CP2013 Software Engineering

ASSIGNMENT ONE 2013

Study Period 1, Singapore Campus

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1. Project Vision/Description

NOTE! When implementing this project, please keep in mind that:

1. The project must be a software development project, i.e. it requires writing source code of some sort rather than just customisation of a software system;
2. The project must be implemented using two different computer languages or development environments. This is extremely important in this subject. The students must experience first-hand that some parts of their project will be environment **independent** while the other parts may be quite affected by the chosen environments.
3. The project must have some sort of persistent data storage, e.g. relational database such as mySQL.
4. The project must have a modern user-interface, e.g. interactive web-site.
5. All documentation and source code must be placed on docs.google.com, sites.google.com or code.google.com .

You will be implementing a Zoo Monitoring/Management/Simulation Software program. In the Assignment One you are required to implement **table view** (not map view, left for Assignment-2) of your Zoo:

- AdminUI, User Interface (UI), to setup/configure your software;
  You should be able to set:
  - number of cages (minimum 1, maximum 100);
  - Cage size and type (google for what type of cages are possible);
  - Number of entries per cage, e.g. one entry with single door, one entry with double door (think how to show the doors' status);
  - Name for cages;
  - Name/ description of Zoo exhibits (animal, bird, etc)
- CageUI: show its location, open/closed door status, human detector (human inside?), exhibit inside?;
- Way of entering/viewing CageUI; one UI per one cage.

Resources. The assignment must be done using two different development environments or languages, for example (and not limited to) HTML, Python, C#, C++, C, Flash, PHP, Java (J2SE), Java servlets (J2EE). As your data storage you must use a database for Assignment **Two**. You may use other people's code that of generic nature like that found in textbooks and by searching the web. You need to acknowledge such cases clearly in your code, e.g. by providing a url link. However, sharing of the source code between teams is not allowed.

2. Assignment Instructions

This assignment must be submitted before the first (at the subject's campus) practical of week 5 (five).

The project vision section is **intentionally** not a complete description of the system. The vision may have some vague or contradictory statements. As part of your project you will need to clarify the requirements to an acceptable level. There will be requirements gathering sessions with your instructor during lectures and pracs. You may also ask clarification questions at any time. Using examples in the lectures/textbook, it is your responsibility to assess what constitutes an acceptable level. This is a simulation of a real-life software project where you are a business analyst/programmer. Use the Project Vision as the starting point of the requirements for the system.

Submission

1. Submit your assignments electronically using **LearnJCU**.
2. One submission per team.
3. Zip your files into one zip file. Do not include any tools, such as Java SDK or JDBC drivers. You only need to submit your work.
4. Your zipped submission should not exceed 5MB.

3. Marking Instructions (for Lecturers/Tutors/Instructors)

The marking should be done in the presence of the teams, when verbal feedback should be given on the quality of the assessed work. When marks are deducted, some explanation should be given to the students. If the mistakes are minor, this is a perfect opportunity to briefly review the key concepts to make sure that the students learn during the marking session. However if the mistakes are major, it is not feasible to go over a large part of the subject content during the session. A team with a major mistake should only be told which lecture, tutorial, and/or practical they should revisit in order to correct the mistake.

It is not feasible to inspect every line of code that students write. When marking the tasks based on the source code, inspect at least 3 (three) files. Moreover, it is actually very easy to click on many more files when the project is loaded in proper development environment software.

The penalty marks are design to support the fact that not every line of code is inspected. For example, when marking the coding style it is only sufficient to find five examples of style violation and not to award any marks for the task. The logic behind such marking scheme is that the full marks are given for understanding and consistently applying the assessed piece of subject content. One violation may be explained by a genuine human error. But if the required criteria is violated a number of times, such multiple violations indicate strongly that the team did not understand the assessed content or chose to disregard it deliberately.

4. Assignment One Tasks and Marking Scheme [10% of total marks]

Marking of projects is done during the practicals in week 5 for Assignment One and the last week for Assignment Two. The breakdown of assignment tasks is done in the tables below.

