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| UFCFS4-30-3 Creative Technologies Project Proposal Document | |
| Student Name: | Hector Martin-Davies |
| Student Number: | 16020968 |
| Project Title: | Dynamic Weather system pipeline |

# Description

The project will be a weather system that will produce multiple types of conditions. These conditions will be clear / cloudy, light and heavy rain, light and heavy snow, thunder and lightning. This will be a pipeline that can be implemented into a game for other developers to use. The snow affect will only happen when the temperature is set below -2 when the rain is enabled.

* Produce different types of particles etc. Rain, snow, lightning and fog.
* Have switches to enable or disable conditions.
* Use sliders to control strength of conditions and also temperatures.
* To be produced to direct X and used in Unity.

Write a full introduction to and description of your project. What is it, what will it be, what will it look/feel/sound like? Write a few paragraphs but remember there is a background section next. If you can’t summarise it clearly in a couple of paragraphs then there is probably something wrong with your project.

Then add a bullet point list of your specific **deliverables**.

# Research and background

What is the background to this project? What research have you completed so far? This should be the largest part of the proposal.

# Objectives

Probably 3-4 objectives for each.

### Project objectives

What is your project intending to achieve ?

* To produce a particle system in DirectX 11.
* Intended to use the particle system to make rain and snow.
* Have a pipeline to make it easily controllable, with sliders and switches.

### Research objectives

What do you want/need to find out? What area are you exploring or discovering?

* To find out what problems that can occur when creating a weather system pipeline and trying to avoid these problems.
* Find efficient methods to produce particles with memory leaks not occurring.
* Find out what limitations can impact this project and if there is a way around them.

### Learning Objectives

What do you intend to learn from this project?

* Gather a better understanding of DirectX 11.
* Have a better understanding of C++.
* To create an advanced pipeline that controls multiple conditions.

# Methods, techniques, tools and processes

The project will be created on DirectX11 using the windows library, this will require C++ coding skills to be used, planning the project using a UML. I will be using GitHub as a way of keeping it backed up, allowing me to have the project at any computer with GitHub on it. When using DirectX11 the engine will have to be setup to be able to produce objects on screen. Once the engine is setup the procedure of creating the particles on screen, with the next few steps being creation of a UI and then a pipeline to control the weather system behind the scenes.

How will you go about completing your project? Go into **detail** about the various skills, competencies and processes you have learnt through the course and on placement. Frameworks, libraries, UX processes, HCI methods, design approaches, etc. This question is for you to explain *how* exactly you will tackle the project and *what* exactly you will need to do to complete it.

# Risks and issues

What might go wrong? What dangers or problems do you face? How are you going to avoid or sort out those problems? Please be project-specific; lack of motivation or loss of data could happen to anyone, so won’t count here.

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| --- | --- | --- |
| Risk | Mitigation | Contingency |
|  |  |  |
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# Specialist resources and support required

I will not be requiring any specialist resource and support, other than the supervisor that has been assigned to me and the software and hardware that is on the computers in the Games Technology assigned room at UWE Frenchay.

Are there any special resources or specialist support you will need? We need to know this so we can try and help you sort out any hardware, software, skill or knowledge shortfall. This section can be very short if you feel you don’t need any special support or provision of resources.

# Sources and references

We need to see the UWE Harvard style referencing format. You will want to check <http://iskillzone.uwe.ac.uk/> to help you with this referencing. Books are good because they take you to a depth that most websites won’t. But make sure they are relevant and up to date. Sources from professional environments (forums, git hub folders, blogs, tweets etc) also need to be documented. Definitely include (and read!) one or two guides about doing student final year projects.

Author, A. (2009) *A Book About Student Projects*. Publisher.

