Comprehensive Creative Technologies Project: How do different Movement Systems in games work Hand-In-Hand with Level Design?

**Daniel Browne**[daniel2.browne@live.uwe.ac.uk](mailto:daniel2.browne@live.uwe.ac.uk)  
Supervisor: Louca Coles

Department of Computing and Creative Technology

University of the West of England  
Coldharbour Lane  
Bristol BS16 1QY

*Screenshot/ image of the work (600 pixels high x 800 pixels wide .jpg)  
This image may be used for the degree show booklet. For white backgrounds please use 1/2pt black border.*

**Abstract**

The project is an investigation into how movement systems have an impact on the level design, while looking into what designers do to create a successful game feel. The aim for this project was to research different games with a movement focus and develop a movement system and some levels around it to test it in. As a result of this, you should learn how different games have such successful movement systems and see how this was used to develop a successful movement system.

**Keywords**: Movement, Level Design, Methods

**How to access the project** (not included in word count)

Verdana, 9pt. Provide any **project URLs** and/or details of where/how to access your project, and the ***URL of your final video***. If we need access to servers / administration interfaces please provide credentials and URLs. What we cannot access we cannot mark. You can change passwords after you receive your mark.

We also want to be able to see source code (if applicable), and the best way is to download it from your site or a Git server. Please clearly comment code to show us which sections are your own, and which sections stem from demos, examples, frameworks, libraries, OSS, online stores, tutorials or elsewhere.

If there is a particular method for providing access to your project you will need to provide instructions here. Also if there is anything we need to know about the work that will not be self-explanatory, then also provide brief instructions here.

**1. Introduction** ~400 words

The project is an investigation for how movement systems in games are taken into consideration when developing levels in games, from what abilities are made to where different objects are placed to aid the traversal. To do this, the project investigates different popular video games that have “successful” movement systems, from more realistic movement systems like Dying Light 2 Stay Human (Techland, 2022) and Mirror’s Edge (DICE, 2008) to more advanced movement in games like Titanfall (Respawn Entertainment, 2014), to research what process went into them being developed. From this, the aim was to develop a successful movement system and create some levels to test with it, utilising the developed mechanics. This is an important project since if a game is very movement based focused, if the levels are not created to help utilise it, it can negatively affect the player’s experience since they may get bored or frustrated. An example of this could be having a wall running system but no walls to run on in the levels. Something interesting about this project is seeing how players play with the movement system and the routes and mechanics they will use to get through the level. It varies with people who play games regularly using more advanced techniques like “Speed running” the level and trying to find bugs, in comparison to people who have never played video games before testing it and taking much more linear routes and using the mechanics less.

By the end of the project, the aim will be to have a strong understanding of the process that goes into developing a movement system and have a developed a movement system that people find enjoyable to use in levels developed alongside it.

* Research what processes go into developing successful movement systems in games.
* Research what level designers do to work with movement systems.
* Develop an advanced movement system.
* Develop a couple of levels to test the movement system.

**2. Research questions** ~200w

For the project, there were some research questions that were thought of to help focus the research on certain areas that would help with the development of the artefact.

**2.1 How have previous games created successful movement systems?**

This question helps with the development of the artefact as it helped have the

* What did past level designers consider when creating a level?
* What do players enjoy from movement-based games?

**3. Literature review** ~1500w

Introduce your reader (assume they are a peer in your subject area) to the key literature and professional practice relevant for *this* project. This section must contain sufficient references to written and/or practice-based sources to show you have looked around sufficiently and that you can map out what is ‘current best knowledge’ or ‘current best practice’ within the relevant area(s).

If you are new to UWE Bristol Harvard referencing please read the [introduction to referencing](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/introduction.aspx). Click here for [how to refer to (cite) a work in your text](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard/howtociteawork.aspx). Also here for [General advice on how to format quotations in your assignment](https://www1.uwe.ac.uk/students/studysupport/studyskills/readingandwriting/writing/formattingyourwork.aspx) (includes when to use quotation marks). Follow guidance here on how to reference the following: [books](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard.aspx#books), [journal articles](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard.aspx#journalarticles), [films](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard.aspx#films), [television programmes](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard.aspx#television), [images and illustrations](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard.aspx#imagesandillustrations), [official publications](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard.aspx#officialpublications), [web pages](https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard.aspx#webpages).

**4. Research methods and Ethics** ~500w

Briefly tell the reader which research methods you will use to answer the research questions. Use the correct terminology when identifying research methods and give a brief rationale of why these methods were chosen (and not others). Try to convince the reader that the choices of method were appropriate for this project, and that it looked like they could provide the necessary answers.

If qualitative or user research was conducted, or research involving human participants, introduce the purpose of this, briefly describe the participants, sample size, process applied, response rate (if applicable), data analysis method and evaluation method.

Your reader also needs to know that all research methods were applied ethically and professionally at all project stages, meaning research and practice.

What you may need to mention in this section (depending on each project) is data collection, data storage, data disposal, gaining informed participant consent, respecting privacy, not causing harm either directly or indirectly through your project work, as well as how you were working to professional guidelines and standards. Non-disclosure agreements, intellectual property rights or copyright issues also need to be dealt with here.

Write a summary of the most important findings of the research phase and explain how exactly each of these findings will influence the follow-on stages of the project.

