Final assignment submission



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| Due date: | 19October 2013 |
| Value: | 30% |

Objectives

**The course objectives met by this assignment include:**

• Course specifications are available online from the USQ website <http://www.usq.edu.au/course/specification/>. Always check the website for the latest version.

On successful completion of this course, students should be able to:

1. demonstrate problem solving by understanding the program specifications and developing the correct solution in form of web application that complies with the course materials and the specified .NET software installations, and results in creation of distribute robust, reliable, secure, and user-friendly component-based web application
2. demonstrate academic and professional literacy by collating theoretical and practical course material into a workable application through understanding concepts and their practical application using .NET
3. demonstrate written communication skills by critical evaluation and writing up evaluation in a concise format
4. demonstrate management, planning, and organisational skills by setting and achieving design and development, in accordance with the specification, to be completed by the assigned due date
5. demonstrate creativity, initiative, and enterprise by translating the problem (program specification) into a solution (web application) that is efficient, economic, smart, and easily maintainable, and complies with the course material and specified .NET software installations
6. demonstrate the specific skills required by external accreditation bodies (especially the Australian Computing Society) through a variety of theory and practical in-class activities, assignments and the examination
7. demonstrate an understanding of the following concepts and their practical application using .NET: advanced programming concepts; components; web interface design; advanced database access, search, and maintenance techniques; multi-tiered client-server applications; internet security; IIS web server; Windows services; web services; mobile wireless services
8. demonstrate the ability to create, manage, and distribute robust, reliable, secure, and user-friendly component-based applications to develop an Internet application including the transfer of data using XML/SOAP and database access on an IIS web server.

**Please read carefully:**

• This assignment must be your own work.

• It is acceptable to discuss course content with others to improve your understanding and clarify requirements, but **solutions to assignment questions must be done on your own**.

• **You must not copy from anyone**, including tutors and fellow students (including StudyDesk), **nor allow others to copy your work**.

• Assignments that do not adhere to these requirements will be deemed to be the result of academic misconduct.

You need to work on your assignment every week as you are working through the course material. This is not something that you can write up the day before the due date.

**Always submit your assignment by the due date**, no matter how much you have completed, or whether you have bugs.

* You will be awarded marks on the work that you have done, rather than missing out completely.
* You will receive feedback on your assignment so that you can do better in the next one. Each assignments helps you progress in this course.
* And at the end of the semester it will all add up to get you a better result than without submitting an assessment.

All students will receive feedback on their assignments. This will allow you to learn from the assignment to do better in the next one. You will be provided with information on how you can improve your source code to satisfy the marking criteria.

All of you have different programming experiences; some of you are already employed as software developers, while others have only done the programming courses preceding this course. This assignment will bring you all to the same level, with the feedback as guidance.

For this submission you need to provide the following.

# WARNING:

* **You must NOT use ANY kits or third party controls when you are developing your assignment.**
* **You must write all you HTML, XML, CSS, XSLT, and VB.NET code-behind (source code) yourself.**
* **Everything in this assignment must be your own work.**
* **Do not use the source code that is available to you through the course material.**
* **If in doubt, please do not hesitate to check with me to make sure you are doing the right thing.**

Prior submissions

Use the marking feedback that you received from your first and second submission to improve the work you had done then.

As part of learning and better understanding the material that you covered earlier in the semester, it is a normal process to change your implementation to improve the functionality. This will also reflect the marking feedback. This means it is ok to improve the way your XSLT might be working with the XML control, to enhance the data entry prototype, and so forth. However, you should not sacrifice the other work you still need to do or complete.

It is advisable to review the weekly exercises posted on the course study desk.

You now need to bring all of your previous work and what has been specified here together to create the whole web application – as per all specifications.

Web pages in your web application

Please ensure to re-read the previous assignment specification to make sure that your final submission contains everything.

