figcaption>	Defines a caption for a <figure> element
<figure>	Defines self-contained content, like illustrations, diagrams, photos, code listings, etc.
<footer>	Defines a footer for the document or a section
<header>	Defines a header for the document or a section
<main>	Defines the main content of a document

http://www.w3schools.com/

New Semantic/Structural Elements

Tag	Description
<bdi>	Defines a part of text that might be formatted in a different direction from other text
<mark>	Defines marked or highlighted text
<menuitem>	Defines a command/menu item that the user can invoke from a popup menu
<meter>	Defines a scalar measurement within a known range (a gauge)
<nav>	Defines navigation links in the document
<progress>	Defines the progress of a task

New Semantic/Structural Elements

Tag	Description
<ruby>	Defines a ruby annotation (for East Asian typography)
<rp>	Defines what to show in browsers that do not support ruby annotations
<rt>	Defines an explanation/pronunciation of characters (for East Asian typography) in a ruby annotation.
<section>	Defines a section in the document
<summary>	Defines a visible heading for a <details> element
<time>	Defines a date/time
<wbr>	Defines a possible line-break

New Form Elements

Tag	Description
<datalist>	Defines pre-defined options for input controls
<keygen>	Defines a key-pair generator field (for forms)
<output>	Defines the result of a calculation

New Media Elements

Tag	Description
<audio>	Defines sound or music content
<embed>	Defines containers for external applications (like plug-ins)
<source>	Defines sources for <video> and <audio>
<track>	Defines sources for <video> and <audio>
<video>	Defines video or movie content

New Graphic Elements

Tag	Description
<canvas>	Draw graphics, on the fly, via scripting (usually JavaScript)
<svg>	Draw scalable vector graphics

Elements Removed in HTML5

The following HTML4 elements have been removed from HTML5:

Element	Use instead
<acronym>	<abbr>
<applet>	<object>
<basefont>	CSS
<big>	CSS
	CSS
<dir>	<ul>
<font>	CSS
<frame>	
<frameset>	

