

# Tools for Teaching E-Commerce Course

<sup>1</sup>Heba Gamal, <sup>2</sup>Salha Abdullah, <sup>3</sup>Ghadah Aldabbagh

<sup>1,2,3</sup> Department of Information Systems

Faculty of Computing and Information Technology

King Abdulaziz University, Jeddah, Saudi Arabia

<sup>1</sup>heba\_kau@hotmail.com, <sup>2</sup>salhaabdullah@yahoo.co.uk, <sup>3</sup>galdabbagh@yahoo.com

## Abstract

*Electronic Commerce (EC) course is essential to be included in the Information Systems (IS) curriculum. This paper highlights the need to use the Dreamweaver as an HTML editor by using the course coordinators' experience in teaching this course in the department of IS, Faculty of Computing and Information Technology (FCIT) in King Abdulaziz University (KAU), Jeddah, Saudi Arabia. The aim of the paper is to focus on the importance of using an editor that would help the students save their times as well as making their Websites more efficient.*

## 1. Introduction

The growth in popularity of the World Wide Web has increased the demand for students that will become employers for instruction in the techniques necessary to develop and manage interactive Websites [1].

Department of Information Systems (IS) need to prepare their students to face the challenge of not only being able to function in a traditional data processing environment, but also be productive in a computing world that is now swamped with Web technologies [2].

Students from IS programs may be the best prepared to create effective e-commerce Websites because they have strong background in complex database infrastructures and business management perspectives [3].

Electronic commerce (EC) is the process of buying, selling, or exchanging products, services, or information via computer networks or any electronic means [4]. Therefore, teaching EC is an essential part of the curriculum of IS department, especially in the e-systems track. For this reason, EC is included in two courses of the IS department. They are Introduction to E-Systems (CPIS 380), and E-Systems Applications (CPIS 483).

In the lectures, the students understand the basic concepts of EC and E-Business in addition to the different concepts and methodologies. While in the labs they learn how to master some of the tools and techniques for building EC Websites.

The students are required to submit a project by the end of each of these courses. In this project, the students

should apply all the concepts and techniques that they have learned in both lectures and labs. By this way the project would be evidence that they have understood both the theoretical and practical parts of the course.

Students learning the above mentioned have a prerequisite course called Internet application and Web programming (CPIS 358). In this course, they learn how to develop Websites by writing HTML code. Therefore, explaining Web programming concepts is not needed as it is already done.

The main objective of the these courses are not to introduce the programming language to the students but rather to develop a Web storefront that includes EC mechanisms such as:

- E-Catalog
- Shopping Cart
- E-Payment
- Privacy Policy
- Search
- Registration / login

This paper will highlight the importance of using a Web development tool that would help the students in designing their Websites. In the next section, Web development will be explained, in addition to its lifecycle, and steps. In later sections a comparison between the currently used editor (notepad) and the proposed editor (Adobe Dreamweaver CS 5.5) [5] will be included. This comparison is to prove that the proposed tool would help the students create their Websites and save the time they spend in the design thus giving them the chance to improve their Website and add more features and functions.

## 2. Web development

Website development involves series of processes [6]. These processes are called Website development lifecycle and it includes six steps (learn, plan, design, code, launch, and maintain) (Figure 1).

Learning and planning are done in the analysis phase of the Website lifecycle, when the Web developer should discuss the requirements of the Website with client. This part is not the focus of this paper as the students do not meet a real client before making their project.

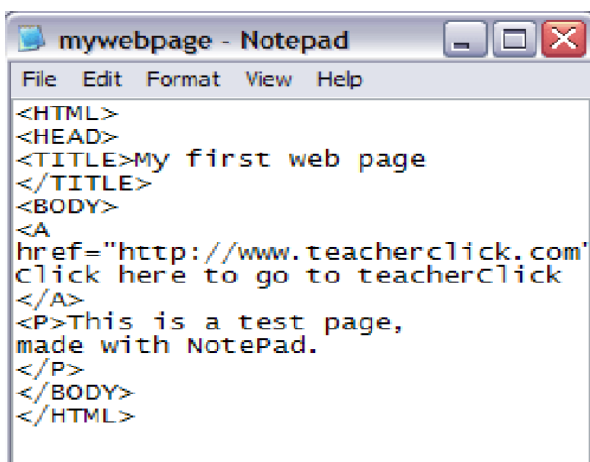
Design and coding is the part of implementing the Website (coding phase). Web design is the process of planning and creating a Website. Text, images, digital media and interactive elements are used by Web designers to produce the page seen on the Web browser. In addition, Web Programming, is the art of telling a computer what to do by embedding code within the normal HTML page.



