

## Assignment specification

<b>Qualification</b>	Bachelor of Science in Information Technology		
<b>Module code</b>	C_ITEC301	<b>Module name</b>	Internet Programming and e-Commerce
<b>NQF level</b>	7	<b>Credit value</b>	15
<b>Semester</b>	1/2016	<b>Year</b>	3
<b>Assessor</b>	Zivanai Taruvinga	<b>Internal verifier</b>	Tania Jordaan
<b>Assignment title</b>	Assignment 1		
<b>Issue date</b>	22 – 26 February	<b>Submission date</b>	18 – 22 April 2016

### Note

- Remember to keep a copy of all submitted assignments.
- All work must be typed.
- Please note that you will be evaluated on your writing skills in all your assignments.
- All work must be submitted through Turnitin<sup>1</sup> and the full Originality Report must be submitted with the final assignment.
- Negative marking will be applied if you are found guilty of plagiarism, poor writing skills or if you have applied incorrect or insufficient referencing. (See the table at the end of this document where the application of negative marking is explained.)
- Each assignment must include a cover page, table of contents and full bibliography, based on the Harvard Referencing Style as applied at CTI Education Group.
- Use the cover sheet template<sup>2</sup> for the assignment. This is available from your lecturer.
- Students are **not** allowed to offer their work for sale or to purchase the work of other students. This includes the use of professional assignment writers and websites, such as Essay Box. If this should happen, CTI Education Group reserves the right **not** to accept future submissions from a student.

### Essential embedded knowledge and skills required of students

- Report-writing skills
- Ability to analyse scenarios/case studies
- Understanding of subject field concepts and definitions
- Ability to apply theoretical knowledge to propose solutions to real-world problems
- Referencing skills (Harvard Referencing Method)

### Resource requirements

- A device with Internet access for research
- A desktop or PC for typing assignments
- Access to a library or resource centre
- Prescribed reading resources

<sup>1</sup> Refer to the **CTI Plagiarism Policy**, which is available from your lecturer.

<sup>2</sup> Available on e-Active.

## Delivery requirements (evidence to be presented by students)

- A typed assignment<sup>3</sup> assignment including all the screen shots and source code for the webpages
- A fully functional website on a CD.

## Minimum reference requirements

(At least five references for first year, ten references for second year and fifteen references for third year)

Additional reading is required to complete this assignment successfully. You need to include the following additional information sources:

- Printed textbooks/e-books
- Printed/online journal articles
- Periodical articles (e.g. business magazine articles)
- Information or articles from relevant websites
- Other information sources, e.g. geographic information (maps), census reports, interviews, etc.

### Note

- It is crucial that students reference **all** consulted information sources, by means of in-text referencing and a bibliography, according to the Harvard referencing style.
- Negative marking will be applied if a student commits plagiarism (i.e. using information from information sources without acknowledgement and reference to the original source).
- In such cases, **negative marking**, also known as '**penalty scoring**', refers to the practice of subtracting marks for insufficient/incorrect referencing.
- Consult the table at the end of this document, which outlines how negative marking will be applied as well as the way in which it will affect your assignment mark.

<b>Useful websites</b>	
	<p><b>12manage: a knowledge network about management</b>  [Online] Available at: <a href="http://www.12manage.com/">http://www.12manage.com/</a>  A database that includes articles as well as dictionary and encyclopaedia entries relevant to the management sciences.</p>
	<p><b>Academic Journals</b>  [Online] Available at: <a href="http://www.academicjournals.org/all_articles">http://www.academicjournals.org/all_articles</a>  Academic Journals is a broad-based publisher of peer-reviewed open-access journals.</p>
	<p><b>Bookboon</b>  [Online] Available at: <a href="http://bookboon.com/">http://bookboon.com/</a>  An online book publishing company that provides students with free access to e-books in a wide variety of subject fields, including Marketing and Human Resources Management.</p> <p><b>Business Open Learning Archive (BOLA)</b>  [Online] Available at: <a href="http://business.highbeam.com/137662/article-1G1-54905587/bola-business-open-learning-archive">http://business.highbeam.com/137662/article-1G1-54905587/bola-business-open-learning-archive</a>  A database, created by Brunel University (Business Division), containing newspaper, magazine and journal articles related to business studies.</p>

<sup>3</sup> Refer to the **CTI Programme Handbook** for more guidance (available on e-Active).