HTML4 vs HTML5

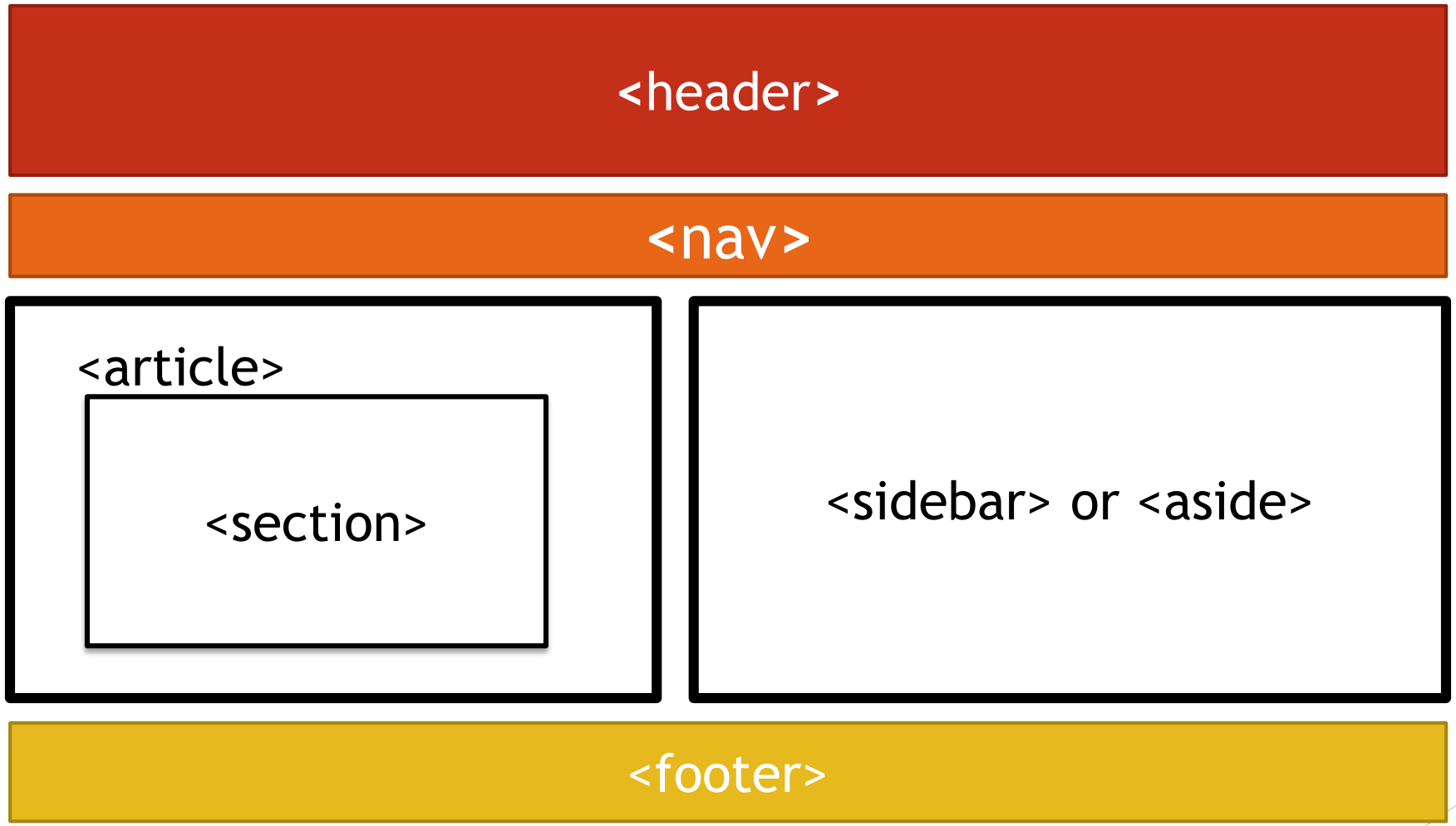
HTML4

```
<div id="header">
<div id="menu">
<div id ="content">
<div id="post">
<div id="footer">
```

