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| COMP1640 – Term 1 21/22 | Enterprise Web Software Development | Contribution: 100% of course |
| Course Leader: Mr Matthew Prichard | Individual coursework | Deadline Date: 15th November 2021 |
| This coursework should take an average student who is up-to-date with tutorial work approximately 50 hours   Feedback and grades are normally made available within 15 working days of the coursework deadline | | |
| Learning Outcomes:  A. Synthesise and manage a wide range of technologies to meet business and security needs. B. Carry out a rigorous requirements analysis and justify its relationship to integration and acceptance testing. C. Build a role-based web or intranet application for a complex business workflow.  D. Appraise the legal, ethical and social aspects of developing web-based systems. E. Demonstrate ability to work in a team with members from diverse backgrounds F. Demonstrate ability to communicate clearly and effectively, in a range of forms, taking account of different audiences. G. Demonstrate ability to develop creative solutions to problems, and to think independently, analytically and creatively, and to engage imaginatively with new areas of investigation. | | |

Scenario

This is a group coursework. You will be assigned to a group.

You need to adopt agile scrum working practices, and document your meetings appropriately. Ideally you need a database designer, an information architect, a programmer, a web designer, and a tester, as well as a scrum master and product owner, but more than one person can be in any technical role. No one is to take the role of project manager, but there could be a technical team leader.

You will get an individual grade (40%) based on your report. There is also a group grade (60%), weighted by your contribution to the team effort (from 0% to 100%).

Specification

You are required to build a secure web-enabled role-based system for collecting ideas for improvement from staff in a large University.

The system must meet the following criteria:

* The University has a Quality Assurance Manager to oversee the process.
* All Departments have a QA coordinator who is responsible for managing the process for their Department, and for encouraging staff to contribute.
* All staff (academic and support) have the opportunity to submit one or more ideas.
* All staff must agree to Terms and Conditions before they can submit.
* All staff can optionally upload documents to support their ideas.
* All ideas can be categorised (tagged) from a list of categories at the point when they are submitted.
* The QA Manager can add additional categories at any time, and can delete categories, but only if they have not been used.
* All staff can see all submitted ideas and can comment on any idea. They can also give the Thumbs Up or Thumbs Down for any idea, but only once for any idea
* Ideas and comments can be posted anonymously, although the author’s details will be stored in the database so any inappropriate ideas can be investigated.
* All new ideas are disabled after a closure date for new ideas, but comments can continue to be done until a final closure date.
* Once an idea is submitted the system emails a notification to the Department’s QA Coordinator.
* The author of an idea receives an automatic email notification whenever a comment is submitted to any of their ideas.
* Lists of Most Popular Ideas (+1 for Thumbs Up, -1 for Thumbs Down), Most Viewed Ideas, Latest Ideas and Latest Comments must be made available to all users.
* Lists of Ideas need to be paginated (5 per page)
* The University QA Manager needs to be able to download all the data after the final closure date in a CSV file for transfer out of the system. Any uploaded documents need to be downloaded in a ZIP file.
* An administrator is needed to maintain any system data, e.g. closure dates for each academic year, staff details.
* Statistical analysis (e.g. number of ideas per Department) needs to be available.
* The interface must be suitable for all devices (eg mobile phones, tablets, desktops).

Assumptions

You must clearly state any assumptions you make.

Reports

A number of reports need to be made available. For example

* Statistics
  + Number of ideas made by each Department.
  + Percentage of ideas by each Department.
  + Number of contributors within each Department.
* Exception reports
  + Ideas without a comment.
  + Anonymous ideas and comments.

Tasks

1. Work as a team using agile scrum methods to develop and test a secure web-based system to meet the above specification.
2. Create a Panopto screencast recording (including screen and sound) demonstrating the key functionalities of the system.
3. Present the finished product to a non-technical audience to try to persuade them to purchase your system.
4. Document the system to an appropriate standard using a weighted scoring model with commentary, including an evaluation of the design process you followed and your reflection on the finished product, and on the contributions of your team members.