Using the web user control on each page (second assignment specification) you need to provide the following pages according to your design – this means each and every one of you will have a different implementation of these pages, while still satisfying the following request:

On your web pages you need to cater for:

* A home page (Home.aspx) that welcomes a customer and may include other functionality according to what you had submitted in your second assignment – taking marking feedback into account.
* A list of categories to select from (see second assignment specification for details) and your implementation of the XML control that is using your XML and your XSLT files.
* A separate page to show the empty and filled shopping cart allowing customers to delete an item or to change the quantity. This page must always show the total amount, particularly when items are deleted or the quantity changed.
* One or more pages for the purchasing process. This depends on your design as per second submission and of course changes to improve are always accepted as explained above. You need to make sure that you capture the billing and shipping details (contact details are important in case an item is not in stock and the customer needs to be contacted), as well as the payment details. The business owner is currently in negotiation with a third party to take on the payment process, but this will not be in place for the day that your need to provide the completed web application (the final assignment due date). In your testing, please do not use real payment details.
* It is customary that when a purchase process has been completed, that all details (billing, shipping, payment, shopping cart content) and the order number are displayed on the last page. As this page too contains the header, the customer will easily find their way back through a link to your home page. Sometimes, a customer might realise they forgot to purchase something else, and as it happens in real live, it might just be at that point in time.

The business owner has specifically requested not to provide the following:

* Search functionality – it is expected that the way you design your web application a customer will not need to have to use this functionality. The implementation of the categories and subsequent display of list of products will allow the customer to easily find the products your web application offers.
* About page – as you are already providing the business logo, business name and contact details and links to your other pages in the header (web user control – see second assignment specification) all information is easily available without the customer having to take additional action to find it.
* Customer account and login – customers will not have to create an account or be required to login at all. An order number will be displayed by you at the end of the purchasing process so that the customer can call or email the organisation for enquiries. This is requested by the business owner, and a future iteration planned for 2014/2015 may review this.

Copyright Law

Whether you are taking this course as part of becoming an IT professional or out of interest in this subject, the issue here is that we all need to do the right thing. Copyright infringement is a serious issue, and we all need to be aware what is right and what is wrong.

Here is the link to the Australian Governments [‘Intellectual property and copyright’](http://www.ag.gov.au/RightsAndProtections/IntellectualProperty/Pages/default.aspx) – it is part of this assignment that you read this and inform yourself what you are permitted to do. Please follow the links on this site.

While this web application will make its products globally available, customers from other countries can purchase products from this web site, the assignment is submitted in Australia. As the developer of the web application you are responsible to make sure that the images you are using for your products comply with copyright law – in your own country as well as the country where you are submitting your assignment.

Show shopping cart - empty

From any page in your web site, the customer must be able easily find the link to the shopping cart, and be able to view the shopping cart without any products.

Show shopping cart - with products

The customer must be able to add a product into the shopping cart at any time.

The customer must be able to add products to the shopping cart without having to login or create an account.

The customer must be able to delete a product from the shopping cart.

The customer must be able to change the quantity.

Data Entry - functionality

In your previous assessment items you have already created the prototype without functionality. As you continue to develop your web application it is expected that you improve or correct your data entry that was based on the assignment feedback.

You need to write the relevant source code to implement the functionality.

Ensure that you are testing the data entry and database update.

Payment details

For the previous assessment item you designed data entry details including this consideration:

For the payment details an organisation would normally contract a third party to provide secure capture of payment details. Of course, in this course we cannot do that, so you need to provide the data entry and storage in the database, realising that this is only a temporary measure to complete the task for this course. Capture the type of card (dropdown) card number and expiry date. Do not use a real credit card to test.

Implement this correctly in your web application.

Class definitions

You are requested to create a class definition for the customer. This class definition must include any processing in relation to the data that resides in the class.

When capturing customer details, you need to instantiate your customer class and retain the object in memory, and accessing the processing methods through the object reference.

You are requested to create a class definition for the products in the shopping cart. Each product is represented by an object. You also need to create a collection and add the objects to the collection, so that the collection is the representation of the shopping cart.