HTML5

```
<header>
<nav>
<section>
<article>
<footer>
```

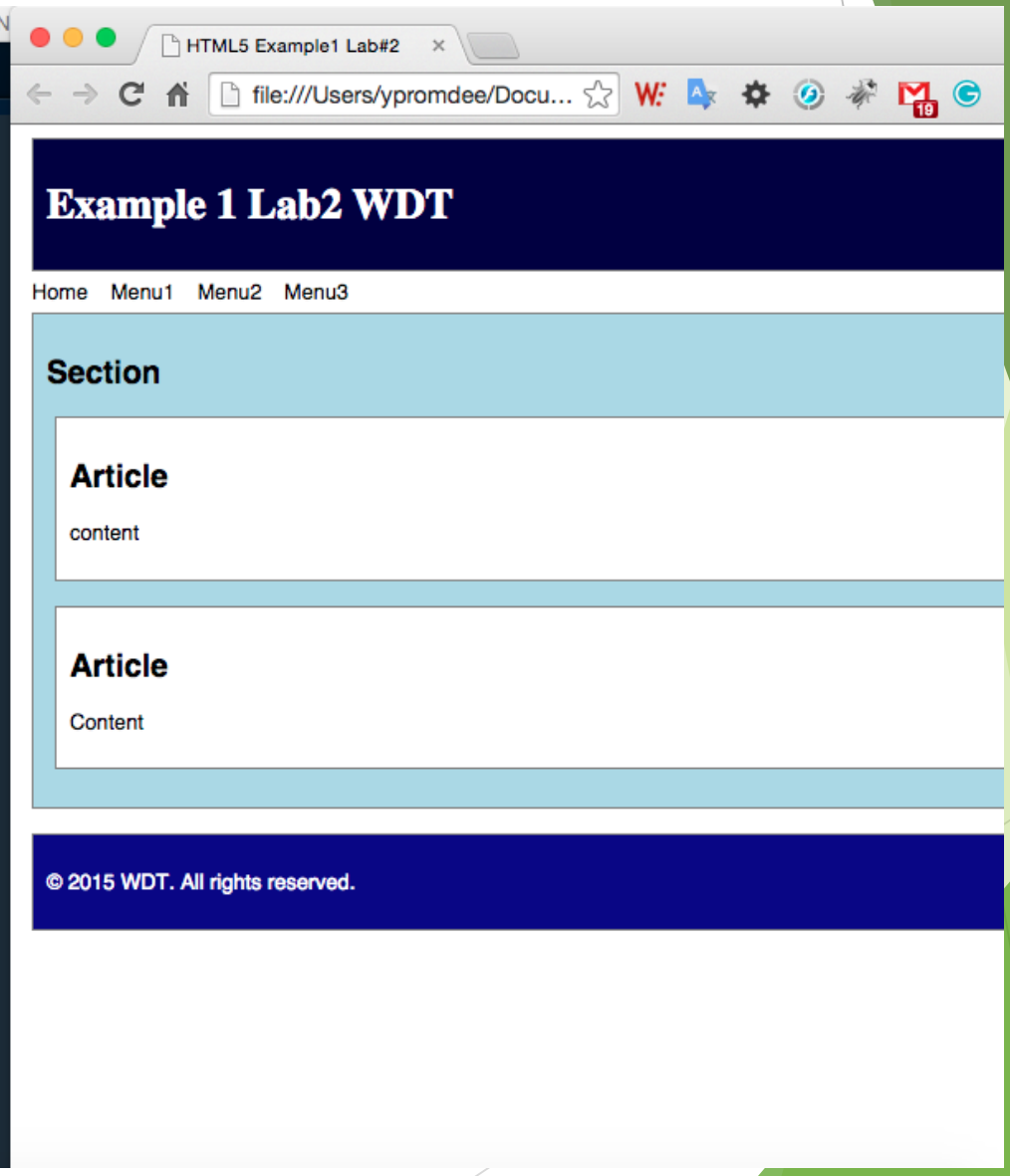
Using HTML5



Example1 div

exlab2_1.html

```
<style>
body {
    font-family: sans-serif;font-size:0.8em;
}
div#header,div#footer,div#content,div#post {
    border:1px solid grey;
    margin:5px;margin-bottom:15px;padding:8px;
    background-color:white;
}
div#header,div#footer {
    color:white;background-color:darkblue;margin-bottom:5px;
}
div#content {
    background-color:lightblue;  }
div#menu ul  {
    margin:0;padding:0; }
div#menu ul li {
    display:inline; margin:5px;
}
div#header{
    font-family: Time Roman;
    font-style: bold;
   background-color: #00;
}
header,footer,section,article {
    border:1px solid grey;
    margin:5px;margin-bottom:15px;padding:8px;
    background-color:white;  }
header,footer {
    color:white;background-color:#444;margin-bottom:5px;
}
section {
    background-color:#ddd;
}
nav ul  {
    margin:0;padding:0;  } nav ul li {
    display:inline; margin:10px; }
</style>
```



Example1 div

```
51  <body>
52
53  <div id="header">
54  <h1>Example 1 Lab2 WDT</h1>
55  </div>
56
57  <div id="menu">
58  <ul>
59    <li>Home</li>
60    <li>Menu1</li>
61    <li>Menu2</li>
62    <li>Menu3</li>
63  </ul>
64  </div>
65
66  <div id="content">
67  <h2>Section</h2>
68
69  <div id="post">
70  <h2>Article</h2>
71  <p>content</p>
72  </div>
73
74  <div id="post">
75  <h2>Article</h2>
76  <p>Content</p>
77
78  </div>
79  </div>
80
81  <div id="footer">
82  <p>&copy; 2015 WDT. All rights reserved.</p>
83  </div>
84
85  </body>
86  </html>
```