<b>Useful websites</b>	
	<b>Emerald Journals</b> [Online] Available at: <a href="http://www.emeraldgroupublishing.com/products/journals/index.htm">http://www.emeraldgroupublishing.com/products/journals/index.htm</a> An online database of journal and e-journal articles, published by Emerald Group Publishing, on a wide variety of subjects as related to the management sciences, including Marketing, Human Resources Management, Accounting, Finance, Economics, Business Management and Business Strategy.
	<b>EBSCOhost</b> [Online] Available at: <a href="https://www.ebscohost.com/">https://www.ebscohost.com/</a> A research database containing online information resources, including 375 full-text and secondary databases.
	<b>The Free Management Library: Online Integrated Library for Personal, Professional and Organizational Development</b> [Online] Available at: <a href="http://managementhelp.org/">http://managementhelp.org/</a> An online library containing information on topics related to business, management and organisational development; each topic has additional recommended books in the library.
	<b>Google Books</b> [Online] Available at: <a href="https://books.google.co.za/">https://books.google.co.za/</a> A Google service that searches the full text of books and magazines that Google has converted into digital format, stored on its (digital) database.
	<b>Google Scholar</b> [Online] Available at: <a href="http://scholar.google.co.za/">http://scholar.google.co.za/</a> A search engine that indexes the full text of scholarly (scientific) literature pertaining to a variety of disciplines and in different formats, including online journals and scholarly textbooks.
	<b>JURN</b> [Online] Available at: <a href="http://www.jurn.org/#gsc.tab=0&amp;gsc.q=commerce&amp;gsc.sort=J">http://www.jurn.org/#gsc.tab=0&amp;gsc.q=commerce&amp;gsc.sort=J</a> JURN is a unique search-engine primarily dedicated to indexing free and 'open-access' e-journals in the arts and humanities. It is a 'full text finder' that harnesses all the power of Google to search across quality open access content.
	<b>NetMBA: a business knowledge centre</b> [Online] Available at: <a href="http://www.netmba.com/">http://www.netmba.com/</a> Articles in the subject fields related to Business Administration, including both elementary and advanced topics as well as frameworks and theories involved in solving challenging problems.
	<b>Oxford University Press Journals</b> [Online] Available at: <a href="http://www.oxfordjournals.org/en/">http://www.oxfordjournals.org/en/</a> Oxford University Press (OUP) publishes the journals and delivers this research to the widest possible audience.

	<p><b>Useful websites</b></p> <p><b>ProvenModels</b>  [Online] Available at: <a href="http://www.provenmodels.com/page/about">http://www.provenmodels.com/page/about</a>  A web-based library of management models aimed at graduates, executives and management consultants.</p>
	<p><b>A word of caution</b></p> <p>Information available on the World Wide Web (WWW) is not necessarily reliable or of a high academic standard. Therefore, it is essential that you verify online information by comparing such to information in reliable information sources, such as accredited (academic) journals and relevant textbooks written by subject experts.</p>

## Assessment criteria assessed

This is the only assignment for this module. The following criteria are assessed in this assignment:

LO1	<b>Be able to examine the information architecture underlying e-commerce such as TCP/IP, packet-switching, clients-servers, firewalls and proxy servers.</b>	Question no.
<b>1.1</b>	Understand web servers and web browsers.	1.1
<b>1.2</b>	Be able to select e-commerce servers, e-commerce infrastructure, e-commerce infrastructure components	1.2
<b>1.3</b>	Understand the Internet technology, intranets, extranets, firewalls, wireless internet access standards, wireless access devices, web accessibility, and packet switching.	1.1, 1.3
LO2	<b>[Enter outcome being assessed.]</b>	Question no.
<b>2.1</b>	<b>Be able to perform client side programming using JavaScript and server side programming using PHP.</b>	3.3
<b>2.2</b>	Understand JavaScript Programming Basics, JavaScript Objects, Document Object Model (DOM), Browser Object Model (BOM) and JavaScript Cookies.	3.3
<b>2.3</b>	Perform Form Validation.	3.3
<b>2.4</b>	Create Dynamic Webpages.	2.2, 4.1, 4.4
<b>2.5</b>	Understand PHP programming basics.	4.1
LO4	<b>Understand and apply skills to create webpages using (X)HTML, CSS, JavaScript, PHP and MySQL.</b>	Question no.
<b>AC4.1</b>	Create webpages with Hypertext Markup Language, eXtensible Hypertext Language and HTML 5.	2.1, 3.2, 3.3
<b>AC4.2</b>	Validate HTML documents	3.2, 3.3
<b>AC4.3</b>	Create and Work with HTML forms.	3.3
<b>AC4.4</b>	Understand CSS Basics and CSS Box Model.	3.1, 3.2, 3.3
<b>AC4.5</b>	Validate CSS.	3.2, 3.3
<b>AC4.6</b>	Perform Client-Side Programming and Data Validation.	3.3
<b>AC4.7</b>	Manage Client Side Content Behaviour.	3.3
<b>AC4.9</b>	Understand PHP Sessions.	4.2
<b>AC4.10</b>	Understand PHP file handling	4.1

## Question 1

### Scenario

Study the scenario and complete the following questions:

ABC Developers provides internet, web design and development, graphics design, content management systems, database-driven websites, e-mail marketing, and e-commerce solutions.

ABC Developers tasked you, as one of their senior developers, to mentor four of its 2016 interns. As part of your task, you are required to make sure that the interns are familiar with the services offered by ABC Developers to its clients and how these services are executed.

You decided to organize a workshop for the interns where you will be explaining about the ABC Developers, its services and how they are executed.

Source: Taruvinga 2016

### Instructions

Prepare some notes that you will be using during the workshop based on the following:

- 1.1 Provide a brief explanation of what is the internet, how it started and how it works.[AC1.1, AC1.3] (10 marks)
- 1.2 Use a fully labelled diagram to explain the major components of an ideal e-commerce infrastructure that supports a database-driven e-commerce website. [AC1.2] (12 marks)
- 1.3 Discuss the importance of firewalls and explain how any three firewall technologies works.[AC1.3] (14 marks)

## Question 2

### Scenario

Study the scenario and complete the following questions:

XYZ Motors is an emerging South African automotive retail company. XYZ Motors approached ABC Developers with the need for an e-commerce website.

You have been asked to work with the interns on this project.

Source: Taruvinga 2016

### Instructions

You are required to prepare for the development of the website for the XYZ Motors.