Data remains in memory

All data (shopping cart, customer and payment details) obtained during a session must remain in memory. The only time that you update the database is at the very last stage of the purchasing process, after obtaining the payment details. At this stage, we know that the customer wants these products as payment details will finalise this process. An organisation would not want to clutter their database with products that the customer decided not to purchase.

Final purchasing step

Now that the customer completed the purchasing and is about to move on, the last step would be to thank the customer for their purchase. It is always a good idea to display the shopping cart details with totals, as well as the customer details (without show the payment details) to provide the customer with closure. You also need to provide an order number which will be used by another application to be developed in the future to process the order.

Testing – stages and final

Make sure and take the time to test. Your web application will be run, in debug and development mode, by the markers, so you want to make sure that it all works.

For testing purposes, use between 3 items. For example, 3 categories with 3 products each as a minimum; 3 orders with varying amount of items in the shopping cart.

You can re-use images, where 3 different images are sufficient. Here you need to focus on getting the correct image displayed.

Reflect as you go

As you are working on the assignment, re-read the specification many times to make sure that you are providing what has been requested and also stay on track.

Presentation to the business owner

Part of this assignment submission is for you to provide a Power Point Presentation with narration of 5 slides. Use the Audio recording function for each slide. In Power Point click on the Insert tab, then on the ribbon select ‘Record Audio’ from the ‘Audio’ icon on the right. The total length of the presentation should not be more than 10 minutes.

This presentation will address the business owner, and allows you, as the contractor, to sell your completed product.

Note: In the real world, you will be required to make presentations, and that may very well include the board of directors or the General Executive Management team, where you will need to explain your design and why you decided to implement it in the way you did.

Issues and anomalies

Should you find yourself in the position of not having included certain specified requirements or have unresolved bugs or other issues at time of submission, you are required to provide a bullet point list in a Word document of these to the marker/course leader. You should provide your recommendation of how they can be addressed or resolved.

Recommendations

As you are working through the course material each week you are gradually building up your skill level. Therefore, each week you can add more functionality to your web application. This is strongly recommended, as you already have your mind around the relevant functionality. It reduces the bottle neck closer to the due date of the final submission, and allows you to spend more time preparing for the examination.

Ensure to always re-read all the specifications. We repeat this a lot where ever we can. This is crucial for you implementing the correct specifications.

By adding functionality each week you will have more time toward the end of the semester when other course assessments are also due.

The specifications for this course have been designed to provide you with a simulation of a real life scenario – as much as is possible with the limited resources we have.

This assignment allows you to be creative and the result will be that each one of you will submit a unique solution with different design and implementation.

Please do be aware that you can ask for clarification or help should you encounter any hurdles in your development. This is part of the learning process.

Ensure to implement what was covered in the first and second assignment submissions. Also, it is strongly recommended that you reread all specifications as you continue to work through the web application to make sure that you provide what was requested.

What to submit

Make sure to check all the specifications as they contain all the information you need to incorporate into the final version.

**With this submission you are providing your web application in the state of a development (not deployment) so that the markers can run it in debug mode on their computers using Visual Studio 2012 with ASP.NET 4.5 on Windows7 Professional operating system on IIS.**

You need to submit the following:

* “Web application” folder that resides in c:\inetpub\wwwroot
* The Microsoft Access database (which should be in the folder above)
* The “solution folder” with the same name as the above web application folder (navigate to your Documents folder , Visual Studio 2012 folder, Project folder)
  + You can place the solution folder inside the web application folder as they both have the same name
* Narrated Power Point presentation
* Word document outlining issues and recommendations to resolve them
* Image copyright permissions if the images are not free in accordance to copyright law above

Place all of this into a ZIP file.

Submission requirements

• Submit your ZIP file into EASE.

Log into the UConnect web site, select the tab that contains the large EASE button. The link to the assignment will be visible when it has been opened for submission. Submissions will be opened a day prior to the due date.

