

## Lab 2: Creating Standards-Compliant XHTML Web Pages

```
<!DOCTYPE ... >

<html>
  <head>
    <title> ... </title>
  </head>

  <body>

  </body>
</html>
```

### Note:

It is recommended that students go over this lab handout and come prepared before attending the lab class.

This will help students complete the lab activities within the allocated time, and without much difficulty. Complete any Pre-lab activities before starting with this lab activity.

Please also carry a USB Flash disk with you to the lab class. It is recommended that you save off all your work onto your flash disk.

## In this lab

In this lab you will first convert your About Me web page from Lab 1 into its XHTML-compliant equivalent. You will also be creating different variants of XHTML web pages. Finally, you will correct poorly written web pages using the W3C's Markup Validation Service.

This lab activity will give you practice doing the following:

- Convert HTML web pages into XHTML-compliant web pages
- Use W3C's Markup Validation Service to validate XHTML web pages
- Correct errors in poorly written code to create valid XHTML pages

## Background

The following links contain useful information that will help students with this week's lab activities:

- [W3Schools.com](http://www.w3schools.com/) (<http://www.w3schools.com/>)
- [XHTML 1.0 Tag Reference](http://www.w3schools.com/tags/default.asp) (<http://www.w3schools.com/tags/default.asp>)
- [W3C Markup Validation Service](http://validator.w3.org) (<http://validator.w3.org>)

XHTML 1.0 is the first step towards a modular and extensible web based on XML (Extensible Markup Language). It provides the bridge for web designers to enter the web of the future, while still being able to maintain compatibility with today's HTML 4 browsers. It is the reformulation of HTML 4 as an application of XML and was released on January 26, 2000 as a Recommendation by the W3C.

This lab will introduce XHTML as a "successor" to HTML concentrating on the fundamental steps of creating XHTML-based documents. The focus will primarily be to achieve the XHTML equivalent of HTML within the three main variants of XHTML DTD: **Strict, Transitional and Frameset**. An XHTML document is validated against a Document Type Definition (DTD).

Before any XHTML file can be properly validated, a correct DTD must be added as the first line of the file. A Document Type Definition or DTD sets out the rules and regulations for using HTML in a succinct and definitive manner. To convert a Web site from HTML to XHTML, you should be familiar with the XHTML syntax rules. This lab will emphasize on checking XHTML correctness via the XHTML Validation Service: W3C's validation service.

## Lab Objectives

- To get started with basic XHTML coding and understand the steps involved in the process of creating, editing, and viewing an XHTML document
- To convert HTML documents into their XHTML 1.0 equivalent under specified XHTML DTD
- To understand the concept of "well-formed" documents
- To introduce Document Type Definitions (DTD) and XHTML Validation using the World Wide Web Consortium's Markup validation service
- To identify the advantages of XHTML over HTML
- To identify XHTML Syntax rules

## Lab Requirements

- Text Editor: Notepad++ (Recommended) or Notepad
  - We need a Text editor like Notepad++ to write our HTML code
- Web Browser: Mozilla Firefox or Internet Explorer or Google Chrome, etc
  - A Web browser is needed to view the resulting output of the web page created
- USB Flash disk/ cloud storage
  - Please save off all your work onto your flash disk
- Notebook or Writing pad
  - Keep a writing pad handy so that you can note down any important points covered during the lab class

## XHTML 1.0 Variants, DOCTYPEs, and Document Structure

### • XHTML 1.0 Strict

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

### • XHTML 1.0 Transitional

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

### • XHTML 1.0 Frameset

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

## XHTML Document Structure/Template

```
<!DOCTYPE goes here">

<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en-US">
<head>
  <title>Title goes here...</title>
</head>

  <body>
    Content goes here...
  </body>
</html>
```

## XHTML Syntax Rules

- <!DOCTYPE> is Mandatory
- XHTML elements (tags) must be in lowercase
- Attribute names must be in lower case
- Attribute values must be quoted
- All XHTML elements must be closed
- XHTML elements must be properly nested
- The id attribute replaces the name attribute
- XHTML documents must be well-formed
- Attribute minimization is forbidden

## Activity 1: Converting HTML to its XHTML equivalent

1. Create a copy of the Lab1 folder and rename it to Lab2.
2. Open the aboutme.html file into Notepad++.  
(Right click on the file and choose the Edit with Notepad++ option.)
3. We will convert this HTML file to its XHTML 1.0 Transitional equivalent.

