# KV6002 Team Project and Professionalism Project Idea

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| Group Member Name | | Programme |
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| Project Idea: Game | | |
| Develop a Video Game with intelligent AI agent Behaviour | | |
| Explanation (one paragraph) | | |
| This is a Group project and In games industry team work is very useful. You will have to set different tasks for each team member. All of these tasks will lead to a complete game. In this project you have to develop a video game with intelligent AI agent behaviour. It can be either First person shooter or strategy game. The intelligent AI agent behaviour can have different elements such as advanced Path finding, Intelligent strategy mechanism for AI agents, intelligent weapon selection, and Learning mechanism. This type of game will cover most of the up to date mechanisms used in games industry. You will be expected to develop a fully working and playable Video game by the end of this project. | | |
| Group Work | * The game must be demonstrated on University Machine * The game must use Unity game engine * The game must be playable and bug free * It can be single player or multiplayer * If you are creating database for learning then appropriate fields in the underpinning database must be encrypted * Must have proper reasoning behind selection of genre. * Design must show the linking between all the game elements * Game must have multiple levels with progressing goals. * Design can also have storyline. * Blueprints if any generated * Can have sound effects and music. | |
| Subsystem 1 | UI for game:   1. Must have interactive game Menu. 2. Must have all basic elements required for Game. 3. Must have level selection, save game and load game. 4. should also have resume game 5. Could also have dynamic backgrounds. | |
| Subsystem 2 | Path Finding   1. Must have at least one path finding mechanism. 2. Must be able to find multiple paths. 3. Must be able to find paths in different maps. 4. Should be implemented real-time. 5. Could be adaptive pathfinding mechanism. | |
| Subsystem 3 | Flocking or Movements   1. Must have flocking behaviour with collision 2. Must have cohesion. 3. Must have separation 4. Should have more than 10 AI Agents. 5. Could have adaptive flocking behaviours | |
| Subsystem 4 | Learning 1:   1. Must have learning mechanism for paths, 2. Must create a database for holding generated paths 3. Must have testing or predicting mechanism 4. Should also use already existing database. 5. Could implement real-time learning | |
| Subsystem 5 | Learning 2:   1. Must have learning mechanism for learning playing patterns or strategies 2. Must create a database for holding generated patterns or strategies 3. Must have testing or predicting mechanism 4. Should also use already existing database. 5. Could implement real-time learning | |
| Client? | Could discuss within the group or with other students | |
| Stakeholders? | Game studios | |
| Existing systems? | Systems exist that are “similar” to each functional area so could be analysed?  Most of the popular video games have all the elements that you will be implementing. | |
| Research? | Literature does exist to further support each area  Yes, the most popular journal for this will be IEEE transactions on Video Games. | |