**Figure 1. Website development life cycle**

### 3. Current tool used in FCIT

Currently in the FCIT course, i.e., Introduction to E-Systems (CPIS380), the students learn how to write their Hypertext Markup Language (HTML) tags and even PHP code in the notepad. This is a light and easy to use editor that can be used for writing HTML tags. However, there are many problems encountered when using notepad, such as, the students have to write every single word by themselves, there are no help, no correction, no formatting, and no indentation (Figure 2).



**Figure 2. Notepad window showing HTML code**

In addition, if the code is written in the notepad there is no way to see the output of this code except by opening this file in the Web browser. Therefore, some alternative tools are presented in the next section.

### 4. Current Available Tools

An HTML editor (also called tool) is a software application for creating Web pages. Although the HTML markup of a Web page can be written with any text editor, specialized HTML editors can offer convenience and added functionality. For example, many HTML editors work not only with HTML, but also with related technologies such as Cascade Style Sheets (CSS), Extensible Markup Language (XML) and JavaScript.

This is a list of HTML editors that can be used to develop an e-commerce Website:

1. Adobe Dreamweaver
2. HTML-Kit
3. Microsoft Expression Web
4. Microsoft Front page
5. Microsoft SharePoint Designer
6. Microsoft Visual Web Developer

A comparison between all the tools listed above is shown below in Table 1.

**Table 1. Comparison between available Tools [5, 7, 8, 9, 10, 11]**

Parameter	1	2	3	4	5	6
Creator	Adobe Systems (Macromedia)	Chamit.com	Microsoft	Microsoft	Microsoft	Microsoft
Website	[5]	[7]	[8]	[9]	[10]	[11]
Shared editing	Yes	No	Yes	Yes	Yes	Yes
Spell checking	Yes	Yes	Yes	Yes	Yes	Yes
Templates	Yes	Yes	Yes	Yes	Yes	Yes
Templates Update Sync	Yes	No	No	No	No	No
Page Preview	Yes	Yes	Yes	Yes	Yes	Yes
Form Handler	Yes	No	No	No	No	No
CSS2	Yes	Yes	Yes	Partial	Yes	Yes
XForms	Yes	No	No	No	No	No
XPath	Yes	No	Yes	No	Yes	Yes

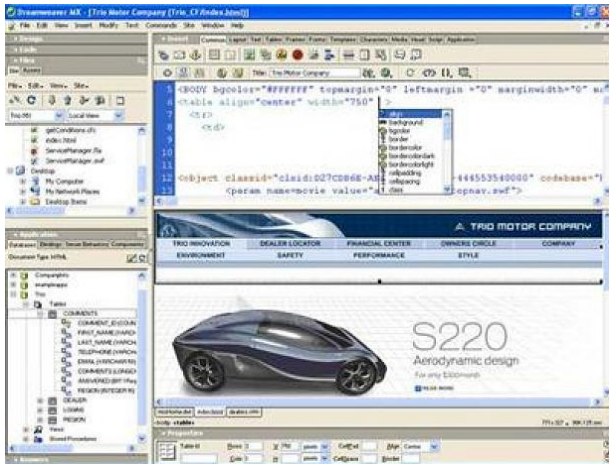
It is clear from the comparison presented in Table 1 that Dreamweaver is more efficient than the other available tools. This efficiency comes from supporting all the features that other tools do not support. Thus Dreamweaver is the proposed tool to be used in FCIT courses and more details about Dreamweaver will be presented in the next section.

### 5. Proposed tools

Dreamweaver is one of the most efficient and time consuming tools especially when working with multiple files (like using PHP with array and master/template files). Using Dreamweaver when writing an HTML code is much easier that using notepad.