Add the XHTML 1.0 Transitional DOCTYPE as the first line in the aboutme.html file.

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

4. Now replace the opening <html> with the following line:

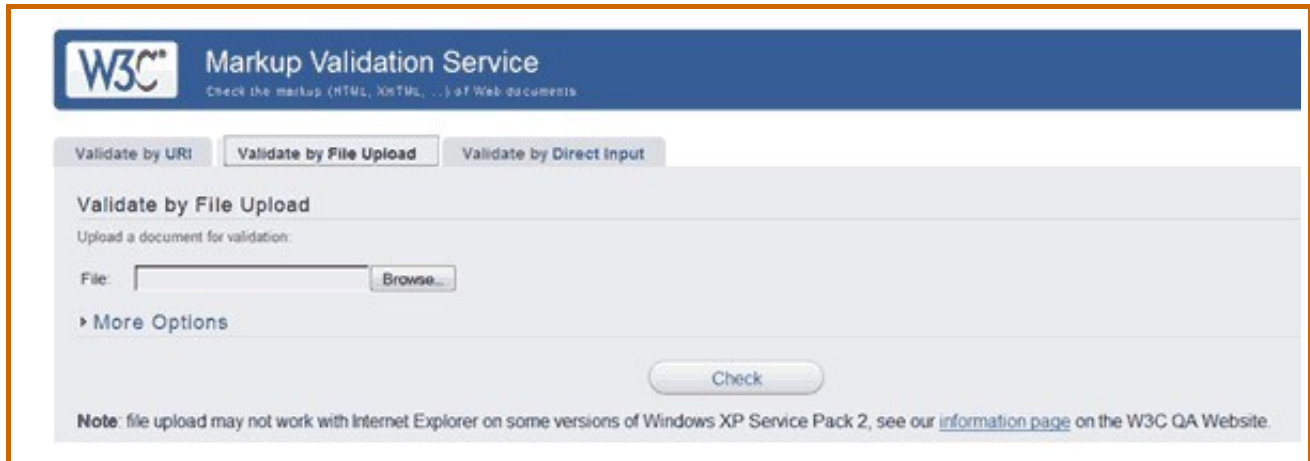
```
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en-US">
```

5. Save your work and open the aboutme.html file in a web browser. The aboutme.html file is now a XHTML 1.0 Transitional file. You should notice that this produces exactly the same result as Lab 1.

6. All XHTML documents should be validated to verify that they comply will all the XHTML syntax rules.

Go to the W3C's Markup Validation Service using the following link: <http://validator.w3.org>.