**5. Practice** ~2500 words

Now we have arrived at the practice section, the biggest part of this report. Here you guide the reader through the practical implementation stages of your project.

Do not describe every detail. Instead, try to put together an insightful and focused discussion by selecting the project-critical topics or stages. Tell the reader what these are and why they were so critical. Then lead the reader through. Make it clear to your reader when one topic / stage is done and the next one starts so they don’t get lost.

Demonstrate project management skills, for example: iterative development is often key when it comes to practice. How was this considered in the planning of the practice stages? How did the project deal with unforeseen user/ peer/ tutor feedback?

Demonstrate problem-solving skills: what problems did you encounter. How were they addressed or how was every method exhausted to arrive at the best possible solution? Use a few specific examples. Problems worthy of discussion could be conceptual, technical, practical, even legal (think copyright) or ethical (think user studies).

To help you make your points in this section convincingly, please insert quotes, graphs, screenshots, diagrams, tables (see Table 1), short code snippets etc. if useful and important.

| **Table example** | **1** | **2** | **3** |
| --- | --- | --- | --- |
| User 0 | 22.52 | 12.16 | 10.75 |
| User 1 | 22.72 | 12.26 | 10.60 |
| User 2 | 0.009 | 0.008 | 0.014 |

**Table 1:** Captionbelow the table, Verdana 8pt.

<p>   
For short code examples please use Courier Regular, 9pt. <br /> Put larger code examples into an appendix. Highlight code sections in colour if necessary.

</p>

Please note, all materials (figures, tables, etc.) need to be discussed in the main text, like this example picture of a hen (see Fig 1).

**Fig 1:** Captionbelow the image in Verdana 8pt. For white background images use a 1/2pt border in black.



**6. Discussion of outcomes** ~1500

Now that the reader knows about key practice points, outcomes or results. Take a step back and reflect: what significance does this completed project have for its wider context? What could others draw from it? What problem does it improve on? (you may need some references here to situate the project convincingly within the context of previous work or artifacts). Critically analyse what has been achieved and if necessary, suggest alternative approaches.

Look back and close the loop: how and to what extent does the project respond to the research questions? In hindsight, were the methods and processes you chose the right ones? You want to underline the achievements of the project, but at the same time not hide any obvious omissions or shortcomings. Honesty about obvious flaws demonstrates awareness and insight.

Is there anything that would make this project *original* in a professional sense; e.g. have you discovered a new method as you went along? Or a new conceptual model that might help others understand a process better? Perhaps you’ve developed a more efficient workflow for research or practice? Streamlined some processes? Combined some tools or methods or contexts in new and efficient ways? Perhaps you have arrived at an artistic or expressive practice outcome? Improved on a service design by removing an obstacle in the experience flow?

**7. Conclusion and recommendations** ~400

This section should draw conclusions from completed research and practical work.

Make some recommendations here for next steps or further work. Imagine another student or professional picks up the project from where you left it. What would you recommend them to do?

Also think about the impact that could be achieved in the wider field. What could be the longer-term future of this project beyond UWE? A conference? An academic journal? An audiovisual festival? A creative competition?

How might this project benefit other users, professionals, society? Does the project have any commercial potential for example? Could it become a sellable product? Or should the code become a creative commons resource?

Find a useful sentence to end this report with. It is always beneficial to end on a positive.

**8. References**

Techland (2022) Dying Light 2 Stay Human: Reloaded Edition [Video game] Techland Available from: https://store.steampowered.com/app/534380/Dying\_Light\_2\_Stay\_Human\_Reloaded\_Edition/ [Accessed 14 March 2024]

DICE (2008) Mirror’s Edge [Video game] Electronic Arts. Available from: <https://store.steampowered.com/app/17410/Mirrors_Edge/> [Accessed 14 March 2024]

Respawn Entertainment (2014) Titanfall [Video game] Electronic Arts. Available from: <https://store.steampowered.com/app/1454890/Titanfall/> [Accessed 14 March 2024]

**9. Bibliography** (=not included in word count – these are any further items you have read around this topic; in alphabetical order)  
Author, A. (2009) *A Book About Student Projects*. Location Publisher.

Author, B (2008) ‘Journal Article’, *Digital Media Journal*, Vol 1/13, pp 13-23

University of the West of England (2009) *UWE Library Services:Study skills - The Harvard System* [Online] Available from <https://www1.uwe.ac.uk/students/studysupport/studyskills/referencing/uwebristolharvard.aspx>

[last access: 23 September 2009]

**Appendix A: Project Log** (not included in word count)

**Appendix B: Project Timeline** (not included in word count)

**Appendix C: Assets used in the Project** (not included in word count)

This is a list of project assets: all source materials used in the project. Clearly state which were produced by yourself and which were not. If not produced by yourself, include their reference, and status with regard to copyright/ creative commons licensing.

**Further Appendixes D, E … if applicable**\*(not included in word count)  
What could go here?

* Ethics: participant info sheets, consent form, interview questions, anonymized matrices, other anonymized summaries or analyses
* Any important design documents too large to insert in the main text
* Any important code sections not already on GitHub
* Any impotant large tables or diagrams
* Other relevant materials

\*only insert meaningful materials here, please don’t just bulk this report up. Your main text should be able to stand on its own, without relying on information contained in appendixes. Check with your supervisor beforehand.