Deliverables

1. A Group Report based on a Group Repository containing all the artefacts produced by the team (eg ERD, minutes, test log, product backlog) with a menu allowing easy access to its content. The repository must be secure, but accessible by your tutors. The Scrum Master is responsible to ensure this gets uploaded by the due date. It is not essential that all members upload a copy of the group report, but it must be clear which students are in which group.
2. An Individual PDF Report  
   The report must give the URL of the Group Repository, the Screencast and the website and any usernames or passwords needed to access it. The individual component of the marking will be based on your report, so ensure this has evidence that your system meets the specified requirements. The text in your individual report must be entirely your own words.
3. A Presentation andScreencast  
   You must be present as part of the team that presents the finished product to your tutor and should contribute to the screencast. The presentation should be pitched at a non-technical audience to try to persuade them to purchase the product; the screencast should demonstrate the functionality of the system

Assessment Breakdown

Group Component (60%)  
This will be assessed based on a group report and a group repository created by the group on a secure shared area accessible to your tutors. Password and URL must be provided in individual reports. Must be suitably structured with a menu. Suggested location: GitHUB, Google Docs, SharePoint 365, own website, DropBox or other repository.

Database 10%  
Expect: Security, appropriate data types and validation, clear ERD, referential integrity implemented, enables roles to be implemented

Site design 10%  
Expect: Responsive design, clear information architecture for both mobile and desktop, aesthetically pleasing, good usability, meets accessibility criteria

Functionality 10%  
Expect: Role based security, submission of reports, email notification, summary and exception reports, UML diagrams, code snippets  
  
Testing 10%  
Expect: Test plan, test log, sufficient data to fully test, evidence of testing finding errors, test items linked to user stories in the product backlog

Agile methods followed 10%  
Expect: Burn down chart, minutes of meetings, user stories, sprints, product backlogs

Screencast and Presentation 10%  
Expect: Professional standard of presentation promoting the product, with contributions by all the team members,Screencast demonstrating all the main features of the product. Screencast can be done by one person.

Weighting factor for each student (scale 0 to 10)

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| Commitment | Weight |
| Fully committed | 10 |
| Committed | 8 |
| Contributed substantially | 6 |
| Contributed partially | 4 |
| Minimal contribution | 2 |
| No contribution | 0 |

Individual Component (40%)  
N.B.: No shared content in the report, i.e. must be entirely in your own words, Must include title page with a list of team members and roles, URL and password of group repository, site and screencast.

Evaluation of product and process 10%  
Expect: Appropriate screen shots and commentary, with cross references to group documents, evaluative comments on the product and on the agile process and design method used to build it.

Evaluation of team 10%  
Expect: A weighted scoring model of the entire team (including yourself) with own choice of criteria and weighting, supported by commentary on each individual member. Model is expected to produce a range of scores for the individual members.

Self-evaluation 10%  
Expect: Honest description of own contribution, and reflection on own performance and any lessons learnt  
  
Quality of documentation 10%  
Expect: NO SHARED CONTENT, professional standard, header page, page numbers, table of contents, headings, cropped images, figure captions, no spelling or grammatical errors.

Indicative Grading Criteria

>=70%   
Well designed system to fully meet the requirements  
Professional standard of report, with appropriate documentation  
High level of individual commitment  
High level of evaluative commentary  
  
60-69%  
Well designed system to meet most of the requirements  
Professional standard of report  
High level of individual commitment  
Limited evaluative commentary

50-59%  
Well designed system to meet most of the requirements  
Acceptable standard of report  
Good level of individual commitment  
Limited evaluative commentary

40-49%  
Acceptable system to meet most of the requirements  
Acceptable standard of report  
Acceptable level of individual commitment  
Limited evaluative commentary

<40%  
Poorly designed system   
Few requirements met  
Poor standard of report  
Limited individual commitment  
No evaluative commentary