RESEARCH INTO THE SIMULATION OF SHOCK WAVES

System Requirements

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Section 1: The Purpose

This document will set out the overall system requirements which will be referenced in later documents by their unique identifier codes. Each item will specify a constraint we wish to apply to the system, or establish an aspect within the system to which we aim to implement and adhere to.

Although, these are all important requirements of the system, as the development phase progresses we may have to prioritise some requirements over others in order to meet deliverable deadlines whilst simultaneously keeping quality standards high. Any changes to the requirements, or order of importance will be included in the documentation for each deliverable.

Section 2: General System Requirements

The following requirements will highlight the main functionality of the system; covering capabilities and constraints. These will also act as targets for final deliverables to be compared against, whilst also heavily influencing the way the system will be built.

Identifier Code	Requirement
SR1	To be able to simulate movement of shockwaves in an environment.
SR2	To visualise the movement of shockwaves in real time.
SR3	The shockwave simulation must be realistic.
SR4	The simulation must be as efficient as possible within the technical constraints.
SR5	The user must be able to dynamically adjust the rate of time.
SR6	The user must be able to create their own scene and place the origin of the shockwave.
SR7	The system must simulate the effects of the shockwave on the surrounding environment.
SR8	The simulation must be in 3D.

Section 3: Technical Requirements

The following requirements will highlight the specifics of how the development of the system will take place. These will act as a way to validate the build prior to the final deliverable of the developed system.

Identifier Code	Requirement
TR1	The system must run on Windows as a minimum.
TR2	The system must be written in c#.
TR3	The system must be built using Unity.
TR4	The system will run at the speed of 25 frames per second on a consumer grade Intel CPU.