KV6002 Team Project and Professionalism Project Idea

Group Member Name	Programme
Carl Pendleton	Computer Science with Games Development
Alexandru-Daniel Pascal	Computer Science with Games Development
Andrew Alford	Computer Science with Games Development
Haoming Yuan	Computer Science with Games Development
Alexander Trench	Computer Science

Project idea (one sentence)

Develop a top-down shooter wave-based survival video game using Unreal Engine 4.

Explanation (one paragraph)

This is a group project in which the five group members will each have their own individual subsystem to complete. Once completed, all these subsystems will be combined into the final game. Collectively the group will be developing a top-down shooter video game in which the player has to survive waves of enemy zombies. Many aspects of game development such as level design, UI, and XP & progression will be included in the project. A fully functioning, playable, and bug-free game will be produced by the end of the project. The final product will also be produced by the end of the project. The final product will also be demonstrated after production is finished.

Group Work	- The game must be designed as a group, showing the linking between all elements of the game - The game must be demonstrated on a University machine - The game must be made in Unreal Engine 4 - The game must be playable and bug-free - The game can have sound effects and music - Project Management - Testing of the product - Environment & Level Design
Subsystem 1 (Andrew Alford)	Gameplay Programming a) Must have interaction and control for the player, allowing them to move around the environment. The player will be able to select between a mouse and keyboard or a controller b) Must have incremental waves of enemy zombies spawn, which get tougher to fight as the game progresses

	c) Must track the player's state to determine different in game events. (E.g. open up different sections of the level as the player progresses, end the game when the player dies, etc.) d) Should have dynamic spawning in which enemies spawn nearby the player depending in where they are located in the game world. e) Could have different game modes accessible from the main menu. (E.g. Time-Attack where the player must see how far they can progress in a set amount of time)
Subsystem 2 (Alex Trench)	Weapons & Pick-ups a) Must have an assortment of weapons b) Must have pickups that affect character's attribute and progression c) Must have pickups that change character weapons d) Should have customisable weapons attachment e) Could have unlockable attachments
Subsystem 3 (Carl Pendleton)	Characters & AI a) Enemies must attack and deal damage to player and friendly AI characters b) Friendly AI characters must follow player around environment c) Friendly AI characters must attack and deal damage to enemies d) Player should have the ability to switch control to friendly characters e) Could have multiple enemy types
Subsystem 4 (Alexandru-Daniel Pascal)	HUD & UI a) Must have interactive game menu b) Must have save game feature implemented c) Must have visually dynamic character statistics (health/ammo/etc.) d) Should also have pause/resume game e) Could also have dynamic backgrounds
Subsystem 5 (Haoming Yuan)	Skill Tree & Progression a) Character must be able to level up b) Character must be able to upgrade skills c) Characters must have individual skill tree d) Unlocking one skill should make the next tier of related skills available e) Characters could have a unique skill
Client?	No client for project
Stakeholders?	The target market – the players
Existing systems?	In a "twin-stick" shooter game there are two controls which can be operated independently. One control for player movement and the other for shooting the player's weapon. We are taking inspiration from analysing existing top-down "twin-stick" shooters such as the examples detailed below. Existing systems similar to

each subsystem will also be analysed. This analysis will be elaborated in the project report. Tags for existing systems include:

- Action
- Shooter
- Survival
- Third Person
- Top-Down Shooter
- Twin-Stick Shooter

Call of Duty: Dead-Ops Arcade

Halo: Spartan Strike

Dead Island: Epidemic

Research?	Literature does exist to further support each subsection, such as the journal IEEE transactions on Video Games. Each team member will conduct research into their own subsection. Research will include areas such as making an element of the game fun to play, designing specific elements of the game, as well as implementing those elements.

Project Idea	Date & Time
Student	**Signature**
Andrew Alford	
Alexandru-Daniel Pascal	
Carl Pendleton	
Alex Trench	
Haoming Yuan	