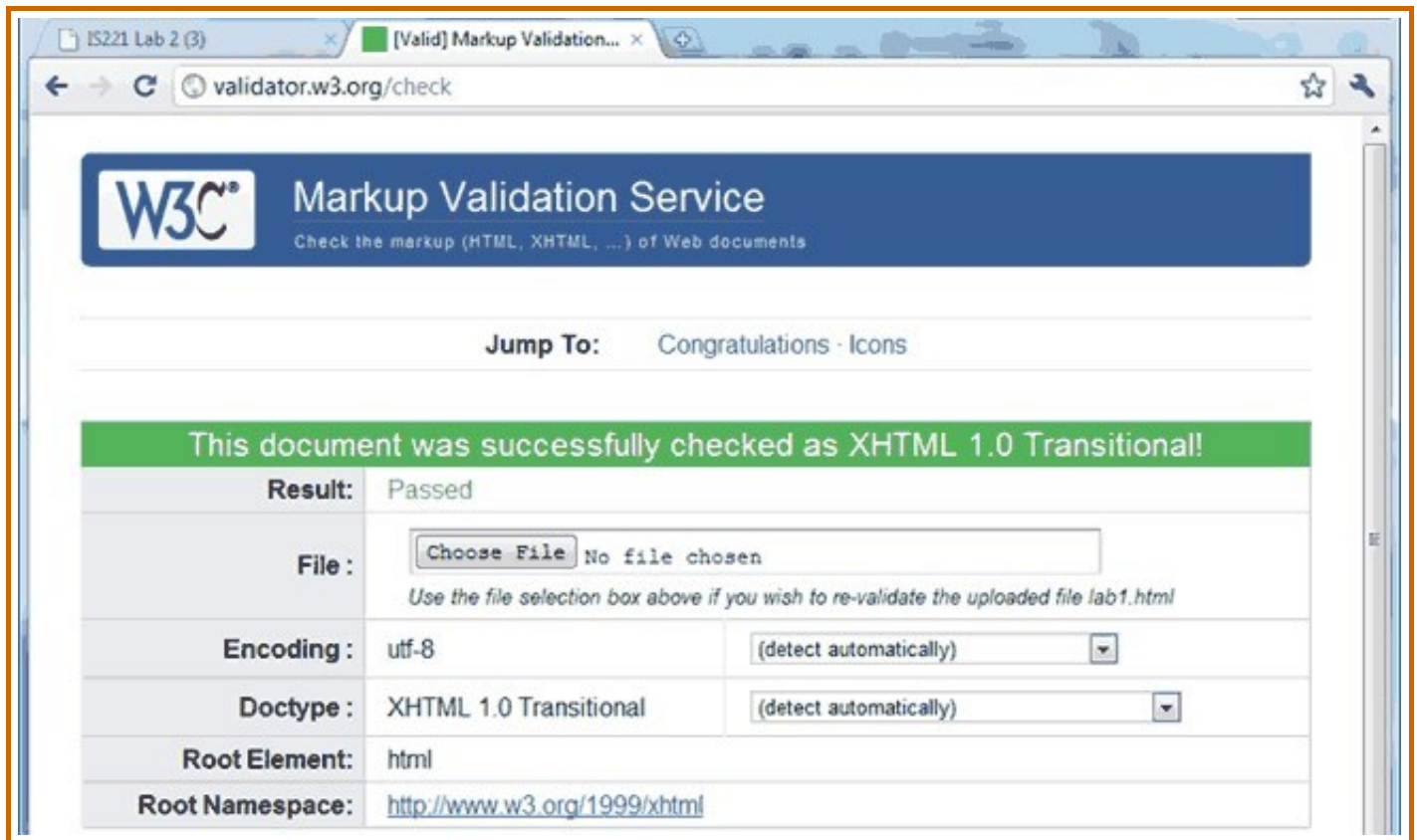
7. Click on the Validate by File Upload option and browse to select the aboutme.html file from the Lab2 folder.



The screenshot shows the W3C Markup Validation Service interface. At the top, there's a blue header with the W3C logo and the text 'Markup Validation Service' and 'Check the markup (HTML, XHTML, ...) of Web documents'. Below this, there are three tabs: 'Validate by URI', 'Validate by File Upload' (which is selected), and 'Validate by Direct Input'. Under the 'Validate by File Upload' tab, there's a section titled 'Validate by File Upload' with the instruction 'Upload a document for validation:'. Below this, there's a 'File:' label, a text input field, and a 'Browse...' button. There's also a link for 'More Options'. At the bottom of this section is a 'Check' button. A note at the bottom states: 'Note: file upload may not work with Internet Explorer on some versions of Windows XP Service Pack 2, see our [information page](#) on the W3C QA Website.'

8. Click Check to start the validation process.

If you have correctly created the aboutme.html file in Lab 1, then you should see a validation passed result. This means that your page has been verified to be a valid XHTML 1.0 Transitional page. (Ignore any warnings you may get in the validation report. The idea is to get the green validation bar!)



