Project Proposal Form

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| Name: Percy Dracott | | Class: CO3 |
| Project title (Working title): Making a 2D exploration game with procedurally generated world and online connectivity. | | |
| Outline a description and the aims of your project: | Making a simple 2D exploration game, with a focus on procedurally generating a world, destructible environments, NPCs and enemies, game saving, and an online multiplayer.  Using unity to recreate terraria, an exploration and crafting game. Aiming to utilise level 4 grade techniques in the making of the game, such as use of complex data structures in the saving of the game. | |
| Potential client/ third party/ end-user(s) and who they are e.g., a local business owner, a person interested in board games: | A friend interested in video games and with experience playing through similar games. | |
| What kind of access do you have to your potential end-user? |  | |
| What potential programming skills ([from Table 1](https://www.aqa.org.uk/subjects/computer-science-and-it/as-and-a-level/computer-science-7516-7517/subject-content-a-level/non-exam-assessment-the-computing-practical-project#Example_technical_skills) or skills that are not listed) will it enable you to demonstrate? | The project would use dynamic generation of objects in the making of the procedurally generated world; in addition to server-side scripting in the multiplayer, as well as a complex data model in the saving of worlds. | |
| What data will your system potentially store and access? | The native system will store textures and code, however many aspects of the game including the map will be run of an online server | |
| Have you prototyped part of the project? If so, describe it and the next steps: | I have experimented with making games in unity and have a strong understanding of what goes into making a videogame, such as how to use unity and how code integrates with the program. | |
| Useful links related to the proposed project: |  | |

# Alternative Project Idea (optional but recommended)

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| Name: Percy Dracott | | Class: CO3 |
| Project title (Working title): Exploration into Neutral Networks and Machine Learning | | |
| Outline a description and the aims of your project: | In the project, a neural network will be used and taught to walk a physics simulated entity. Physics objects will be used to make a character with jointed legs. A neural network of varying amounts of artificial neurons will attempt to walk the character along a distance. Each generation will aim to improve the results by copying the most successful entities.  I will proceed to observe and evaluate the effect of increasing the number of artificial neurons on the rate of learning and result over several generations.  I also plan to investigate the efficiency of different learning algorithms to solve the problem. | |
| Potential client/ third party/ end-user(s) and who they are e.g., a local business owner, a person interested in board games: | Undecided | |
| What kind of access do you have to your potential end-user? |  | |
| What potential programming skills ([from Table 1](https://www.aqa.org.uk/subjects/computer-science-and-it/as-and-a-level/computer-science-7516-7517/subject-content-a-level/non-exam-assessment-the-computing-practical-project#Example_technical_skills) or skills that are not listed) will it enable you to demonstrate? | Uses of data structure, iterative processes, and application of code in an external software. | |
| What data will your system potentially store and access? | Information passed to the neural network will be accessed from within the simulation, such as position and rotation data. | |
| Have you prototyped part of the project? If so, describe it and the next steps: | I have a strong understanding of the software I plan to use (Unity) and therefore have been able to make prototypes for the graphical interface and other parts of the application. | |
| Useful links related to the proposed project: |  | |