

Queensborough Community College
Engineering Technology
Course: ET-710 Section: FN4
Instructor: Prof. J. Sun

Laboratory Experiment #1
Creation of a Transitional Format
XHTML Document using Microsoft
Notepad

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Challenge 1:

This project will create an XHTML Web page with the Transitional Format using Microsoft Notepad. Text will be inserted and edited using different XHTML tags. The completed document is to be saved as Project_1.htm.

Summary:

The following summary will detail the procedure for creating the XHTML document described above using the Microsoft Notepad text editor.

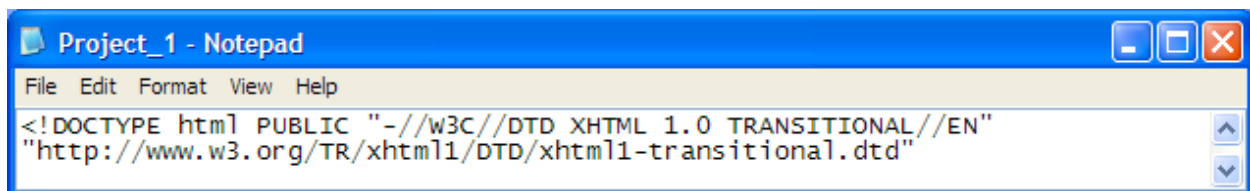
Procedure Overview Summary

1. Research and develop a plan of action and draft idea as to the specific contents of the XHTML document.
2. Open the Notepad text editor program and iteratively enter, test and de-bug the desired contents.

Research XHTML Document Contents

As most people, I daily consume vast amounts of information from the Internet. I have broadband at home at home and travel with several 4G wireless devices. From time to time I have used very simple “cookie cutter” web tools to build simple websites. However this lab is the first time that I actually worked with HTML.

The following crucial information was learned from the ET710 Lecture and Laboratory Guide. First, I learned about the format of an XHTML document. It is a text document consisting of Elements or Tags that are used to display text, images, video, audio and provide interaction. An XHTML document has a specific format and at a minimum must include a <!DOCTYPE> declaration and the 4 elements - <html>, <head>, <title> and <body>. I learned that <!DOCTYPE> sets parameters as to the contents of the XHTML document. This Project required the **Transitional Document Type Definition (DTD)**.

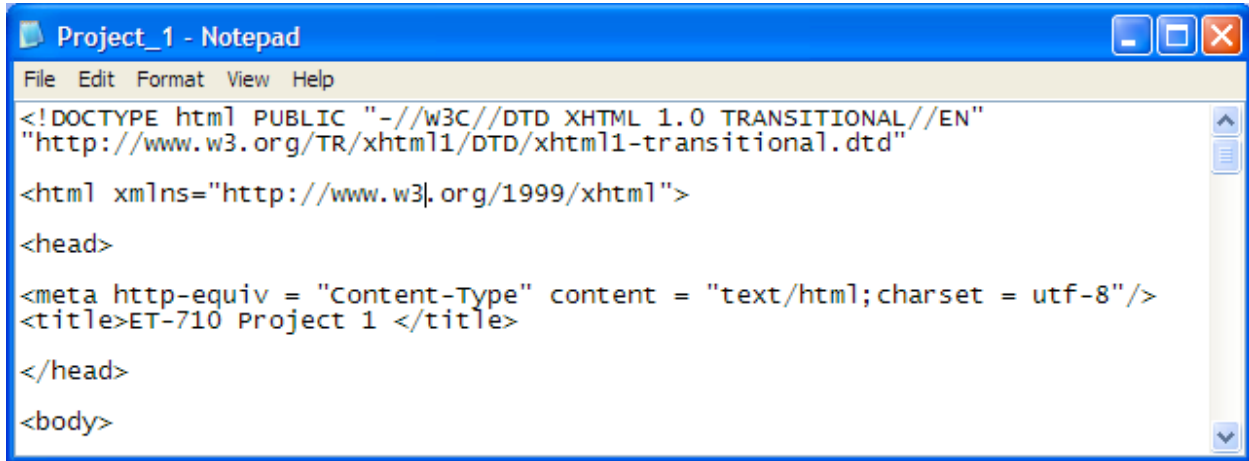


The figure above shows the proper <!DOCTYPE> syntax for the Transitional DTD.

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

The solution to the challenge became understanding the elements of XHTML and their SYNTAX.

