COMPUTING PROJECT (COMP08053)

PROJECT IDEAS

Groups are free to think of their own project idea (subject to approval by their tutor). Below are some suggested ideas to get you thinking. Some of the ideas are for a client, the details of which will be revealed once a group has selected the idea and initially discussed it with their tutor.

1. Web-based Game: Produce a design report containing detailed proposals, including projected user numbers and costing, for a web-based "timewaster" type of computer game. The overall development time should be no longer than 10 weeks, and a suitable business model should be developed projecting a profit within six months from the launch date.

2. Why Does Programming Have To Be Hard? Research and compile a referenced report investigating why computer programming is seen to be a difficult subject to learn, and what steps schools, colleges and universities can take to lessen the problem.

3. An Investigation of Facebook App and Game Development: A developing marketplace is the Facebook app and game development field. A team will investigate and develop an exemplar application for game for a Facebook page. The team must investigate and the costs and processes of Facebook game development and support required to get development started. The game will be developed and rolled out for use by alpha-testers identified as Facebook users.

4. Women In Computing: Research and compile a referenced report describing why comparatively few females choose to study computing, and suggesting action that could be taken to increase that number.

5. Games-based Learning: Research and compile a referenced report describing how the informal learning that takes place within online computer games could be adopted within formal learning environments to make formal learning more effective and more enjoyable.

6. Dating Web Site: Produce a design report containing detailed proposals, including projected user numbers and costing, for a new type of web-based dating agency. The overall development time should be no longer than 10 weeks, and a suitable business model developed projecting a profit within six months from the launch date.

7. An Investigation into Web 2.0 and its role in Teaching and Learning: Investigate how social networking technologies can promote better teaching and learning. The team will produce a detailed referenced report exploring what Web 2.0 is, how it has developed within the context of teaching and learning, and produce an outline design for an e-learning application that uses Web 2.0 to promote better teaching and learning.

8. Using Mobile Technologies to Enhance Learning and Collaboration: Investigate how mobile technologies can be used in education to increase student engagement and motivation to learn. Recommendations on how mobile technologies can be incorporated into teaching and assessment, as well as producing an outline design for a mobile learning system.

9. An Investigation of Google Android Smartphone App and Game Development: investigate and develop an exemplar application or game for an Android smartphone. The team must investigate the costs and processes of Android smartphone development. They must specify what is required to get the development started, as well as receive feedback by alpha-testers identified as Android smartphone users.

10. An Investigation of HTML5 Game Development: HTML5 is a potentially major area of possible market development in games and beyond. The team must investigate and develop an exemplar game in HTML5 for playing using a web browser. The game will be rolled out and for use and feedback by alpha-testers identified as suitable browser users.

11. Student Funding App/Website: Produce a prototype of a mobile phone or web-based application for a client in UWS Student Services department. An initial analysis and design proposal has already been completed for this project.

12. Careers Information App/Website: Produce a prototype of a mobile phone or web-based application for a client in UWS Student Services department. An initial analysis and design proposal has already been completed for this project.

13. JobShop App/Website: Produce a prototype of a mobile phone or web-based application for a client in UWS Student Services department. An initial analysis and design proposal has already been completed for this project.

14. Careers Engagement App/Website: Produce a prototype of a mobile phone or web-based application for a client in UWS Student Services department. An initial analysis and design proposal has already been completed for this project.

15. Social Networking in Business: Research and compile a report describing the value of social networking to a small business and produce a supplementary guide that a typical small business could use to harness the power of social networking.

16. Web Analytics in Business: Research and compile a report describing the value of web analytics to a small business that has a website. The team will produce a detailed report describing what web analytics is and a supplementary guide that a typical small business could use to exploit the benefits of web analytics.

17. Cloud Computing in Business: Research and compile a report describing the value of cloud computing to a small business. The team will produce a detailed report describing what cloud computing is and a supplementary guide that a typical small business could use to exploit the benefits of cloud computing.

18. Web Analytics and the University: Research and compile a report on how web analytics could be used by UWS to improve the marketing of the university to potential students. The team will produce a detailed report exploring what web analytics is and supplementary guide on how it could be used by the university to better understand the market place.

