COMP6205 Web Development Assignment

Assignment:	ASP.NET Core Prototype Web App	**Lecturer**:	ra3@ecs	**Weighting**:	30%
Deadline:	30/11/2018	**Feedback**:	08/01/2019	**Effort**:	45 hours per person

Relevant Learning Outcomes (LOs)

This assignment assesses your ability to design, build and test ASP.NET Core 2.x web apps using professional web development tools such as IDEs, HTML and CSS template engines, and Object-Relational Mapping software.

Pair Development

You are expected to work on this assignment with a partner. Please choose another student with comparable skills and background, and a compatible working style. You will submit your work jointly and receive the same mark. If you prefer to work on your own, or there is a problem with your partner, please contact me before the deadline so I can advise you on how to proceed.

Web Site Requirements

A system is required to allow on-line advertising of student accommodation. For this assignment, you must implement the following features:

- a landlord can enter a description of the accommodation, and upload one photograph of this
- the University accommodation officer can approve this, or reject it with a comment for the landlord
- landlords can view their advertisements to see which have been approved or rejected, and why
- students can view approved advertisements

You should design a suitable database structure and user interface to support these features. Note that you are implementing only a prototype or first iteration rather than a complete e-marking solution. The majority of marks for this assignment are available for your correct and efficient use of the specified technologies/techniques, and your description/evaluation of these technologies/techniques.

Required Technologies and Techniques

You are required to implement this using recent versions of ASP.NET Core, and SQL Server. You must also use Entity Framework Code First to develop your model and map this to your database structure. Your site must provide multiple pages with professional layout and navigation, including appropriate CSS to provide to a fluid response to changing screen sizes. Authentication must use “individual user accounts” and you must demonstrate authorisation based on both role and user ID. Validation of user entered data must occur on both the client- and server-side.

It is recommended but not required that you develop your site with Visual Studio 2017, IIS, and SQL Express.

Additional Technologies and Techniques

Pick **one** of the numbered items below and apply this to your web site, making sure to generate appropriate supporting evidence to include in your documentation. Alternatively if there are other advanced technologies or techniques you would like to explore, please email me with your own suggestion(s), but make sure I have responded positively before you start work.

1. **database integrity** through constraints, transactions, and automated migrations
2. **dependency injection and automated testing** of model and business logic
3. **web performance measurement**, including page size, load time, and memory usage

Documentation

You should produce a PDF document describing your development. This must be no more than 2,500 words. Allowing for a significant number of diagrams and other figures, however, this may be up 12 A4 pages. The document must include:

- design diagrams showing the structure of your database, code, and web site

- appropriately clipped and labelled screen shots illustrating the implemented features
- samples of code, using appropriating formatting and colour, to confirm the technologies and techniques you used, and identifying which source code file the fragment is extracted from; and samples of mark-up you wrote yourself, each identifying which mark-up file it is extracted from; you should present these samples as figures, so that they do not count toward the word limit given above
- clear and concise explanations of these diagrams, screen shots, and code/mark-up samples
- how you tested your web site, for example that error messages appear appropriately, that reporting errors does not lose previous user input, and that the back button functions correctly
- how you tested portability, for example using different browsers, devices and screen sizes
- how you tested your business logic, for example to ensure that feedback on approved or rejected properties by the University accommodation officer is between 50 and 200 characters of text
- clarification of which additional or advanced technologies or techniques you used, including design diagrams, code fragments, other figures, and explanations as appropriate
- a critical evaluation discussing whether the ASP.NET tools, technologies and techniques you used were easy to learn, reliable, and effective in achieving their intended goals
- a bibliography of all tutorials and textbooks you used to support your development, noting that your bibliography will not contribute toward the word limit given above.

Planning

Assuming you spend 10 or more hours per week working on this assignment, it will take four to five weeks of elapsed time. If you have not used Visual Studio, .NET or C# before, you will first need to get up to speed with these technologies by working intensively with them. If you have not used **ASP.NET Core** previously, you will also need to allow extra time up front for reviewing the on-line tutorials and trying out some exercises before you start on the assignment itself. As you are working in pairs, you should adopt a code sharing platform which also allows you to revert to a previous version if necessary. You must not, however, publish your code where other students can see it. Finally, make sure you allow enough time at the end to produce the required documentation, most likely a whole week. Before doing so, you should identify appropriate tools to help you produce design diagrams, screen shots, and code fragments of suitable quality for including in your report.

Submission Instructions

Submit your design document in PDF format, and all files in your ASP.NET project as a single archive in ZIP format (avoid using an alternative archive format such as RAR) to the electronic hand-in system by 5pm on the due date shown above.

Marking Scheme

There are three assessment criteria, each equally weighted:

1. required features, technologies and techniques
2. additional and advanced features and techniques
3. critical evaluation

Make sure your documentation covers **each** of these in sufficient detail so that your work is assessed fairly. In particular note that features, technologies and techniques you have implemented but not explained, or explained incorrectly, will **not** gain credit. Likewise no credit will be awarded for features, technologies or techniques you may have used but which are not mentioned in these instructions. The appendix below has descriptions indicating the attributes typically associated with each grade.

Appendix:

Assessment Criteria

The table below explains the assessment criteria. Please review these carefully before you start work, and again before you submit.

Grade	Required Features, Technologies & Techniques	Additional & Advanced Technologies & Techniques	Critical & Comparative Evaluation
A* (Excellent)	All required features were successfully implemented with correct and proficient use of the required technologies and techniques	A range of additional and advanced technologies and techniques were used correctly and proficiently	A clear evaluation with very good understanding, insight and supporting evidence
A (Very Good)	The required features were successfully implemented correctly and effectively using the required technologies and techniques	Additional and advanced technologies and techniques were used correctly and effectively	A clear evaluation with very good understanding and with good insight and supporting evidence
B (Good)	The required features were successfully implemented using the required technologies and techniques	Additional and advanced technologies or techniques were used correctly and effectively	A clear evaluation which shows good understanding with some insight and supporting evidence
C (Satisfactory)	The required features were successfully implemented using some of the required technologies and techniques	Some additional or advanced technologies or techniques were used and made to work	Evaluation is clear, shows understanding, but only limited insight and/or supporting evidence
D (Marginal)	A partially successful attempt to implement the required features, technologies and techniques	A partially successful attempt to use additional or advanced technologies or techniques	Evaluation shows some understanding but lacks insight, supporting evidence, and/or clarity
F (Failing)	No evidence that the required features, technologies or techniques were used correctly	No evidence that additional or advanced technologies or techniques were used correctly	Evaluation is missing or shows little insight or understanding