Below is a screenshot of the other required elements - `<html>`, `<head>`, `<title>` and `<body>`.



```
Project_1 - Notepad
File Edit Format View Help
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd"
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv = "Content-Type" content = "text/html; charset = utf-8"/>
<title>ET-710 Project 1 </title>
</head>
<body>
```

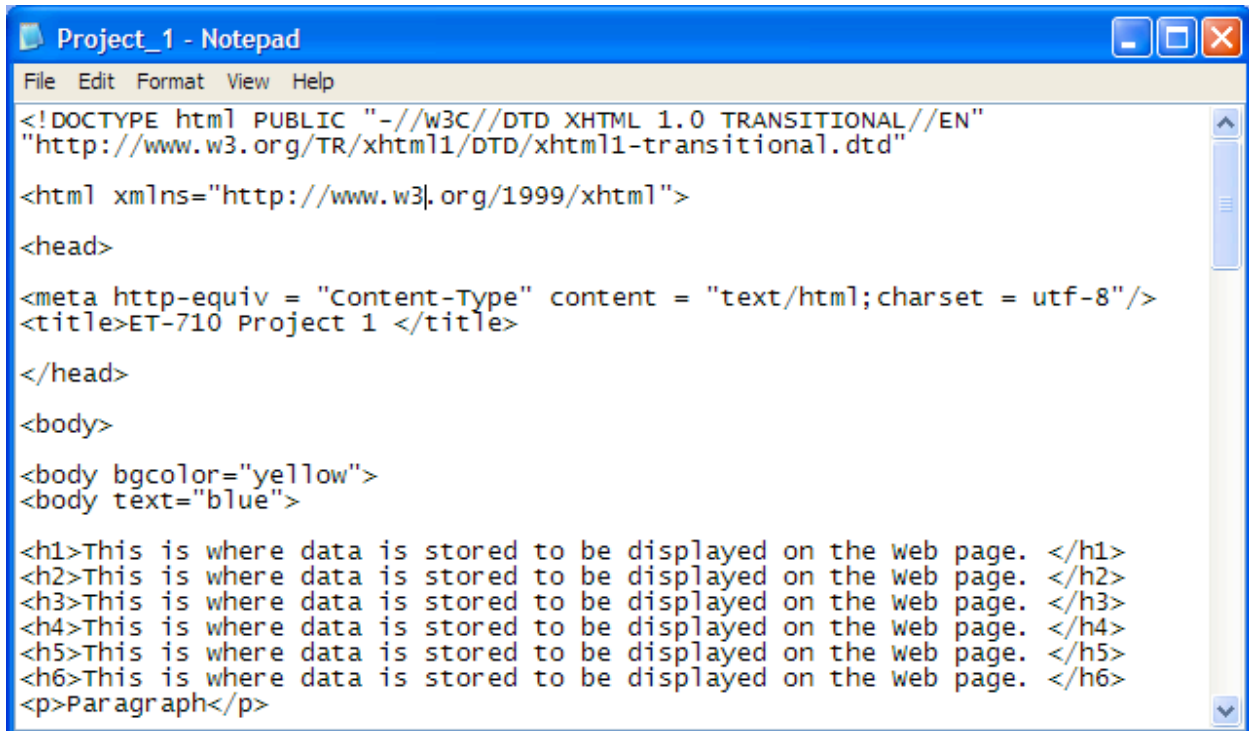
The SYNTAX for many elements is:

`<ELEMENT> CONTENTS OF THE ELEMENT </ELEMENT>`

Armed with this information I proceeded to Step 2, creating and debugging the document.

Creating and Debugging the Document

The following screenshot shows what was entered into Notepad.



```

Project_1 - Notepad
File Edit Format View Help
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd"
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv = "Content-Type" content = "text/html;charset = utf-8"/>
<title>ET-710 Project 1 </title>
</head>
<body>
<body bgcolor="yellow">
<body text="blue">
<h1>This is where data is stored to be displayed on the web page. </h1>
<h2>This is where data is stored to be displayed on the web page. </h2>
<h3>This is where data is stored to be displayed on the web page. </h3>
<h4>This is where data is stored to be displayed on the web page. </h4>
<h5>This is where data is stored to be displayed on the web page. </h5>
<h6>This is where data is stored to be displayed on the web page. </h6>
<p>Paragraph</p>

```

For the purposes of this summary I am treating

`<html xmlns="http://www.w3.org/1999/xhtml">`

as a standard required element for the a basic properly formatted XHTML document. (There is a detailed discussion on Wikipedia about xml namespace http://en.wikipedia.org/wiki/XML_namespace).