19. Cloud Computing and the University: Research and compile a report on how cloud computing could be used by UWS. The team will produce a detailed report exploring what cloud computing is and supplementary guide on how it could be used by the university.

20. Design and Implement Database for UWS: Investigate, design and implement a database capable of supporting the data management requirements for Programme Leaders at UWS. The team will produce a detailed report describing the data management requirements and translate these requirements first into a database design and then into a prototype database implementation.

21. Promotional website for the School of Computing: You are required to design and implement a website which could be used to promote the School's programmes to prospective students.

22. Travel Agency & Flight Booking System: A small local travel agency requires a new information system to help run the business. You are required to establish the requirements for the system then develop a detailed design for part of the system and implement it. The part of the system which you are required to design and implement should allow Airline Customers to Book tickets on flights. Some of the tasks you might like to consider include booking tickets for a flight, displaying a list of tickets for a specific flight etc.

23. Pet Recommendation System: A pet shop requires a system which helps customers to decide what type of pet to purchase. The system should recommend suitable animals in response to an enquiry by a user. Some of the features that might influence the user's choice of pet are preferences such as how much time they are prepared to spend looking after the animal, amount of space required by the animal etc.

24. A Computing Resources Database: Develop a database to manage the inventory of computing hardware and software used in the Computing School. This will require initial data gathering to enable compilation of details of hardware specs, installed software, locations etc. that would be useful in the management process.

25. UML documentation of the computing school: Investigate and develop UML documentation for the current computing school web site and put together a new improved design for its next incarnation. The team should aim to implement a selected part of the new site.

26. Design and build a football tournament results program: The results system should be based on a World cup style of competition with a groups stage followed by a knock out until the winner is decided.

27. Natural User Interfaces: New input devices like Kinect let users use their whole body or focussed gestures to interact with a computer. Open source software already exists allowing programmers to develop PC software for Microsoft's Kinect. This project will involve some research into natural user interfaces and the development of a sample application controlled by Kinect. [Team will need to have access to at least one Kinect]

28. Natural User Interfaces for Gaming: New input devices like Kinect let users use their whole body or focussed gestures to interact with a computer. Open source software already exists allowing programmers to develop PC software for Microsoft's Kinect. This project will involve some research into natural user interfaces for gaming and the development of a demo game controlled by Kinect. [Team will need to have access to at least one Kinect]

29. Serious applications of virtual worlds (Multiple Projects): Virtual world technologies are increasingly used for a range of serious applications – education, training, and conferencing along with other commercial applications. A range of projects are possible in this broad topic, which may be research or development focussed and may use any of a range of platforms (OpenSim, Open Wonderland, Second Life, etc.)

30. 3D Virtual Learning Environments: SLOODLE is a tool for integrating 3D virtual environments (Opensim or Second Life) and web-based learning environments (Moodle – an open source tool similar to Blackboard). For this project, you will need to establish your own OpenSim virtual world, and develop some example educational content using SLOODLE. The educational content may be based on any topic of your choosing, at any educational level.

31. Interactive Tutors for OpenGL: Develop interactive (web, flash or standalone) content for teaching OpenGL development. Alternatively, a project may be available to develop a non-interactive tutorial web-site which includes a range of teaching materials.

32. 3D OpenGL Game Demo: Develop a 3D game demo using OpenGL and C++. This is a very open project, it will be up to the team to form specific goals and targets early in the project and to manage progress towards these goals.

33. Points & Rewards for Informal Learning: During summer 2010, a trial informal learning project 'UNversity' ran which combined elearning and points based rewards. This was a limited success. Built using open source web-technology (Moodle, coded in PhP), there is considerable room for improvement. For this project, you will have to review the recent literature on 'Gamification' and reward systems in education, perform critical analysis of UNversity (and possibly other examples) and suggest improvements. Ideally, the team would also implement a number of these changes - which may require some web-development (installing and maintaining Moodle and 3rd party plug-ins, and possibly some PhP scripting).