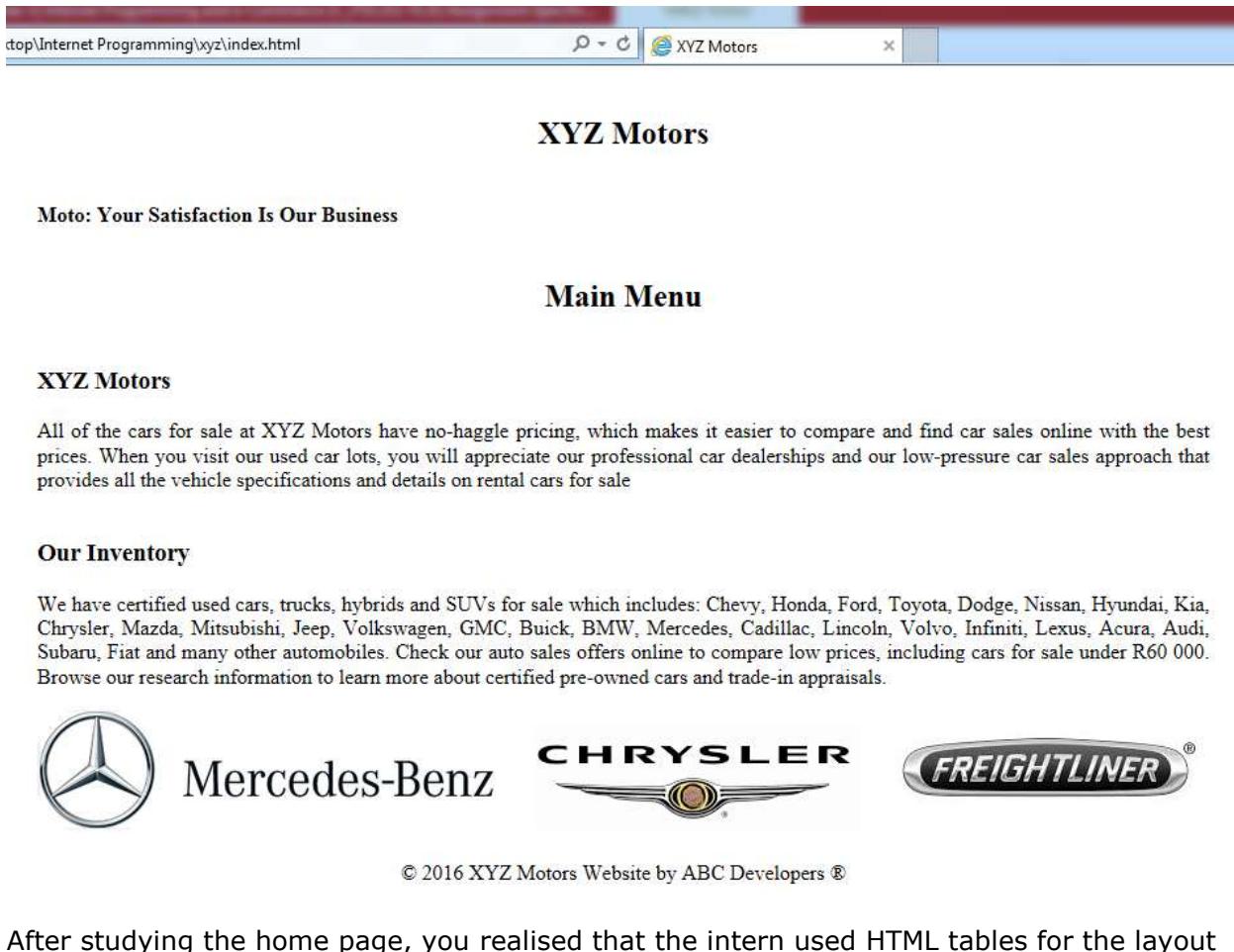
- 2.1 One of the technologies that you have decided to use is HTML 5. Discuss five advantages of using HTML 5 over other mark-up languages. [AC4.1] (15 marks)
- 2.2 Another of the technologies that you have decided to use is PHP. Discuss three other server side scripting languages. [AC2.4]

## Question 3

### Scenario

Study the scenario and complete the following questions:

You tasked one of the interns to develop a sample home page for the XYZ Motors. After a day, the intern produced the following:



XYZ Motors

Moto: Your Satisfaction Is Our Business

Main Menu

**XYZ Motors**

All of the cars for sale at XYZ Motors have no-haggle pricing, which makes it easier to compare and find car sales online with the best prices. When you visit our used car lots, you will appreciate our professional car dealerships and our low-pressure car sales approach that provides all the vehicle specifications and details on rental cars for sale

**Our Inventory**

We have certified used cars, trucks, hybrids and SUVs for sale which includes: Chevy, Honda, Ford, Toyota, Dodge, Nissan, Hyundai, Kia, Chrysler, Mazda, Mitsubishi, Jeep, Volkswagen, GMC, Buick, BMW, Mercedes, Cadillac, Lincoln, Volvo, Infiniti, Lexus, Acura, Audi, Subaru, Fiat and many other automobiles. Check our auto sales offers online to compare low prices, including cars for sale under R60 000. Browse our research information to learn more about certified pre-owned cars and trade-in appraisals.

