CS/SE 6301.006 Virtual Reality
Spring 2013

Project Final Report and Demonstration (35 points)

Assigned on Wednesday, March 13
Submission due by Sunday, April 28 at 11:59pm CDT
Demonstration held on Monday, May 6 from 9:00am to 5:00pm CDT

1 Purpose

The purpose of this assignment is for you to report your project team's progress during this course, deliver a functioning prototype of your proposed virtual reality (VR) application, provide a final in-class presentation of your work, assess your team's progress, and give a public demonstration of your research efforts.

2 Assignment

You are expected to create a final report document, deliver a functioning prototype, create and give a final presentation, evaluate your team, and assist with public demonstrations.

a. Final Report

The final report document should consist of a title, a team member list, an abstract, an introduction section, a related work section, a design section detailing your ideal research design, an implementation section explaining what you implemented in your prototype, a conclusions section, and references. The document should be formatted according to the IEEE Visualization & Graphics Technical Committee guidelines (http://www.cs.sfu.ca/~vis/Tasks/camera.html). The submitted document should be a Microsoft Word or PDF file named "Final Report".

b. Prototype

Your prototype should successfully implement most of your proposed features. It should NOT modify the core Syzygy libraries or files and should be written in only C/C++. Your submission should include every file necessary to properly function and a README.txt file that clearly explains how to build, run, and interact with your prototype.

c. Final Presentation

The final presentation document should motivate your research, identify what gap your research addresses, review your ideal design, and highlight your implemented features. The document should be a Microsoft Powerpoint, Prezi, or PDF file named "Presentation". As a team, you are expected to give your final presentation in class on either Tuesday, April 30th or Thursday, May 2nd, to be decided by the instructor. Your presentation should last 15-20 minutes.

d. Team Evaluation

Every team member is expected to complete and submit a Team Evaluation form (see attached). The instructor will keep the evaluations confidential.

e. Public Demonstration

Every team must have at least one member present at all times (9:00am to 5:00pm) on the day of public demonstrations. Your team should agree upon a schedule and submit it with this assignment. The schedule document should be one of the following formats: Microsoft Word, Microsoft Excel, PDF, rich text format, or plain text format. Each team member is responsible for being present during his or her scheduled attendance.

3 Submission

You are expected to submit the assignment through eLearning by the deadline indicated above. Your submission must be a zip file (.zip); not a .tar, .gz, .rar, .7z, or any other type of compressed file. Use your first and last name to name your zip file (e.g., "Ryan McMahan.zip"). Your zip file should include the following contents:

- Final report. Acceptable formats: .docx, .doc, or .pdf
- Prototype folder with required files.
- Final presentation. Acceptable formats: .pptx, ppt, .zip, or .pdf
- Completed team evaluation (see attached).
- Team demonstration schedule. Acceptable formats: .docx, .doc, .xlsx, .xls, .pdf, .rtf, or .txt

***** Each team member is required to submit his or her own zip file. *****

4 Presentation

As part of this assignment, you are expected to give an in-class presentation of your team's completed research. In-class presentations will occur April 30th and May 2nd. If you expect to be absent any of these days, you must notify the instructor before the deadline indicated above. For the presentation, you will have 15 to 20 minutes to present your completed work as a team, followed by 5 to 10 minutes of questions from the rest of the class. You should bring your own laptop for the in-class presentation. If your team cannot bring a laptop, notify the instructor before the deadline indicated above.

5 Grading

Your grade for this assignment will start at 35 points. For each criterion you fail to meet, your grade will be reduced by the indicated deduction. The maximum deduction is 35 points.

Final Report Criteria
The maximum deduction for not meeting final report criteria is 15 points.

- ☐ The abstract briefly motivates your research, indicates how your research addresses a gap in prior knowledge, and describes your work on developing a research prototype in 250 words or less **(0.5 points)**.

- ☐ The introduction section motivates your research beyond the provided project description **(1 point)**.

- ☐ The introduction section provides a brief overview of your research design and your work on developing a prototype **(0.5 points)**.

- ☐ The related work section sufficiently reviews literature of pertinent prior research **(2 points)**.

- ☐ The related work section clearly identifies one or more gaps of knowledge in prior research and explains how your research addresses those gaps **(2 points)**.

- ☐ The design section clearly describes the input and output devices that would be used for your ideal application design **(0.5 points)**.

- ☐ The design section clearly describes the virtual environment, its graphical assets and accompanying textures, and its 3D sounds for your ideal application design **(2 points)**.

- ☐ The design section clearly describes what interaction techniques and system control components (e.g., floating menu) would be provided and how they would be used to interact with your ideal application design **(2 points)**.

