**321COM RAPID APPLICATION DEVELOPMENT**

**Assignment:**

Portfolio of Lab Tasks and Developing web mashup application using

SCRUM and Google App Engine

**Deadline (20/12/2015)**

During this module you will learn about different software development methodologies with particular emphasis on the contemporary Agile methodology and you will also learn how to develop web applications using Google App Engine, web services and relevant Python web frameworks.

**The purpose of this assignment is to**

* Provide you with practical experience in using methods and techniques for the designing and implementation of information systems
* Make you familiar with a wide range of relevant concepts and principles relating to information systems development
* Enable you to critically evaluate the methods, techniques and tools for rapid development of various types of information systems, and the reasons for their selection and use.
* Enable you to use industrial-strength software tools for RAD to analyse, design and implement a small application related to a real-world problem.

**You will be required to:**

* actively participate in all activities
* submit formative assessments regularly on which you will reflect in your final submission for the coursework summative assessment
* demonstrate and explain the implementation of a portfolio of lab tasks which contributes to 40% of your summative assessment grade
* work in groups

**Deliverables**

**A. Portfolio of tasks deployed live using your Google cloud account. (40%)**

1. Basic webapp2 application displaying a random sequence of 1 to 10.
2. Implementing the users services and handling forms display the user nickname and the name the user entered via web form.
3. Using templates (jinja2 framework) and forms create a number guess application. In this application the user is asked to repeatedly for a number and then told that his/her guess is too low, correct or too high. The user will be able to guess the number many times and get feedback on every guess. The application should accept only numbers and if the input is not a number display incorrect message.
4. Create an application, which allows users to write reviews about restaurants nearby. The reviews must be stored in GAE datastore.
5. Using the Google Map APIs display the user location from tasks 4. You may use <http://www.geoplugin.com/> to find where the user comes from based on their IP address.

**Tasks 1 – 3 will be required to be demonstrated in week 10 (12/11/2015).**

**Tasks 4 and 5 will be required to be demonstrated in week 14(26/11/2015).**

***If you are unable to demonstrate all of your tasks during the lab sessions you may, with prior agreement of your lab tutor, provide this evidence through the writing of an additional report. The additional report must consist of***

* ***a link to each of your exercises accessible live via your Google cloud account;***
* ***an explanation how each task in the portfolio was implemented;***
* ***the code for each task with detailed comments.***

**The group project (60%)**

* Working in groups of 4 or 5 you have to analyse, design and develop a web mashup application using Google App Engine, Python web frameworks and web services.
* You have to choose the purpose and functionality of your web mashup web application, which is useful for business or society.
* Your team will need to combine two existing web services in your application relevant to its purpose.
* The module leader will agree the appropriateness of the chosen application. You will submit a short proposal explaining the purpose of the web application, draft list of functionalities and suggestions of using relevant web services and Application Programming Interfaces (APIs). You will receive feedback on which you have to reflect in your final submission.
* No form of plagiarism is permitted. Any sources must be in the reference list at the end of the assignment submission and cited appropriately using the CU Harvard referencing style available from www.coventry.ac.uk/caw.
* You will be using the SCRUM method for your project and work in two week long iterations. In each iteration you will
  + Select functionality to analyse, design and develop;
  + Code (every group member must do a bit on coding);
  + Review and deploy the web app.
* It is advisable to rotate the roles in the group in order each member to get experience in the different roles.
* You will receive feedback from the module leader or tutor after each iteration.

After each iteration you will need to demonstrate to your module tutor: the changes since the last iteration; clear outline of the contribution of each member of the group; short explanation of how feedback was implemented from the last report; short reflection on the practices and group work. It will be required to maintain logbook to evidence the progress of the application.

**The individual report B is the final deliverable for the coursework assessment (due date 20.12.2015 via Moodle).**

**B. Report.** Write a critical evaluation and reflection on the methods used in the analysis, design and implementation of your group project mashup application. (up to 1500 words) – 60%

Your critical evaluation should have:

* Introduction – provide information about the application, its importance, purpose and why was chosen.
* Body
  + Analysis and evaluation of the methods, techniques and tools used. You have to also consider relevant to your application: security issues, social, ethical, legal and professional issues.
  + Reflection - in this part you need to give examples of the activities, reflect on your experience and learning, address how this experience may affect your future professional practice. You should support your statements with referring to relevant theories and observations.
* Conclusion – summary of the previous arguments, your judgement of the value of the work and comments on future work.

The Marks breakdown will be as follows:

1. Justification of the choice of the application and web services 10%
2. Evaluation of the chosen methods, techniques and tools 20%
3. Social, ethical, legal, security and professional considerations 10%
4. Reflection on SCRUM 10%
5. Academic writing style, references and presentation 10%

# General Marking guidelines

The following table indicates what quality of submission is required to achieve a given grade.

|  |  |
| --- | --- |
| (70%+) | Excellent piece of work of a professional standard across all parts. Demonstrates learning and other input beyond the taught programme. |
| (60-69%) | The work is very good, logically structured and presented to a high standard. Demonstrates a strong knowledge base with a clear understanding of the issues and application to practice where appropriate. There is some critical and analytical application of relevant research. |
| (50-59%) | The work is clearly presented and logically structured. It shows evidence of a sound understanding of the topic and addresses major issues. The work contains some discussion and interpretation of relevant perspectives although further development of the arguments presented would be beneficial. There are examples of critical reflection and evidence of application of theory to practice. |
| (40-49%) | Adequate presentation. The work displays basic knowledge and understanding of the topic but is largely descriptive. There is an attempt to bring together different ideas and concepts although this would have been strengthened by the inclusion of further key issues. The structure of the work requires attention to its coherence and logical development of content. The link between theory and practice, where appropriate, is somewhat tenuous and its development would enhance the work considerably |
| (30-39%) | The work is poorly presented and contains numerous errors, inconsistencies and omissions with limited use of source material. The work displays a weak knowledge base and a lack of sufficient understanding of the topic. There is little or no evidence of the application of theory to practice where appropriate. It contains many unsupported statements with little attempt to bring issues together and lacks critical analysis and reflection. |
| (<30%) | The work is very poorly presented and contains numerous serious errors, inconsistencies and omissions with little use of source material. The work displays a very weak knowledge base and a lack of sufficient understanding of the topic. There is little or no evidence of the application of theory to practice where appropriate. It contains many unsupported statements with little attempt to bring issues together and there is a complete lack of critical analysis and reflection. |