The screenshot shows the W3C Markup Validation Service result page. At the top, there's a blue header with the W3C logo and the text 'Markup Validation Service' and 'Check the markup (HTML, XHTML, ...) of Web documents'. Below this, there's a 'Jump To:' section with links for 'Congratulations' and 'Icons'. A green banner across the middle of the page reads 'This document was successfully checked as XHTML 1.0 Transitional!'. Below this, there's a table with the following information:

<b>Result:</b>	Passed	
<b>File :</b>	<input type="button" value="Choose File"/> No file chosen <i>Use the file selection box above if you wish to re-validate the uploaded file lab1.html</i>	
<b>Encoding :</b>	utf-8	<input type="button" value="(detect automatically)"/>
<b>Doctype :</b>	XHTML 1.0 Transitional	<input type="button" value="(detect automatically)"/>
<b>Root Element:</b>	html	
<b>Root Namespace:</b>	<a href="http://www.w3.org/1999/xhtml">http://www.w3.org/1999/xhtml</a>	

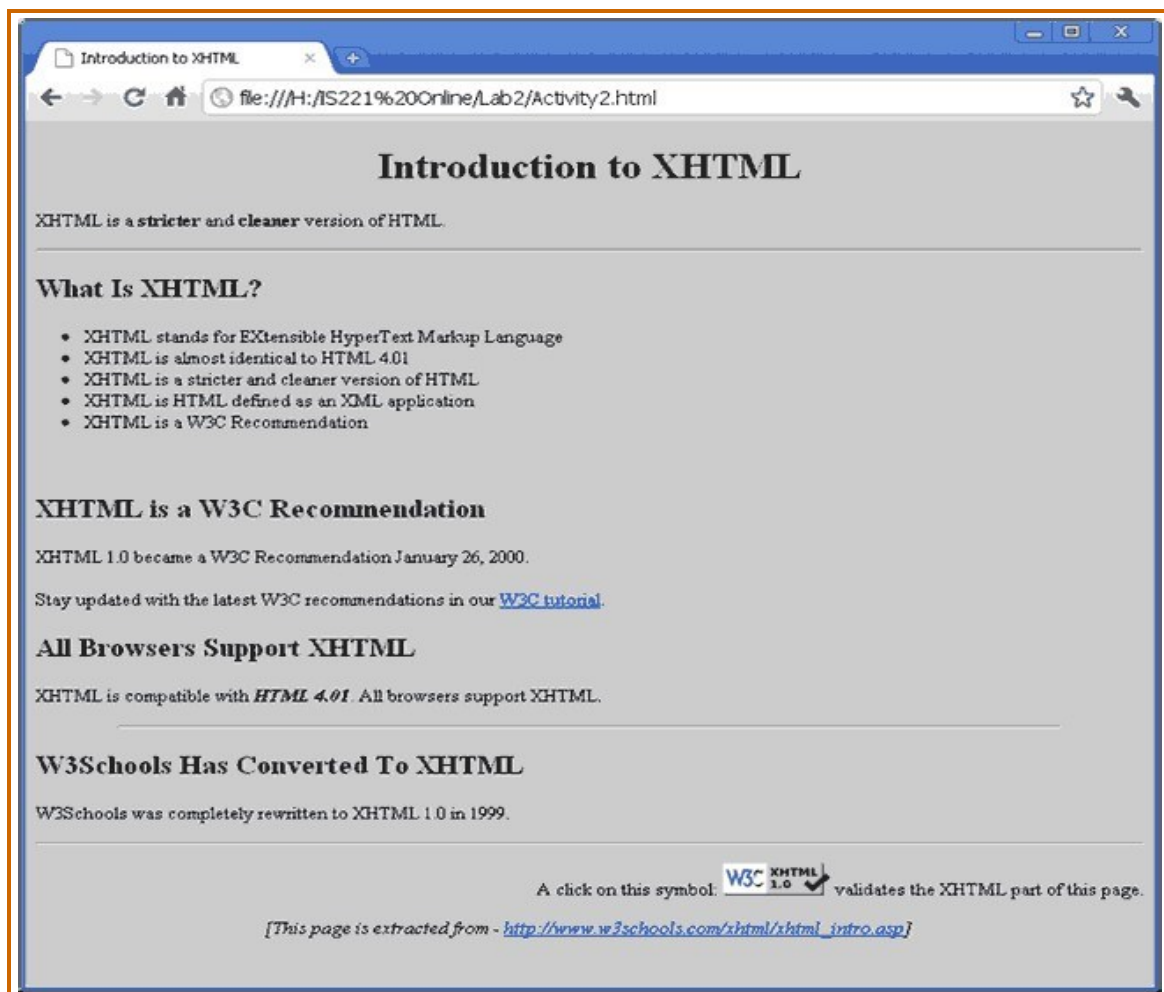
Note: Just making the two changes as mentioned in Step 3 and Step 4 was sufficient to successfully convert the aboutme.html file into its XHTML 1.0 Transitional equivalent. This is because this page already adhered to most of the XHTML Syntax Rules.

