RESEARCH INTO THE SIMULATION OF SHOCK WAVES

Christmas Milestone Report

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Purpose

This document will lay out our aims and objectives for the next six weeks of our project. It will lay out which investigations will take place, which documents we plan to create and state our methodology for achieving these targets within the planned time frame.

Previous Milestones Reached

Since the project start date (ADD DATE) to (ADD DATE) where we redirected our project slightly to focus more on the shockwaves aspect rather than building our own physics engine, the majority of our time was spent on learning/implementing basics physics. As we were spending more time trying to figure out the basics of building a physics engine, the documentation took a back seat. This was a result of the project specification changing too often for the documentation to be relevant therefore becoming redundant. The documentation written during this milestone included:

- Product Specification
- Class Diagram
- Use Case Diagram
- Document Template

After carrying out extensive research and experimenting we came to the conclusion that building our own physics engine was just a little too challenging for us as a group so we should focus more on building shockwaves in real time using Unity instead of building our own engine.
To meet our new milestone we decided it would be more efficient to split into two separate groups with one researching and working on the physics side of the project and the other focusing on the GUI with the exact objectives for these laid out in the following document.

Objectives

Prior to the beginning of the 2017 term (16/01/2017), we plan to reach the following objectives, which we have laid out our aims in a more detailed fashion.

1. To have investigated the main 3 different shockwave models
2. To come to a conclusion about which we will use.
3. To have a more detailed GUI
4. To have finished the investigation report on all previous investigations and to have started writing up the wave model investigation report

Methodology

1. Split into sub groups of shockwave modelling, visualisatiion and GUI
2. Spend 2-3 weeks looking into each model with an overlap time spent reflecting on previous model and discussing its success.
3. Create log of what subtasks need to be done for each task. These will be taken by each sub group member and completed in a Scrum like manner.
4. Weekly group feedback meetings and update of documentation.