Assignment for COM602

Development of an Interactive Web-based Graphics and Animation Application

(Assignment worth 50% of overall marks)

Submission deadline: Friday 20th December 2013 at 2pm

Please print your report and submit this along with your web application (and source code) on CD-ROM to the school office (16G24). Please put your name and student ID on both the CD-ROM and the report. And don't forget to submit this with an assignment cover sheet (this can be downloaded - http://scm.ulster.ac.uk/scm-cw-submission-sheet.pdf).

Assignment Brief: You are required to design and develop a web application that exhibits your skills in computer graphics and animation programming. Choice of technology or technologies (i.e. Canvas, WebGL, CSS3, SVG and Unity3D) for implementation is entirely up to you but keep in mind the assessment criteria. The nature of your application whether it be a game, an interactive drawing/photo application, a data visualization tool or something else is also your decision. Just be sure that your application exhibits interactive computer graphics and animation.

Alongside this application, you are required to submit a short evaluation report. Excluding references this report should not exceed **1200 words**. The report should describe the application and its key features. The report should also describe the techniques and skills used during development. Please include references to any research articles and/or online resources that helped you during the development of your application.

Assessment Criteria	Marks
The complexity and difficulty in implementing the application with regards to technologies used alongside the programming and techniques involved in its development. (e.g. low level canvas/Unity3D techniques, controlled frame rates, applied game physics and advanced APIs were used [these are only examples]) **Excellent (25-30 marks):** Technologies and applied techniques were very complex and at times at a low level. Techniques adopted show an in-depth understanding of the domain. **Good (19-24 marks):** Technologies and techniques used were moderately complex. Techniques adopted show a good understanding of the domain. **Satisfactory (13-18 marks)**: Technologies and techniques used were intuitive and widely known but they have been used to a good working standard. Techniques adopted show an adequate understanding of the domain. **Poor (7-12 marks):** Technologies and techniques used were very basic. Techniques adopted show a poor understanding of the domain. **Very Poor (0-6 marks):** Technologies and techniques used were extremely basic and show a real lack of planning and understanding.	**Possible 30 Marks**
Extent of interactivity within the application and the use of event driven programming, (e.g. mouse/keyboard events, collision detection, embedded physics etc. [these are only examples]) **Excellent (25-30 marks):** An impressive combination of advanced interactive techniques were used. **Good (19-24 marks):** A number of well-known interactive features were implemented to a good working standard. **Satisfactory (13-18 marks)**: Only a small number of well-known interactive features were implemented. **Poor (7-12 marks):** Interactive features were very basic and at times incomplete. **Very Poor (0-6 marks):** Interactive features were extremely basic and incomplete and show a real lack of planning and understanding.	**Possible 30 Marks**

The use of dynamic graphics, animation and rendering techniques, i.e. animation loops, game loops, rendering loops etc. **Excellent (9-10 marks):** Graphics and animation techniques and effects were excellent and were generated from dynamic data or by conditions in an environment or by intelligent interactivity. **Good (7-8 marks):** Graphics and animation techniques and effects were good and were partly generated from dynamic data or by conditions in an environment or by intelligent interactivity. **Satisfactory (5-6 marks)**: Graphics and animation techniques and effects were sparsely generated from dynamic data or by conditions in an environment or by intelligent interactivity. **Poor (3-4 marks):** Graphics and animation techniques and effects were poor and were not adequately generated from dynamic data or by conditions in an environment or by intelligent interactivity. **Very Poor (0-2 marks):** Graphics and animation techniques and effects were very poor (at times non-existent) and were not generated from dynamic data or by conditions in an environment or by intelligent interactivity. Techniques used show a severe lack of planning and understanding.	**Possible 10 Marks**
Overall quality, design, completeness and innovation behind the application. **Excellent (9-10 marks):** An impressive application that shows innovation and creativity. The project has commercial and business potential and is almost industry ready. **Good (7-8 marks):** A good application that shows some innovation and creativity. The project may have commercial and business potential but would require more work to be industry ready. **Satisfactory (5-6 marks)**: A satisfactory application that shows some initiative. The project has little commercial and business potential and would require a fair amount work to be industry ready. **Poor (3-4 marks):** A poor application that shows little initiative. The project unlikely has commercial and business potential and would require a substantial amount work to be industry ready. **Very Poor (0-2 marks):** A very poor application that shows no real initiative. The project has no commercial and business potential and would require a substantial amount work to be industry ready.	**Possible 10 Marks**
Quality of descriptions in the evaluation report. And also the referencing style used, the grammar and punctuation and also the evidence of independent research. **Excellent (17-20 marks):** An impressive description of techniques and APIs etc. that were implemented – thus showing an in-depth understanding of the constructs. An academic referencing style with excellent research articles cited. Excellent grammar and writing style. **Good (13-16 marks):** A good description of techniques and APIs etc. that were implemented – thus showing some understanding of the constructs. Somewhat consistent referencing style with an appropriate research article cited. Good grammar and writing style. **Satisfactory (9-12 marks)**: A satisfactory description of techniques and APIs etc. that were implemented – thus showing basic understanding of the constructs. A non-academic referencing style with no appropriate research articles cited. Satisfactory grammar and writing style. **Poor (5-8 marks):** A poor description of techniques and APIs etc. that were implemented – thus showing very little understanding of the constructs. A non-academic referencing style with no appropriate research articles or little web resources cited. Poor grammar and writing style. **Very Poor (0-4 marks):** A very poor description of techniques and APIs etc. that were implemented – thus showing almost no understanding of the constructs. A non-academic referencing style with no appropriate research articles or web resources cited. Very poor grammar and writing style.	**Possible 20 Marks**
Total	100