## Activity 2: Making documents XHTML 1.0 compliant

In this activity, you will correct errors in an incorrectly written XHTML page and validate it against the XHTML 1.0 Transitional DTD.

1. Save the [Activity2.html](#) file into the Lab2 folder.
2. Open the Activity2.html file using Notepad++.
3. Referring to the XHTML Syntax Rules, identify and correct errors in the code. You may also want to refer to the [XHTML 1.0 Tag Reference](#).
4. Save your work and then validate this file using the [W3C's Markup Validation Service](#). The steps required for the validation process are described in the previous activity.
5. Repeat Step 3 and Step 4 until you correct all the errors and the page passes as a valid XHTML 1.0 Transitional document.

The corrected XHTML page, when viewed in a web browser, will look similar to the figure shown below.



## Activity 3: Creating a XHTML 1.0 Strict web page

In this activity, you will create a XHTML 1.0 Strict equivalent of the page created in Activity 2. It is, therefore, a requirement that you have successfully completed Activity 2 before you proceed to this activity.

1. Open up a new file in Notepad++ and save it as Activity3.html into the Lab2 folder.
2. Copy and paste the code for the XHTML Document Structure.
3. Replace the `<!DOCTYPE>` section with the XHTML 1.0 Strict DOCTYPE.

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

4. Add Activity 3 - XHTML 1.0 Strict as the title for the page.
5. Now, replace the `<body>...</body>` section of Activity3.html with the `<body>...</body>` section of Activity2.html.



Copy the `<body>...</body>` section from Activity2.html and paste it in place of the `<body>...</body>` section in Activity3.html

6. Save the file and do a validation of the file at the [W3C's Markup Validation Service](#). Does the validation pass? Do you get any errors?  
Note that this code is almost the same as the corrected code from Activity 2.
7. Referring to the XHTML Syntax Rules, identify and correct errors in the code. You may also want to refer to the [XHTML 1.0 Tag Reference](#).
8. Save your work and then validate this file using the [W3C's Markup Validation Service](#).
9. Repeat Step 7 and Step 8 until you correct all the errors and the page passes as a valid XHTML 1.0 Strict document.

The corrected XHTML page, when viewed in a web browser, will look similar to the figure shown on the next page.



Introduction to XHTML   Activity 3 - XHTML 1.0 Strict

file:///H:/IS221%20Online/Lab2/Activity3.html

# Introduction to XHTML

XHTML is a **stricter** and **cleaner** version of HTML.

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## What Is XHTML?

- XHTML stands for EXtensible HyperText Markup Language
- XHTML is almost identical to HTML 4.01
- XHTML is a stricter and cleaner version of HTML
- XHTML is HTML defined as an XML application
- XHTML is a W3C Recommendation

## XHTML is a W3C Recommendation

XHTML 1.0 became a W3C Recommendation January 26, 2000.

Stay updated with the latest W3C recommendations in our [W3C tutorial](#).

## All Browsers Support XHTML

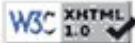
XHTML is compatible with **HTML 4.01**. All browsers support XHTML.

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## W3Schools Has Converted To XHTML

W3Schools was completely rewritten to XHTML 1.0 in 1999.

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A click on this symbol:  validates the XHTML part of this page.