The `<head>` element contains basic information about the document including the title which is displayed in the browser window. The `<meta>` element contains information about the XHTML file and is sent to the browser. A detailed discussion of `<meta>` element content can be found at http://en.wikipedia.org/wiki/Character_encodings_in_HTML.

```

<head>
<meta http-equiv = "Content-Type" content = "text/html;charset = utf-8"/>
<title>ET-710 Project 1 </title>
</head>

```

User Experience:

The <body> element contains most of the information that creates the user experience of the XHTML document.

```
<body bgcolor="yellow">
<body text="blue">
```

The bgcolor and text attributes set the background color to yellow and the text color to blue. <h1>...<h6> display text as headings and <p> displays text as paragraph. Below is a picture of the output thus far.



The <title> element content, ET-170 Project 1” is displayed in the Browser Title Bar. Below is the XHTML that produced the output.

```
Project_1 - Notepad
File Edit Format View Help
<body>
<body bgcolor="yellow">
<body text="blue">

<h1>This is where data is stored to be displayed on the web page. </h1>
<h2>This is where data is stored to be displayed on the web page. </h2>
<h3>This is where data is stored to be displayed on the web page. </h3>
<h4>This is where data is stored to be displayed on the web page. </h4>
<h5>This is where data is stored to be displayed on the web page. </h5>
<h6>This is where data is stored to be displayed on the web page. </h6>
<p>Paragraph</p>
```

The common theme has been to understand the function and SYNTAX of XHTML elements. That simplicity begged the question what else is easily possible? There is an HTML5 tutorial at <http://www.w3schools.com/html5/default.asp>. Upon review, it was evident that there were some very powerful but simple to implement elements. I experimented with three of those elements, <svg>, <video> and <canvas>.

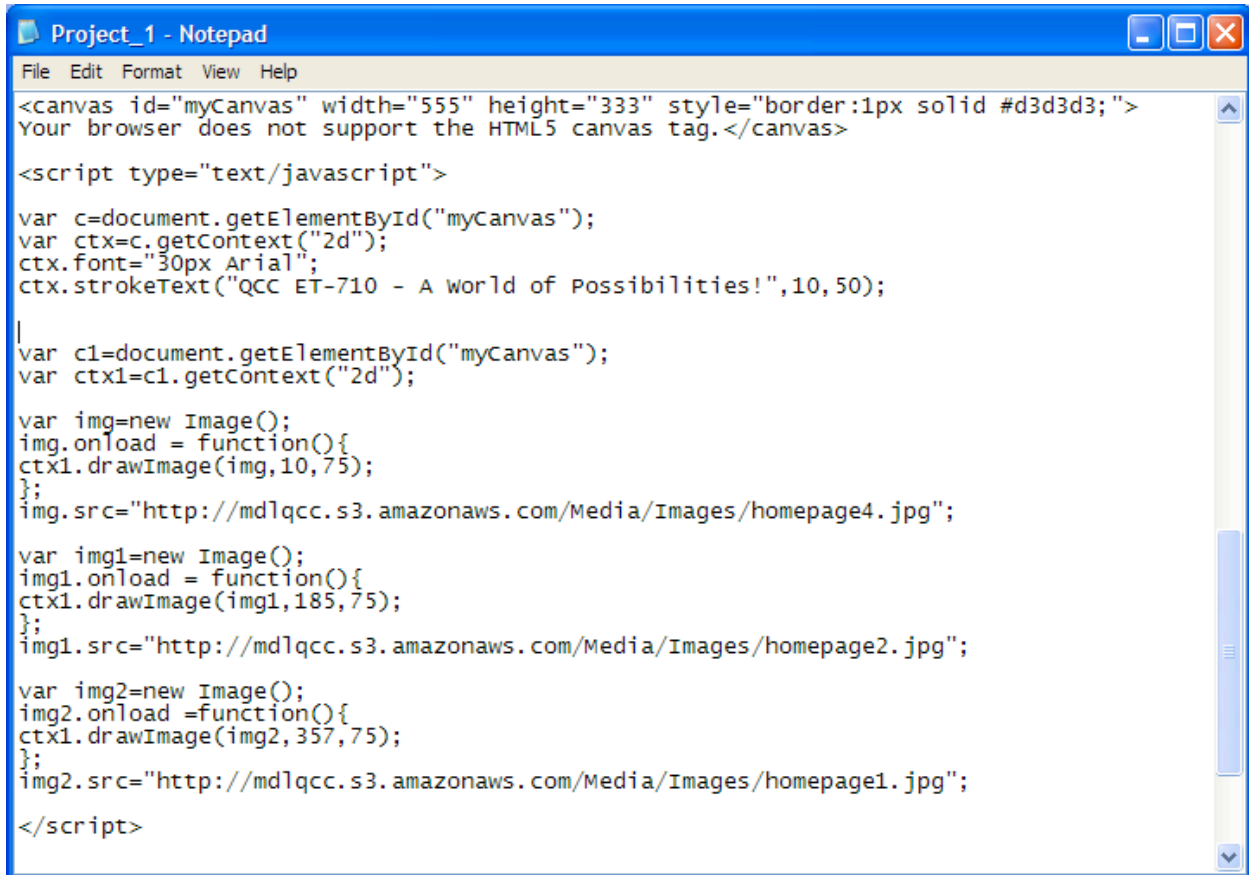
<svg> - allows the drawing of vector graphics. The following code was given as example on the above referenced website and draws a vector star.

```
<svg xmlns="http://www.w3.org/2000/svg" version="1.1" height="190">
  <polygon points="100,10 40,180 190,60 10,60 160,180"
  style="fill:lime;stroke:purple;stroke-width:5;fill-rule:evenodd;" />
</svg>
```