 **Mercedes-Benz**  

© 2016 XYZ Motors Website by ABC Developers ®

After studying the home page, you realised that the intern used HTML tables for the layout and there is no navigation system (page links).

Source: Taruvinga 2016

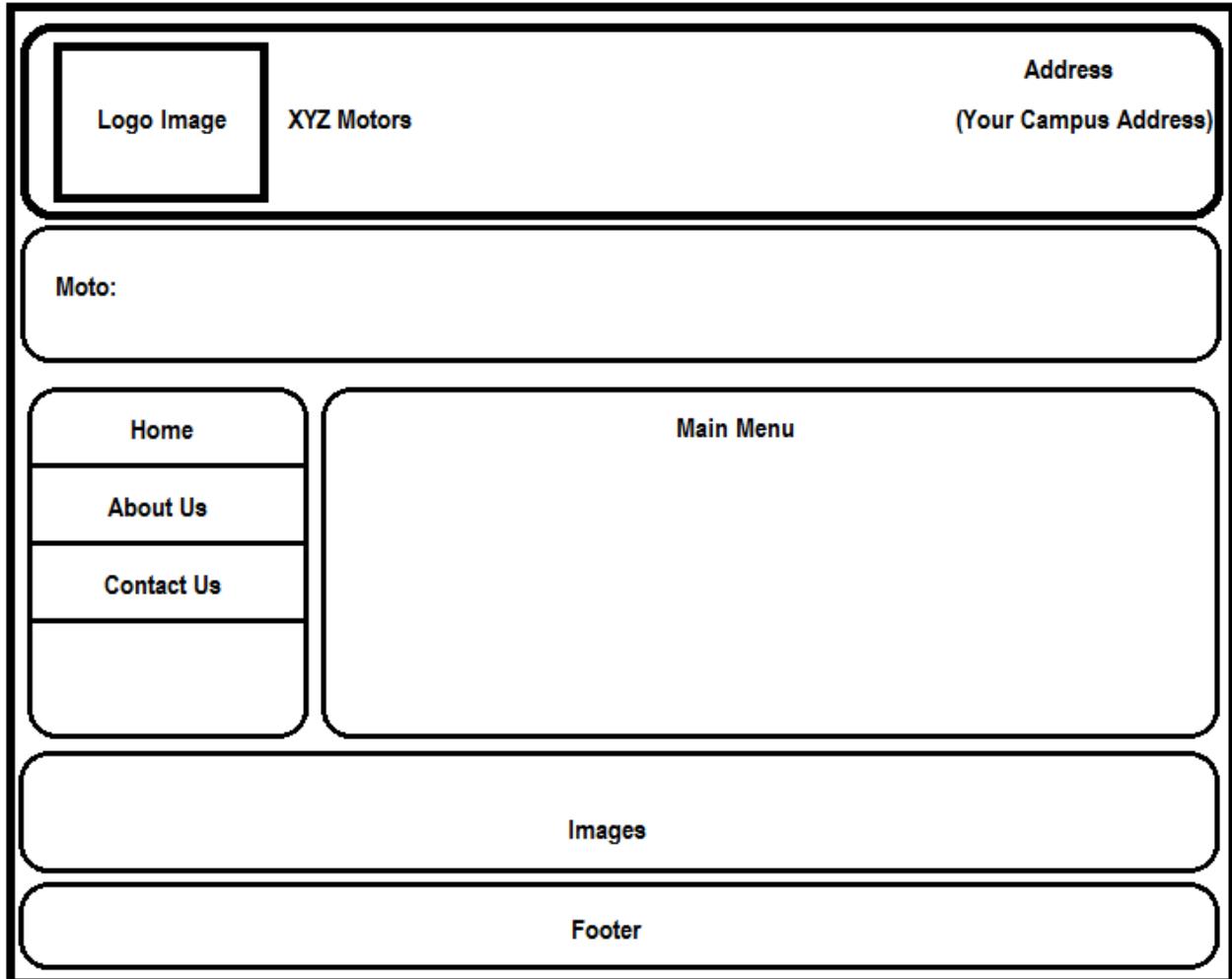
### Instructions

All the pages on the website must be designed using HTML 5. You must have separate folders for images, CSS and JavaScript within your home directory. Online HTML and CSS validators must be used to validate your HTML pages and CSS files.