[This page is extracted from - [http://www.w3schools.com/xhtml/xhtml\\_intro.asp](http://www.w3schools.com/xhtml/xhtml_intro.asp)]



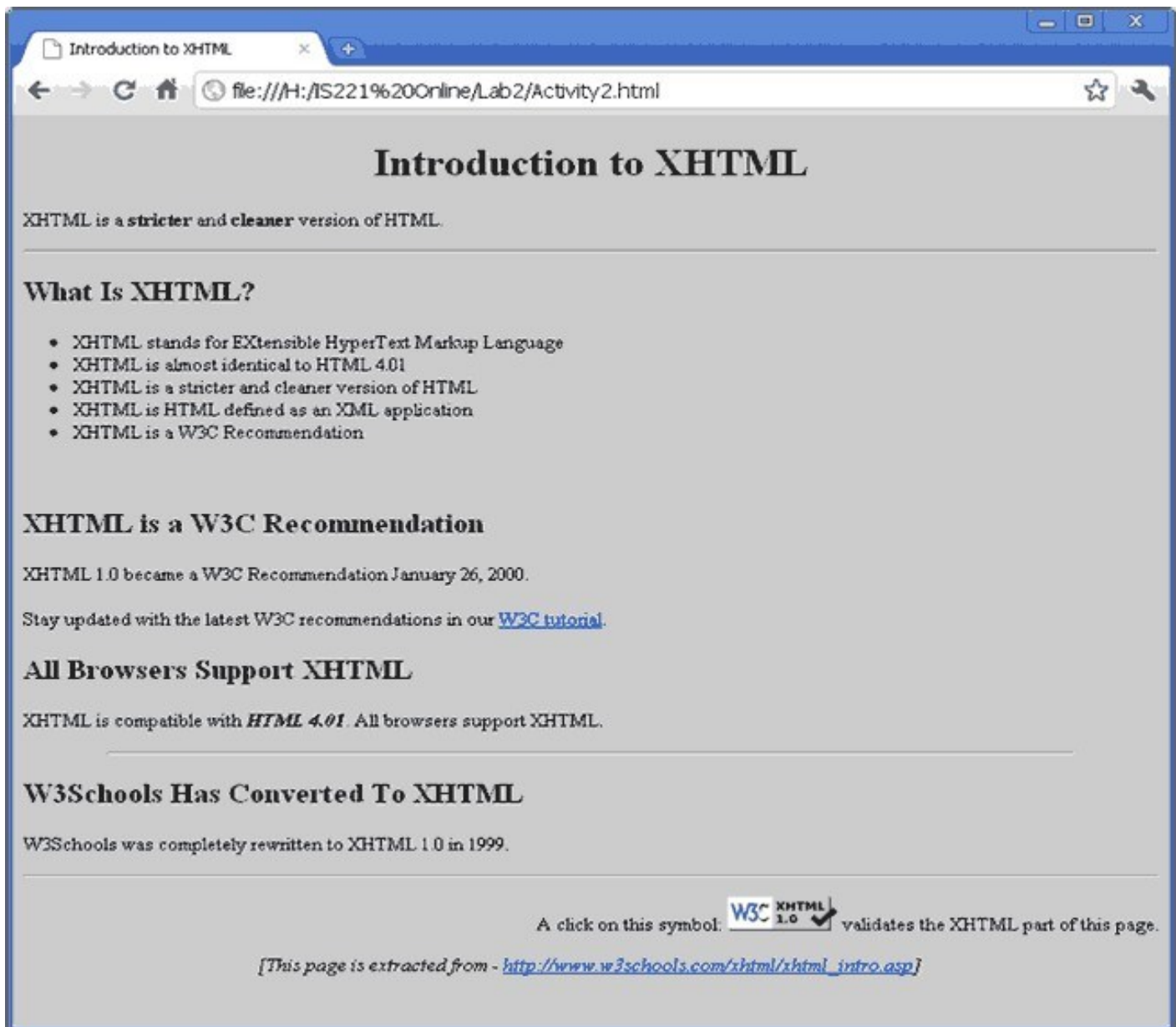
## XHTML 1.0 Transitional vs XHTML 1.0 Strict

Compare and contrast the results of Activity 2 and Activity 3.