<video> - facilitates inline video. In this example I recorded a short video in MPEG 4 format on the QCC Campus. Loaded it on a server (Amazon s3) and passed it's URL as content to the <video> element.

```
<video width="640" height="480" controls="controls" autoplay="autoplay"> <source
src="http://mdlqcc.s3.amazonaws.com/Media/VID00017.MP4" type="video/mp4" />Your
browser does not support the video
tag.</video>
```

<canvas> - allows you to set up a "canvas", a geographical area on the screen where you can render various graphical content. In this example I draw text of a unique font and size and add three images below it.



```

Project_1 - Notepad
File Edit Format View Help
<canvas id="myCanvas" width="555" height="333" style="border:1px solid #d3d3d3;">
Your browser does not support the HTML5 canvas tag.</canvas>

<script type="text/javascript">

var c=document.getElementById("myCanvas");
var ctx=c.getContext("2d");
ctx.font="30px Arial";
ctx.strokeText("QCC ET-710 - A World of Possibilities!",10,50);

|
var c1=document.getElementById("myCanvas");
var ctx1=c1.getContext("2d");

var img=new Image();
img.onload = function(){
ctx1.drawImage(img,10,75);
};
img.src="http://mdlqcc.s3.amazonaws.com/Media/Images/homepage4.jpg";

var img1=new Image();
img1.onload = function(){
ctx1.drawImage(img1,185,75);
};
img1.src="http://mdlqcc.s3.amazonaws.com/Media/Images/homepage2.jpg";

var img2=new Image();
img2.onload =function(){
ctx1.drawImage(img2,357,75);
};
img2.src="http://mdlqcc.s3.amazonaws.com/Media/Images/homepage1.jpg";

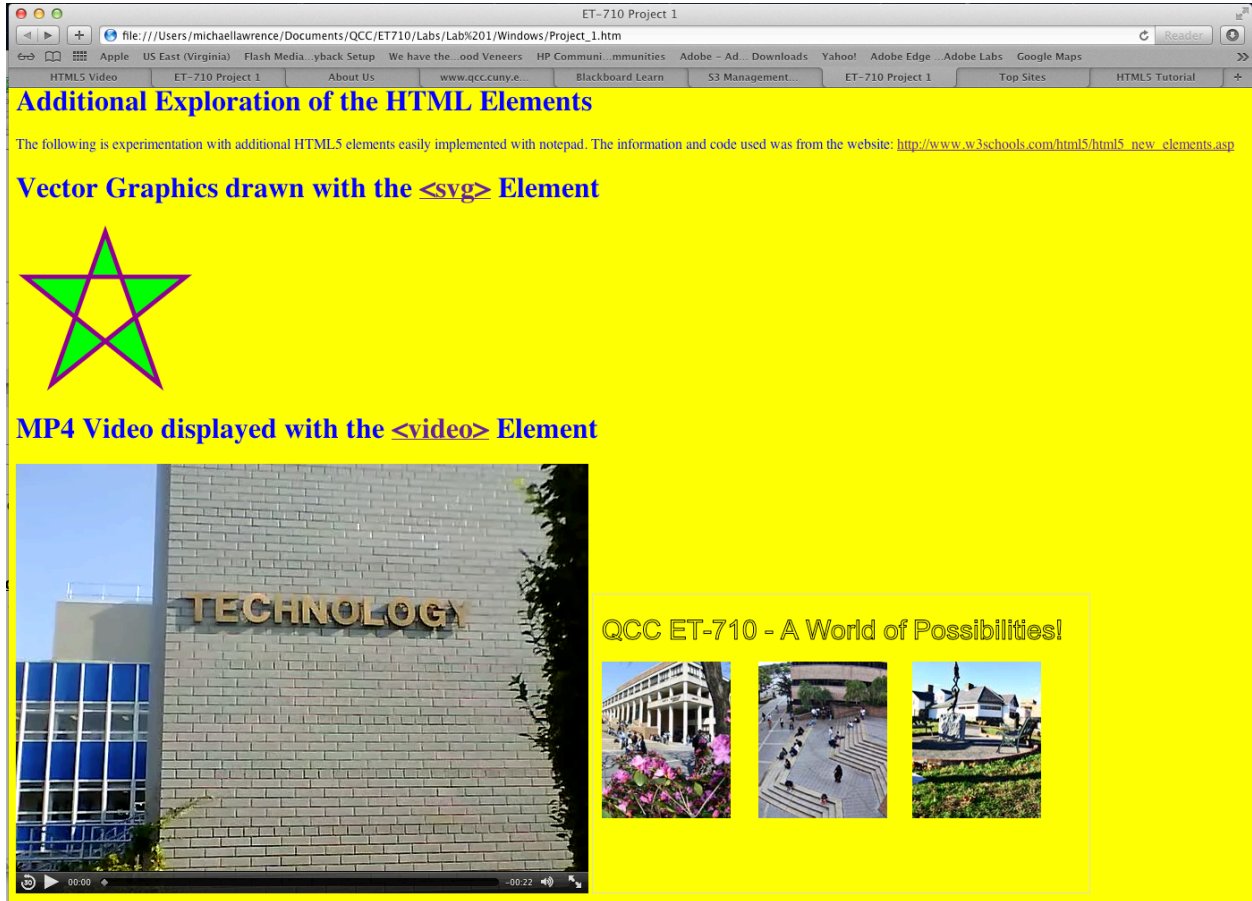
</script>