Author, B (2008) ‘Journal Article’, *Digital Media Journal*, 13, pp 13-23

University of the West of England (2009) *UWE Library Services:Study skills - The Harvard System* [Online] Available from <http://www.uwe.ac.uk/library/resources/general/iskillzone/referencing/harvardreferencing/> [18 September 2009]

# Monthly project plan

The more detailed the better. Work out all the tasks you think you will need to do and the order. Put an estimate of the amount of time by each. See what this adds up to.

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| October | Final proposal to be submitted by 10/10/2019  ….  ….  …. | x days  x days |
| November |  |  |
| December |  |  |
| January |  |  |
| February |  |  |
| March |  |  |
| April | Hand-in 23/04/2020 |  |



Faculty of Environment & Technology

Faculty Research Ethics Committee (FREC)

**Ethical Review Checklist for Undergraduate and Postgraduate Modules**

*Please provide project details and complete the checklist below.*

**Project Details:**

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| --- | --- |
| **Module name** | **Creative Technologies Project** |
| **Module code** | **UFCFS4-30-3** |
| **Module leader** | Michaela Palmer |
| **Project Supervisor** | **James Huxtable** |
| **Proposed project title** | **Dynamic Weather System Pipeline** |

**Applicant Details:**

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| **Name of Student** | Hector Martin-Davies |
| **Student Number** | 16020968 |
| **Student’s email address** | Hector2.Martin-Davies@live.uwe.ac.uk |

| **CHECKLIST QUESTIONS** | | **Yes/No** | **Explanation** |
| --- | --- | --- | --- |
|  | Does the proposed project involve **human tissue,** **human participants, animals, environmental damage, or the NHS.** | No | *If the answer to this is ‘No’ then no further checks in the list need to be considered.* |
|  | Will participants be clearly asked to give consent to take part in the research and informed about how data collected in the research will be used? | No |  |
|  | If they choose, can a participant withdraw at any time (prior to a point of “no return” in the use of their data)? Are they told this? | No |  |
|  | Are measures in place to provide confidentiality for participants and ensure secure management and disposal of data collected from them? | No |  |
|  | Does the study involve people who are particularly vulnerable or unable to give informed consent (eg, children or people with learning difficulties)? | No |  |
|  | Could your research cause stress, physical or psychological harm to humans or animals, or environmental damage? | No |  |
|  | Could any aspects of the research lead to unethical behaviour by participants or researchers (eg, invasion of privacy, deceit, coercion, fraud, abuse)? | No |  |
|  | Does the research involve the NHS or collection or storage of human tissue (includes anything containing human cells, such as saliva and urine)? | No |  |

Your explanations should indicate briefly for Qs 2-4 how these requirements will be met, and for Qs 5-8 what the pertinent concerns are.

* **Minimal Risk:** If **Q 1 is answered ‘No’**, then no ethics approval is needed.
* **Low Risk:** If **Qs 2-4 are answered ‘Yes’ and** **Qs 5-8 are answered ‘No’**, then no approval is needed from the *Faculty Research Ethics Committee* (FREC). However, your supervisor must approve (a) your information and consent forms (Qs 2 & 3) and (b) your measures for participant confidentiality and secure data management (Q4).
* **High Risk:** If **any of Qs 5-8 are answered ‘Yes’**, then you must submit an application for full ethics approval *before* the project can start.This can take up to 6 weeks. Consult your supervisor about how to apply for full ethics approval.

**Risk Assessment:** Separate guidance on risk assessment can be found on UWE’s Health and Safety forms webpage at <https://go.uwe.ac.uk/RiskAssessment>. If needed, you must complete a Risk Assessment form. This must also be attached to your application for full ethics approval if your project is **High Risk**.

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| **Your supervisor must check your responses above *before* you submit this form.** |
| **Submit this completed form via the *Assignments* area in Blackboard (or elsewhere if so directed by the module leader or your supervisor)***.* |
| After you have uploaded this form, your supervisor will confirm it has been correctly completed by “marking” it as *Passed*/100% via the *My Grades* link on the Blackboard*.* |

Further research ethics guidance is available at <http://www1.uwe.ac.uk/research/researchethics>