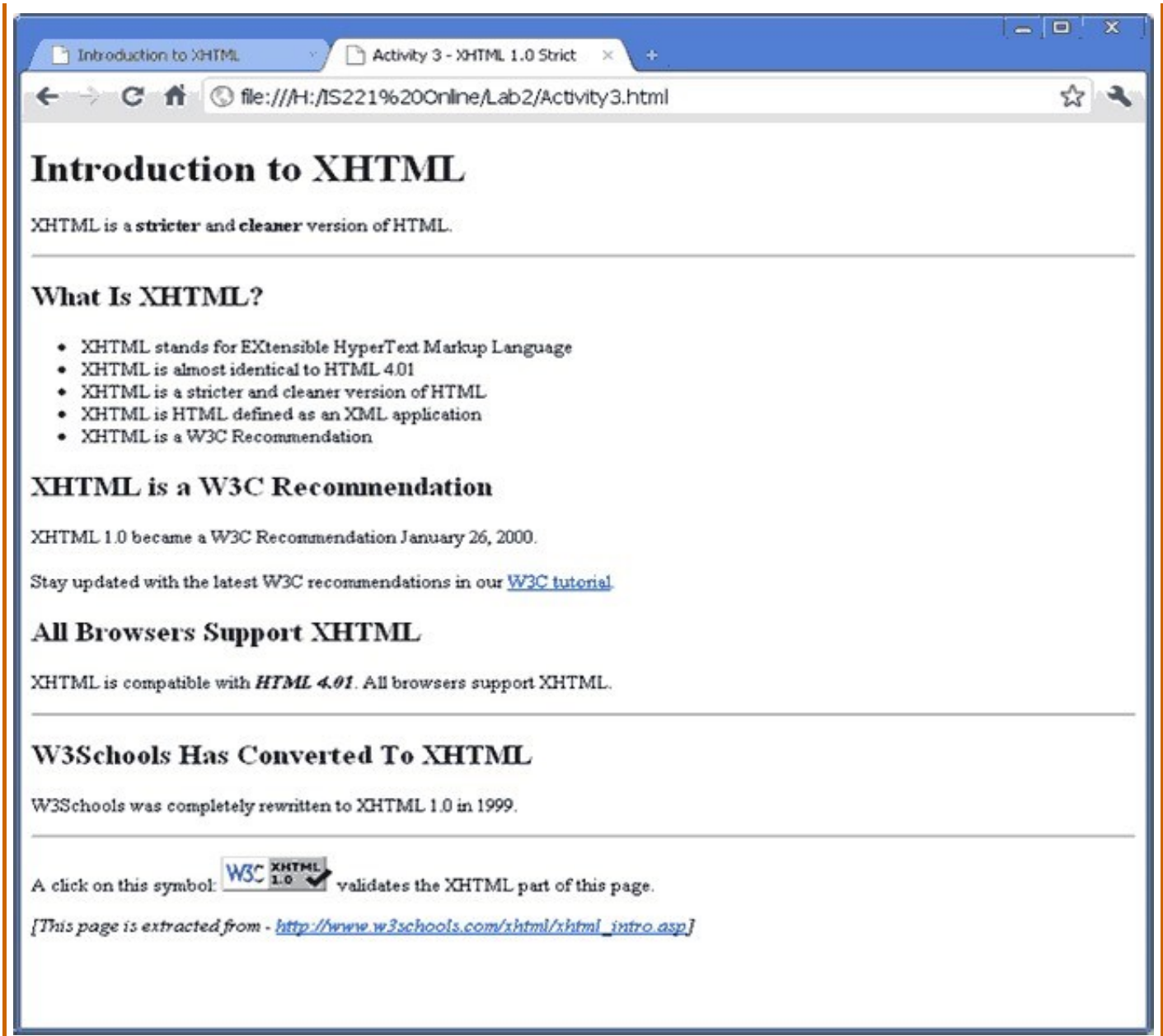
Activity 2 creates XHTML 1.0 Transitional page while Activity 3 creates its XHTML 1.0 Strict equivalent.

Can you notice any differences? Can you notice any similarities?

XHTML 1.0 Transitional:



## XHTML 1.0 Strict:



## End of Lab 2

This concludes Lab 2.