2D Project Proposal

Computer Graphics – CS 4300/5310

Due: January 22nd, 11:59pm

Educational Objectives

- Learn how to write a functional specification document
- Design a project that is interesting to you and that you can be proud of, to better learn from the experience

Proposal Description

For this assignment, you should be working in a group of either two or three. A person working alone, or a group larger than 2-3 students, must receive prior permission from me. A group larger than 3 students must especially justify in the proposal why it is that you need more than 3 people to create your project.

Your 2D project proposal should take the form of a *functional specification* document. A functional specification describes what your proposed software will look like, how it will work, and how a user should interact with it. You do **not** need to go into detail on how you plan to implement certain features; you **do** need to go into detail on what exactly those features will look like. I encourage you to include drawings, sketches, or other mockups of what your project will look like in several phases of its use. The majority of your proposal should be in written, formal English. Any included pictures should be supplementary, and should be referred to in your written text.

Write your document as though someone other than you would be able to implement your vision. For example, if you are making a game, you should be able to answer **at least** the following: What is a potential level layout? How much of the level is visible at one time? How does the player navigate the level? What sort of obstacles will the player encounter? What objects can the player interact with, and how?

Proposal Requirements

Your written project proposal should be approximately **4-6 pages long**; aim for between **1500-3000 words**. This is not a hard requirement: you should use it as a guideline for determining if you have a sufficient amount of detail. If you go significantly over 3000 words or under 1500 words, consider whether or not your project is well-scoped.

Your implemented project will be required to have the following features:

- 2D translations of objects drawn on the screen (rotation, translation, and scaling)
- Picking and object manipulation: you should be able to click on the screen and determine which drawn object has been selected.

However, this is the **minimum** requirement for your project. You should strongly consider implementing at least one moderately advanced feature in your project in order for it to be well-scoped, such as:

- Curves
- Cut and paste
- Snapping to a grid
- 2D particle systems or other special effect
- Objects spawning and being removed
- Collision detection and response

Bear in mind that graduate students are expected to spend more time on this class than undergraduate students, and as such will be expected to have a more complex 2D project.

Your project proposal must also include a "schedule" of work to be done, showing how tasks will be broken down for individuals and how long you expect certain portions of the project to take.

Additional Resources

The following resources provide more detail on what goes into a functional specification:

- Writing a Functional Specification, by Steve Brownlee (http://www.fusioncube.net/index.php/writing-a-functional-specification)
- Painless Functional Specifications, by Joel Spolsky (http://www.joelonsoftware.com/articles/fog0000000036.html)
- "WhatTimeIsIt.com" Sample Functional Specification, by Joel Spolsky (http://www.joelonsoftware.com/articles/WhatTimeIsIt.html)

If you are planning to create a game, you may also find the following resources on creating a game design document useful:

- Creating a Game Design Document, by Brenda Brathwaite (http://bbrathwaite.wordpress.com/2008/11/30/creating-a-game-design-document/)
- The Anatomy of a Design Document, by Tim Ryan (http://www.gamasutra.com/view/feature/3384/the_anatomy_of_a_design_document_.php)

Grading Criteria

75% of your grade will come from the clarity of written text and your adherence to the project requirements.
15% will come from the inclusion of relevant figures, diagrams, mockups, storyboards… whatever you feel necessary to convey your ideas!
5% will come from the inclusion of a schedule that includes a work breakdown and team member responsibilities.

Project proposals will not be graded on how well the project is scoped; scoping feedback will be provided after the project proposal has been turned in.

Submission Instructions

The names of all group members must be included on the project proposal. Please also state whether the student is an undergraduate or graduate student.

Project proposals should be turned in via blackboard; it will be listed as a turnitin assignment. Only one student in a team is required to submit their project proposal. All students will receive the same grade for the project proposal.

You should not email your project proposal. Submission must be done via Blackboard.