3.1 Briefly explain to the interns any other two ways that can be used for web page layout instead of using HTML tables. [AC4.1, AC4.4]

(6 marks)

3.2 Use HTML 5 and CSS to replace the HTML tables used for the layout. Redesign the home page and include a navigation system. Your page layout must be as follows [AC4.1, AC4.4]:



Source: Taruvinga 2016

(30 marks)

3.3 You have shown the XYZ Motors the home page that you have designed. They are satisfied, however, they indicated that you must include the About Us as well as the Contact Us page. Using the same page layout, design the requested pages with the following requirements:

3.3.1 The "Moto" section on the About Us page must be replaced with the names of at least four dealers (any names of your choice). The "Main Menu" section must contain images of various cars formatted and aligned using CSS. You must also use JavaScript to display and rotate different images [AC2.1, AC2.3, AC4.1, AC4.4, AC4.7]

(14 marks)

3.3.2 The "Moto" section on the Contact Us page must have your e-mail address, cell number and your campus' contact number. The "Main Menu" section must have a contact form, of your own design, with textboxes, text-areas, radio buttons, checkboxes, submit buttons, selections, etc. Use JavaScript for form validation where necessary. [AC2.1, AC2.2, AC4.3, AC4.6]

(26 marks)

## Question 4

### Scenario

Study the scenario and complete the following questions:

The major reason for the form designed on the Contact Us page is to receive customer details and various queries (selling their cars or looking for a specific car to buy). The information submitted from the form must be stored either in a database or a sequential text file.

After storing this information, there must be some means to retrieve this information, only by authorised parties.

Source: Taruvinga 2016

### Instructions

You are required to use PHP as your scripting language in this section.

- 4.1 Create a PHP script that can be used to store the information from the contact form into a sequential text file called contacts. [AC2.4, AC2.5, AC4.10] (16 marks)
- 4.2 Design a secured page that can be used to retrieve and display all the information submitted by the customers. Include the "Login" link on the navigation of every page and use PHP arrays to store the credentials used for authorisation to access the secured content. Create the PHP script to retrieve the information added to the file in 4.1. [AC2.5, AC4.9] (28 marks)

**Assignment subtotal**

**[180 marks]**

## Negative marking

### Third-year students

- A minimum of 15 additional information sources must be consulted and correctly cited.
- If no additional information sources have been used, a full 15% must be deducted.
- Deduct 1% per missing resource of the required 15. For example:
  - If only five resources cited, deduct 10%
  - If only three resources cited, deduct 12%
- Markers must interpret the Turnitin report to determine actual Overall Similarity Index percentage.
- Markers to apply the penalties for Category A for insufficient sources and incorrect referencing style.
- Markers to apply the penalties/actions for Category B for plagiarism.

### Category A

Minimum reference requirements	Deduction of final mark
No additional information sources have been used or referenced	15%

### Category B: Interpretation of Turnitin report

Students may not have more than a 15% Overall Similarity Index on Turnitin, after analysis of the report.

Interpretation of Turnitin Originality Report
<b>Lecturer to capture the following</b>
1. Original Overall Similarity Index (percentage) of Turnitin report
2. Overall Similarity Index (percentage) after lecturer analysis of Turnitin report (to determine legitimate plagiarism)

Penalties	Action
a. Less than 15% of the body of assessment (based on Point 2 above)	No action. Mark according to memorandum
b. More than 15% of the body of assessment and first offence (based on Point 2 above)	Award 0% for the assignment
c. If more than 70% of the body of assessment	Award 0% and conduct disciplinary hearing