- ☐ The design section clearly describes any animations, simulations, physics, or artificial intelligence models that would be incorporated into your ideal application design **(2 points)**.

- ☐ The design section clearly describes any other key features (e.g., exporting a file with a save command) pertinent for your ideal application design **(2 points)**.

- ☐ The implementation section clearly explains the input and output devices that were used for your application prototype **(0.5 points)**.

- ☐ The implementation section clearly explains the virtual environment, its graphical assets and accompanying textures, and its 3D sounds that were implemented for your application prototype **(2 points)**.

- ☐ The implementation section clearly explains what interaction techniques and system control components were implemented and how they are used to interact with your application prototype **(2 points)**.

- ☐ The implementation section clearly explains any animations, simulations, physics, or artificial intelligence models that were implemented for your application prototype **(2 points)**.

- ☐ The implementation section clearly explains any other key features that were implemented for your application prototype **(2 points)**.

- ☐ The conclusions section summarizes how your research addresses a gap in prior knowledge and your work developing a prototype, in 250 words or less **(1 point)**.

- ☐ The references section lists all publications cited within your final report **(1 point)**.

- ☐ Your final report is formatted according to the IEEE Visualization & Graphics Technical Committee guidelines: http://www.cs.sfu.ca/~vis/Tasks/camera.html **(5 points)**.

- ☐ Your final report is original and does not contain plagiarized sentences from other literature **(5 points)**.

- ☐ Your final report is a Microsoft Word or PDF file **(15 points)**.

- ☐ Your final report file is named "Final Report" **(1 point)**.

Prototype Criteria
The maximum deduction for not meeting prototype criteria is 15 points.

- ☐ Your prototype folder is named "Prototype" **(1 point)**.

- ☐ Your prototype folder includes a README.txt file that clearly explains how to build, run, and interact with your prototype **(2 points)**.

- ☐ Your prototype successfully builds and runs without any additional files or instructions from your team **(3 points)**.

- ☐ Your prototype successfully builds and runs before the public demonstration **(15 points)**.

- ☐ Your prototype successfully implements most of your proposed features **(5 points)**.

- ☐ Your prototype respectably resembles your proposed application **(15 points)**.

- ☐ Your prototype does NOT modify the core Syzygy library or files **(10 points)**.

- ☐ Your prototype is written in only C/C++ **(5 points)**.

Final Presentation Criteria
The maximum deduction for not meeting final presentation criteria is 5 points.

- ☐ Your final presentation briefly motivates your research in 1-2 slides/transitions **(0.5 points)**.
- ☐ Your final presentation indicates how your research addresses a gap in prior knowledge in 1-2 slides/transitions **(1 point)**.
- ☐ Your final presentation provides a brief review of your ideal design in 5-10 slides/transitions **(2 points)**.
- ☐ Your final presentation highlights what features were implemented and not implemented within your application prototype in 2-10 slides/transitions **(2 points)**.
- ☐ Your final presentation includes videos, photos, or screenshots of your application prototype **(1 point)**.
- ☐ Your final presentation is a Microsoft Powerpoint, Prezi, or PDF file **(5 points)**.
- ☐ Your final presentation file is named "Presentation" **(1 point)**.
- ☐ Your submitted presentation and in-class presentation are the same **(3 points)**.
- ☐ Each team member presents a portion of your final presentation **(3 points)**.
- ☐ Your team, as a whole, presents your final presentation within 15-20 minutes **(2 points)**.

Team Evaluation Criteria
The maximum deduction for not meeting team evaluation criteria is 5 points.

- ☐ You have personally completed and submitted the Team Evaluation form **(5 points)**.
- ☐ You sufficiently met the expectations of your teammates and/or the instructor **(2 points)**.
- ☐ You met the bare expectations of your teammates and/or the instructor **(3 points)**.

Submission Criteria
The maximum deduction for not meeting submission criteria is 35 points.

- ☐ Your final submission is a .zip file and not a .tar, .gz, .rar, .7z or any other type of compressed file **(3 points)**.

- ☐ You submit your entire assignment through eLearning by the deadline indicated above **(5 points)**.

- ☐ You submit your entire assignment through eLearning no later than two days after the deadline indicated above **(5 points)**.

- ☐ You submit your entire assignment through eLearning no later than five days after the deadline indicated above **(35 points)**.

Public Demonstration Criteria
The maximum deduction for not meeting public demonstration criteria is 5 points.

- ☐ Your team submits a schedule that ensures one member will be present at all times on the day of demonstrations **(5 points)**.

- ☐ You are personally in attendance for the entirety of your scheduled attendance **(5 points)**.

6 Academic Integrity

This is primarily a team assignment, but each individual is required to submit the assignment.