Below are some of the advantages of using Dreamweaver:

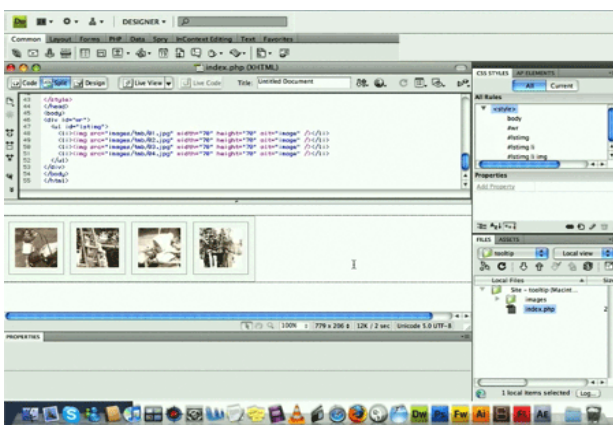
Dreamweaver has two views, code view and design view. The code view is used to write the HTML code line by line. However, the design view is used for either seeing the output of the code that have been already written, or to add controls to Web page that will result in automatically adding the code. The Dreamweaver window may simply be split to show both the code view and the design view (Figure 3).



**Figure 3. Dreamweaver window showing both code and design views**

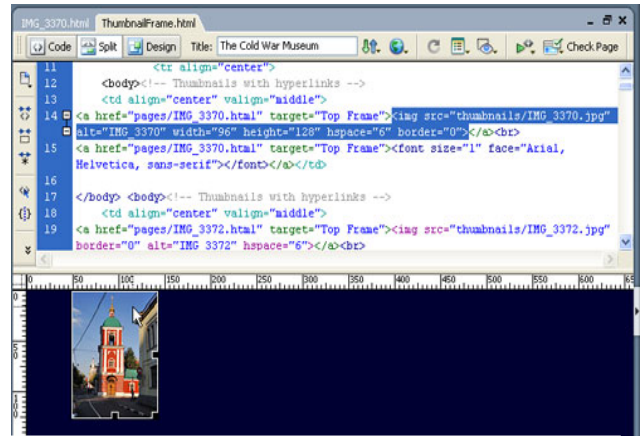
The user does not need to know about HTML tags because when starting to write the tags in Dreamweaver, it will help either by auto completing the code (e.g. Close the tags that have been opened, or completing the tag name) or suggesting the keywords that would be used.

Dreamweaver auto formats code. It colors different parts of the code to help the mind parse the information out more easily. It also performs auto indentation on the tags (Figure 4).



**Figure 4. Dreamweaver window showing code formatting**

Dreamweaver provide context sensitive help by using the F1 button. It also helps in editing and fixing the coding by highlighting the part of the code that represents the selected control in the design window (Figure 5).



**Figure 5. Dreamweaver window showing code highlighting**

Dreamweaver provide reference for many languages such as java script, ASP, PHP. Finally, Dreamweaver provides cleanup such as removes redundant, deprecated and empty tags.

## 6. Comparison between Notepad and Dreamweaver

In this section, a comparison between Dreamweaver and notepad as an HTML editor will be presented the showing the more advantages of using Dreamweaver when compared to notepad (Table 2)

**Table 2. Comparison between Dreamweaver and Notepad**

Parameter	Dreamweaver	Notepad
Code View	Yes	Yes
Output	Design view is available to show the output	The output can only be seen in the Web Browser
User Interface	Adding controls leads to automatic writing the code	No automatic code writing
Code Help	Yes	No
Code Formatting	Auto format the code and color certain keywords	No autofromatting available
Code Correction	Yes	No
Code Clean Up	Empty and redundant tags are removed	No
Code Indentation	Auto indent tags	No auto indentation
Multiple Language Support	HTML, PHP, ASP, Javascript, CSS	HTML, PHP, Javascript

## 7. Conclusion

E-Commerce is a compulsory course in the IS department, FCIT in KAU. For this reason, the course coordinators advise the use of Dreamweaver instead of the notepad in writing the HTML code. This will save the students' time and allow them to improve other features in their project and provide data validation.

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