Line 78, Column 7

Example2 HTML5

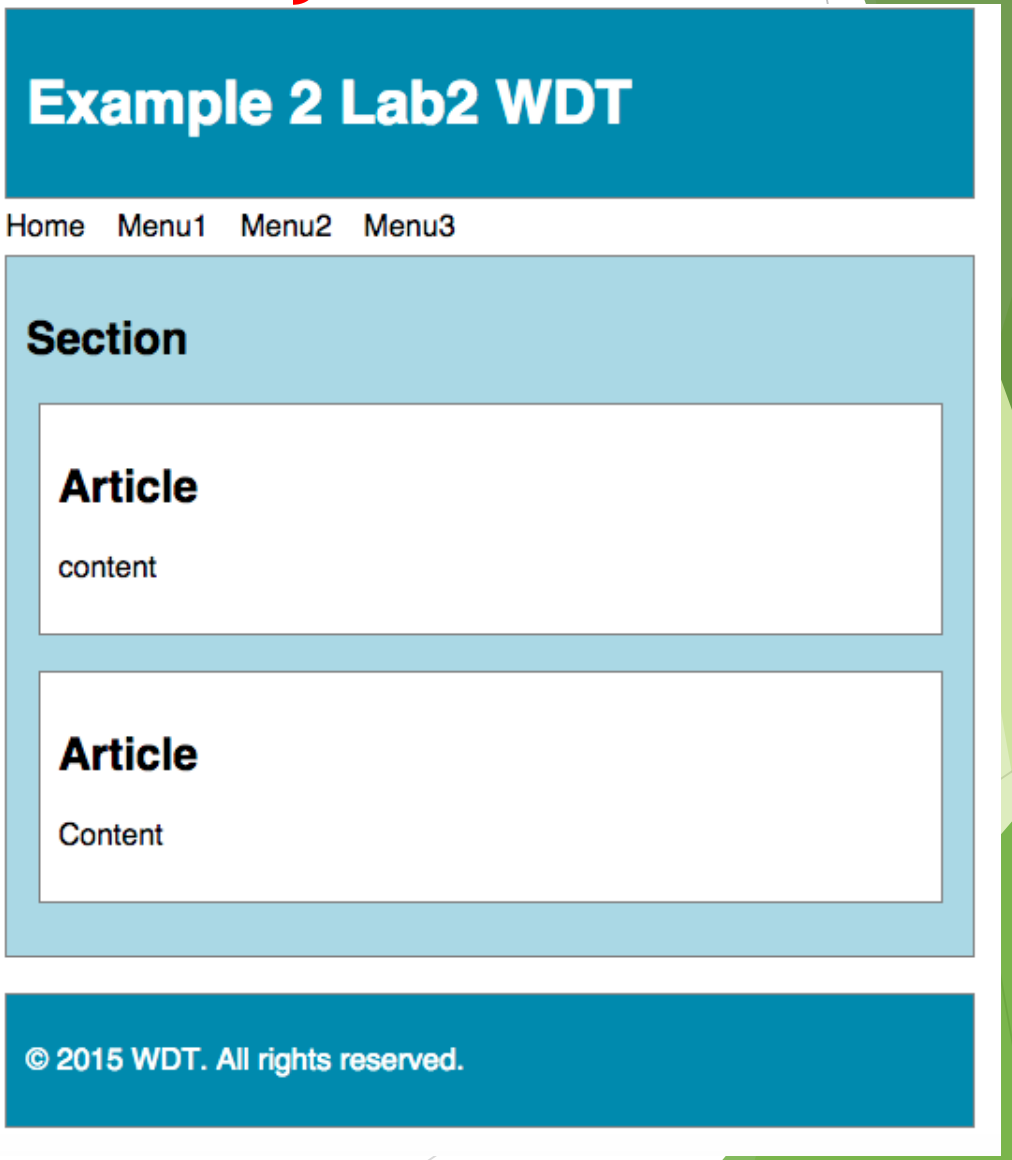
Try it! HTML5

```
<!DOCTYPE html>
<html lang="en">
<title>HTML5 Example2 Lab#2</title>
<meta charset="utf-8">

<!--[if lt IE 9]>
<script src="http://html5shiv.googlecode.com/svn/trunk/html5.js">
</script>
<![endif]-->

<style>
body {
   font-family: sans-serif;font-size:0.8em;
}
header,footer,section,article {
     border:1px solid grey;
    margin:5px;margin-bottom:15px;padding:8px;
    background-color:white;
}
header,footer {
    color:white;background-color:#0489B1;margin-bottom:5px;
}
section {
      background-color:lightblue;
}
nav ul  {
    margin:0;padding:0;
}
nav ul li {
    display:inline; margin:5px;
}
</style>

<body>
```