```

In the above example the `<canvas>` element was used to establish a canvas geographical area that is referenced as `myCanvas`. Four javascript routines then draw into the canvas. The placement of the content is governed by an X,Y coordinate system.

The first routine draws stroke text into the canvas. Next three routines load three images below the text. I put this code together by experimenting with examples on <http://www.w3schools.com/html5/default.asp>.

Here is what the browser output looks like.



The Amazon S3 Simple Storage Solution has become very popular for storing data. It is used by a lot of cloud services including DropBox. I also use it for cloud storage. It is possible to host a website out of the S3 storage servers. There is a tutorial for web hosting at <http://docs.amazonwebservices.com/AmazonS3/latest/dev/WebsiteHosting.html>. I tried it, and hosted project_1.htm there. the URL is <http://mdlqcc.s3-website-us-east-1.amazonaws.com>. The directory contains project_1.htm, three images and the video.

I did have to spend a little time debugging. I had an uppercase F where it should have been lowercase f, and a few other SYNTAX problems. All in all, I have really enjoyed writing my first XHTML document.

Critical Thinking Questions:

Question 1	What are the basic elements in an XHTML file?
Answer	The basic elements in an XHTML file are: <!DOCTYPE> declaration 1.<html> 2.<head> 3.<title> 4.<body>
Question 2	How are meta tags used in a web browser?
Answer	The meta tag is used to provide key word information for search engine optimization. Those key words assist the search engine in categorizing and cataloging the website. It can also provide the browser information about the site such as character set. A detailed discussion is available at http://en.wikipedia.org/wiki/Meta_element .
Question 3	Explain the function of the refresh key.
Answer	The refresh key causes the browser to reload the current page (URL) from its source. In that way the user will be looking at the latest version of the website. It is helpful in debugging as you can make changes in the source file and see the result when you hit the refresh key
Question 4	How to preview a web page?
Answer	Web pages are usually open from a server by the URL. However a practical way to preview the web page before it is placed on the server is on the local computer by opening the local file in the browser. One could either right-click on the file and select the browser to open it, or use FILE-OPEN from the browser's menu and select the file.
Question 5A	List three different XHTML formats.
Answer	Three different XHTML formats are: 1.Transitional DTD 2.Frameset DTD 3.Strict DTD
Question 5B	Describe each format clearly

Answer	<p>1. Transitional DTD - The Transitional DTD allows the use of older HTML elements/tags in addition to the the will formed document tags required of XHTML.</p> <p>2. Frameset DTD - The Frameset DTD allows for the use of the older HTML tags including the <frame> and <frameset> tags. Frameset allows for the browser windo to be split into two or more frames or individual windows.</p> <p>3. Strict DTD - The Strict DTD eliminates the legacy tags in the Transitional and Frameset DTDs and requires strict adherence to the true XHTML code set.</p>