Write team member names here:____

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Graduate Skills & Qualities	**Tasks** ***Values in […] brackets indicate penalty marks**	Marks
	Literacy and Numeracy	
	Information Literacy	
1.2, 2.1, 2.4 4.1-4.4 5.1, 5.2	Using **docs.google.com;** Log-book of your project communications. High level design to illustrate your software workings.	... / 5
	Critical Thinking and Problem Solving	
	NOTE! Critical thinking and problem solving is a major part of this subject. In particular, playing role of a Business Analyst and Software Engineer (not just a Programmer), you are required to develop a number of documents (find relevant templates or in your own format) and defend their content during the marking session.	
1.1, 2.1, 2.2, 3.3, 3.4	Using **docs.google.com** setup Agile planning as per Ch-3; Assume Assignment-1 is ONE iteration/cycle and Assignment-2 has two cycles.	... / 10
1.1, 2.1, 2.2, 3.3, 3.4	Using **docs.google.com** setup User stories; could be done together with the Agile planning doc.	... / 5
1.1, 2.1, 2.2, 3.1-3.4	Using **docs.google.com** setup Acceptance tests for the first cycle.	... / 5
5.1, 5.2	Display AdminUI; Challenge: include extra TWO features [Both languages]	... / 5
5.1, 5.2	AdminUI works correctly [Both languages]	... / 20
5.1, 5.2	Display CageUI; Challenge: include extra TWO features [Both languages]	... / 5
5.1, 5.2	CageUI works correctly; [Both languages]	... / 20
	Self Reliance and Interpersonal Understanding	
4.1-4.4	This Assignment is done in a team with 2-5 students	... / 5
	Using Tools and Technologies	
5.1, 5.2 7.1, 7.6	1. Setup your team project on code.google.com, Register team members with gmail.com under their real names (or other unique id such as student's number or jc-number plus any additional unique tags to allow for a unique user id). Make all team members owners of the project. [-2] 2. Maintain your open-source code via subversion. The revisions should demonstrate your continuous effort during the weeks leading to the submission. It is not sufficient to make a single import of your final version. [-2]	... / 5
	Learning Achievement	
6.1, 2.4, 3.4	Programming style/coding convention document or a reference for both programming environments.	... / 5
7.4	Setup some project test data to allow effective demonstration of the project.	... / 5
6.1	Submitted as per instructions in the SUBMISSION section (see above) .	... / 5
	The total marks for this assignment is	100

5. Graduate Skills & Qualities

Graduate attributes are the *skills* and *qualities* that every student should have when they leave the University – irrespective of the qualification they have attained. These skills are often the same competencies that employers expect from graduates. You will not attain all of the JCU graduate qualities in this subject because these skills will be developed over the full the length of your degree in various subjects. **The table below indicates how the content and assessment in this assignment fosters the development of JCU's graduate attributes**.

Graduate Skills		Assessment
Literacy and Numeracy		
1.1	the ability to read complex and demanding texts accurately, critically and insightfully	assessed
1.2	the ability to speak and write clearly, coherently and creatively	assessed
1.3	the ability to generate, calculate, interpret and communicate numerical information in ways appropriate to a given discipline or discourse	assessed
Information Literacy		
2.1	the ability to find and access information using appropriate media and technologies	assessed
2.2	the ability to evaluate that information	assessed
2.3	an understanding of the economic, legal, ethical, social and cultural issues involved in the use of information	-
2.4	the ability to select and organise information and to communicate it accurately, cogently, coherently, creatively and ethically	assessed
Critical Thinking and Problem Solving		
3.1	the ability to think critically, to analyse and evaluate claims, evidence and arguments, and to reason and deploy evidence clearly and logically	assessed
3.2	the ability to adapt knowledge to new situations	assessed
3.3	the ability to deploy critically evaluated information to practical ends	assessed
3.4	the ability to define and to solve problems in at least one discipline area	assessed
Self Reliance and Interpersonal Understanding		
4.1	the ability to communicate effectively with a range of audiences	assessed by team auto-rating
4.2	the ability to lead, manage and contribute effectively to teams	assessed by team auto-rating
4.3	the ability to work with people of different gender, age, ethnicity, culture, religion and political persuasion	assessed by team auto-rating
4.4	the ability to work individually and independently	practiced by taking responsibilities within teams
Using Tools and Technologies		
5.1	the ability to select and use appropriate tools and technologies	assessed
5.2	the ability to use online technologies effectively and ethically	assessed
Learning Achievement		
6.1	the acquisition of coherent and disciplined sets of skills, knowledge, values and professional ethics from at least one discipline area	assessed
6.2	the ability to reflect on and evaluate learning, and to learn independently in a self directed manner	practiced by feedback during marking
6.3	the ability to manage future career and personal development	practiced via the acm.org membership
Personal Graduate Qualities		**Related Content / Assessment**
7.1	exemplary personal and professional moral and ethical standards	open-source assignments
7.2	a commitment to lifelong learning and intellectual development	practiced
7.3	an understanding of Indigenous Australian issues and cultures	-
7.4	an understanding of regional issues	practiced
7.5	a sense of professional, community and environmental responsibilities	practiced via the acm.org membership
7.6	willingness to contribute to the intellectual, cultural and social life of the regional, national and international communities	open-source assignments