Datalist

- **<select>** element defines a **drop-down list**

```
<html>

  <head>
    <title>HTML5 Datalist Tag</title>
  </head>

  <body>
    <input list = "quater_month" />

    <datalist id = "quater_month">
      <option value = "Jan-Mar">
      <option value = "Apr-Jun">
      <option value = "Jul-Sep">
      <option value = "Oct-Dec">
    </datalist>
  </body>

</html>
```

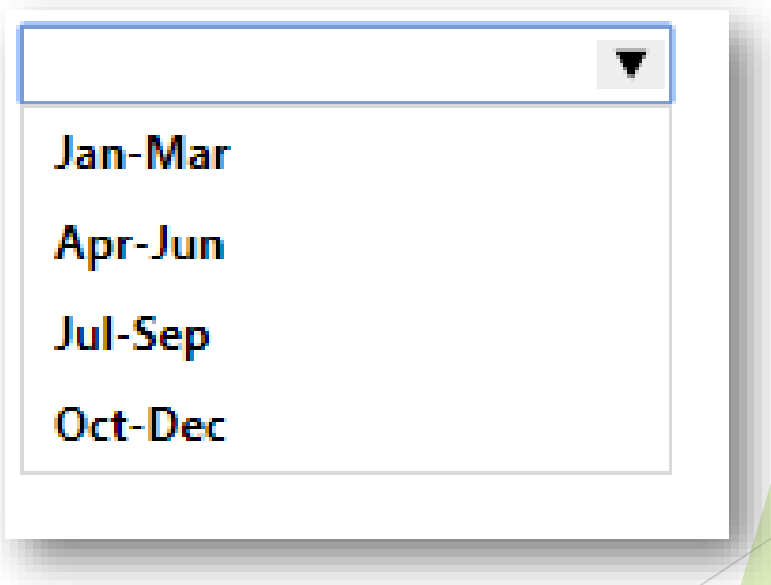


Image Attribute

```
<img src="imagename.png" alt="HTML5"
style="width:300px;height:300px">
```

Adding New Element to HTML

You can also add any new element to HTML with a browser trick.
This example adds a new element called <myCode> to HTML, and defines a display style for it >>

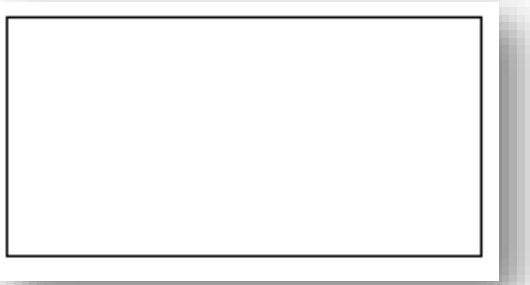
```
<script>document.createElement("myCode")</script>
<style>
 myCode
{
    display:block;
    background-color:#ddd;
    padding: 50px;
    font-size: 30px;
 }
 </style>
```

```
<myCode>Adding New Element to HTML</myCode>
```

HTML Canvas

```
<canvas id="myCanvas" width="200"
height="100" style="border:1px solid #000000;">
Your browser does not support the HTML5 canvas
tag.
</canvas>
```

Result:



HTML Canvas (Cont.)cc

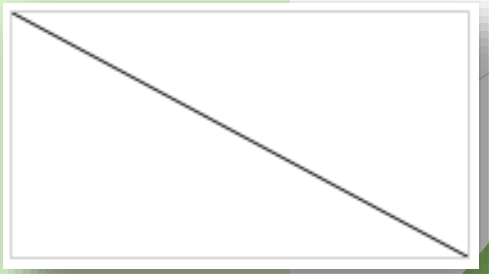
```
<script>
var c = document.getElementById("myCanvas");
var ctx = c.getContext("2d");
ctx.fillStyle = "#FF0000";
ctx.fillRect(0,0,150,75);
</script>
```

x, y, width, height

Result:

```
<script>
var c = document.getElementById("myCanvas");
var ctx = c.getContext("2d");
ctx.moveTo(0,0);
ctx.lineTo(200,100);
ctx.stroke();
</script>
```

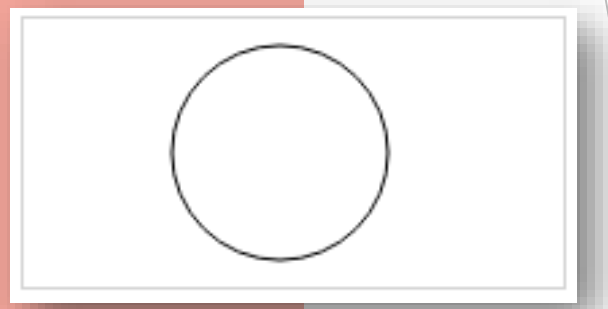
Result:



HTML Canvas (Cont.)

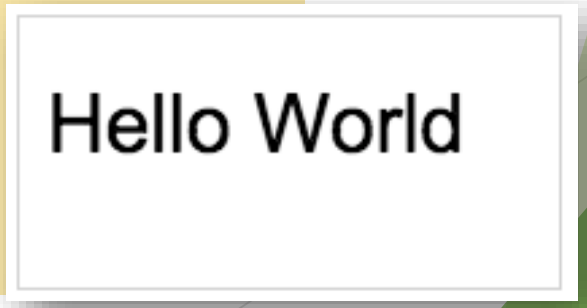
```
<script>
var c = document.getElementById("myCanvas");
var ctx = c.getContext("2d");
ctx.beginPath();
ctx.arc(95,50,40,0,2*Math.PI);
ctx.stroke();
</script>
```

Result:



```
<script>
var c = document.getElementById("myCanvas");
var ctx = c.getContext("2d");
ctx.font = "30px Arial";
ctx.fillText("Hello World",10,50);
</script>
```

Result:



HTML with Video/Audio

```
<video width="400" controls>
  <source src=“videofile.mp4” type="video/mp4">
  <source src=“videofile.ogg” type="video/ogg">
  Your browser does not support HTML5 video.
</video>
```

Validation HTML

A validator is a software program that can check your web pages against the web standards.

Why validate, what are the benefits?

1. Non uniform browser correction
2. Rendering time
3. Future proofing
4. Google prefers valid code
5. Accessibility
6. Self satisfaction

Web Validations

https://validator.w3.org/nu/

Nu Html Checker

This tool is an ongoing experiment in better HTML checking, and its behavior remains subject to change

Showing results for http://www.rpcintertrades.com

Checker Input

Show ☑ source ☐ outline ☐ image report Options...

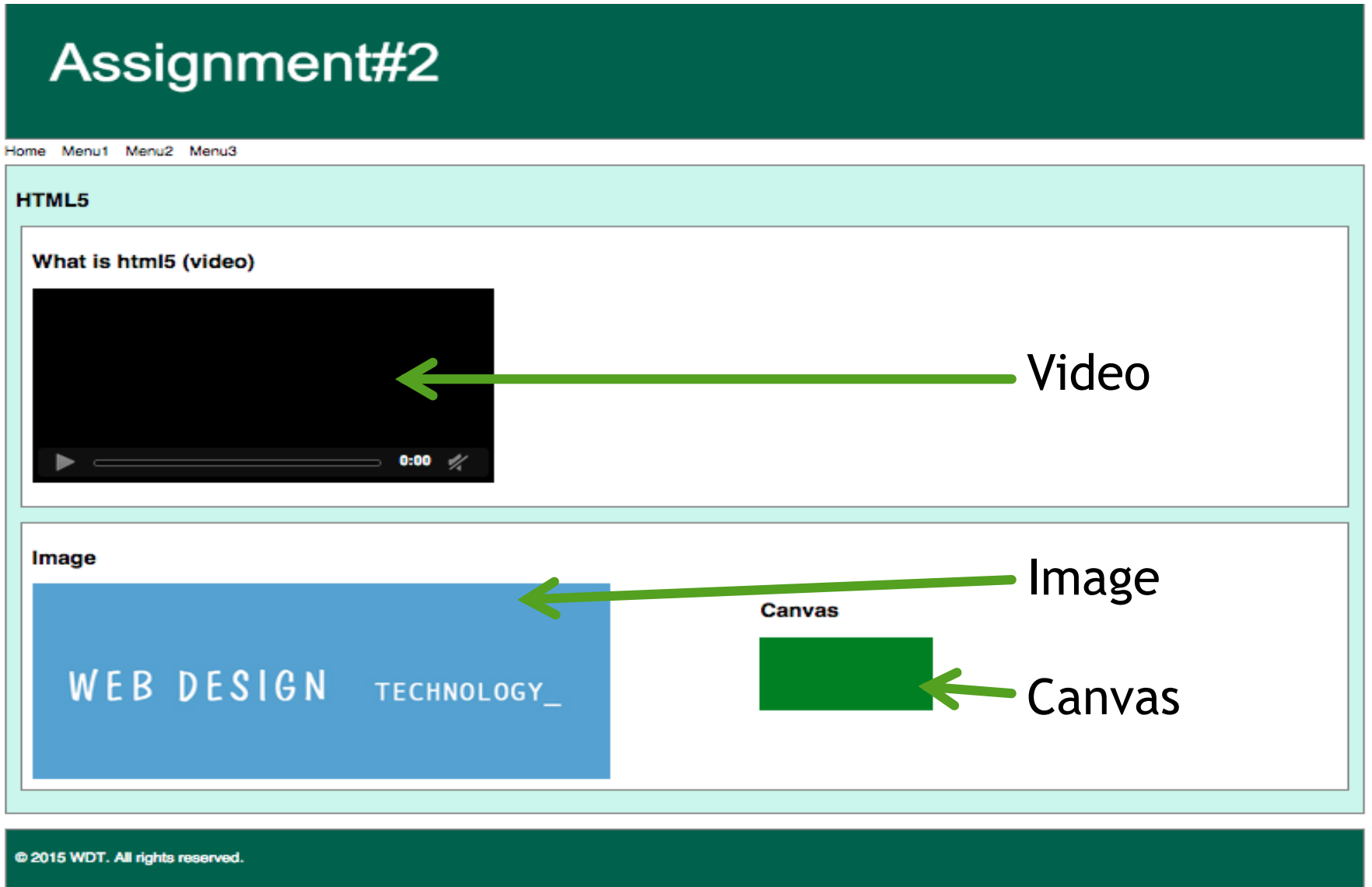
Check by address

http://www.rpcintertrades.com

Check

Message filtering

1. Info **The Content-Type was `text/html`. Using the HTML parser.**
2. Error **Start tag seen without seeing a doctype first. Expected e.g. `<!DOCTYPE html>`.**
   From line 1, column 1; to line 1, column 6
   `<html>↩<head`
3. Info **Using the schema for HTML with SVG 1.1, MathML 3.0, RDFa 1.1, and ITS 2.0 support.**
4. Error **The `center` element is obsolete.** Use CSS instead.
   From line 9, column 1; to line 9, column 8
   `ze:24px">↩<center>↩<img`
5. Error **No `p` element in scope but a `p` end tag seen.**
   From line 14, column 55; to line 14, column 58

Assignment#2

Write HTML Code following the figure using HTML5