

The Impact of AI in Animation and Game Art Education: Implementing AI into art practice as a tool

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Researchers based at Arts University Plymouth, exploring the evolving role of Artificial Intelligence in creative education. Our work focuses on its impact within game art pedagogy, creative practice, and ethical considerations, with particular attention to Generation Z students on the BA (Hons) Animation and Games programme. Using a mixed-methods approach combining case studies, surveys, and interviews, we examine how AI is reshaping artistic workflows and ideation, while also addressing concerns around authorship, originality, and responsible use. Our findings support a balanced and critically informed integration of AI within higher education frameworks.



The Impact of AI in Animation and Game Art Education

Implementing AI into art practice as a tool

By: Luke West & Martial Bugliolo



Introduction

Luke West: Lecturer on the BA (Hons) Animation & Games at Arts University Plymouth. specialising in game art, QA testing, and 3D modelling, with expertise in immersive technologies that enrich the creation of interactive experiences. Passionate about advancing art and technology in education, fostering innovation, and mentoring future game industry professionals.

Martial Bugliolo: Senior Lecturer and Course Leader for BA (Hons) Animation & Games at Arts University Plymouth. He focuses on integrating new technologies like AR and VR into the curriculum. An active researcher and speaker at international conferences, Martial also contributes to the Studio Lab for Embodied Media, promoting sustainable tech integration.

Research Aims:

This research develops methods and workshops to integrate AI into art education, focusing on the ideation and iteration stages. It explores AI's potential benefits, challenges, and ethical concerns, preparing future designers to navigate and utilise this evolving technology effectively.



Objective 01

To use and implement AI within the artists design workflow as a tool and not a replacement.



Objective 02

To create practice based workshops for art education on AI tools that are accessible.



Objective 03

Market research and data collection on student using AI. Benefits and limitations of using AI within the design process and workflow.



Objective 04

Present and reflect the student data on benefits and limitations of using AI within the design process and workflow.

Curriculum Implimentation:

As Course Leader for BA (Hons) Animation and Games, I have led the integration of AI and immersive technologies into the curriculum to prepare students for the future of creative industries. By embedding AI within pedagogical practice, fostering cross-disciplinary dialogue, and collaborating with academic and Industry partners, we have cultivated a forward-thinking learning environment that embraces innovation, addresses ethical considerations, and equips students with the critical and technical competencies required in an evolving digital landscape.

Integrated AI as a creative tool Embedded

AI technologies within the curriculum to enhance, rather than replace, traditional artistic workflows, encouraging students to view AI as a supportive component of their creative process.

Delivered accessible, practice-based workshops

Developed and facilitated hands-on workshops focused on accessible AI tools, ensuring students across skill levels could engage with emerging technologies in meaningful ways.

Conducted student-centred research

Collected qualitative and quantitative data from students using AI, analysing their feedback to assess both the perceived benefits and challenges of integrating AI in creative workflows.

Presented outcomes and critical reflections

Shared findings through presentations and reflective discussions, creating space for informed debate around AI's role in design and supporting the evolution of student perspectives.

Overview of AI in Animation and Games

AI-Generated Art:

AI-generated art refers to the creation of visual art using algorithms and machine learning models to create visual imagery outputs.

- Example: Rick and Morty Creator's Game: High on Life (Tassi, 2022).

3D Procedural Generation, Terrain and Environment Creation:

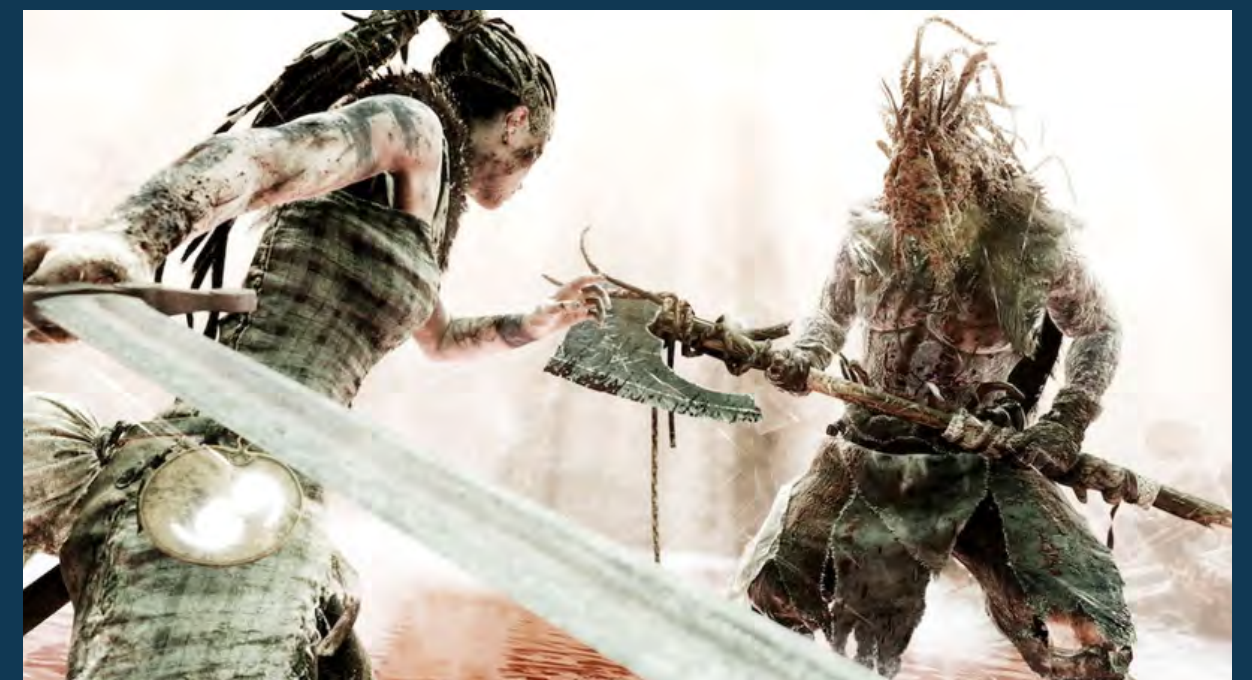
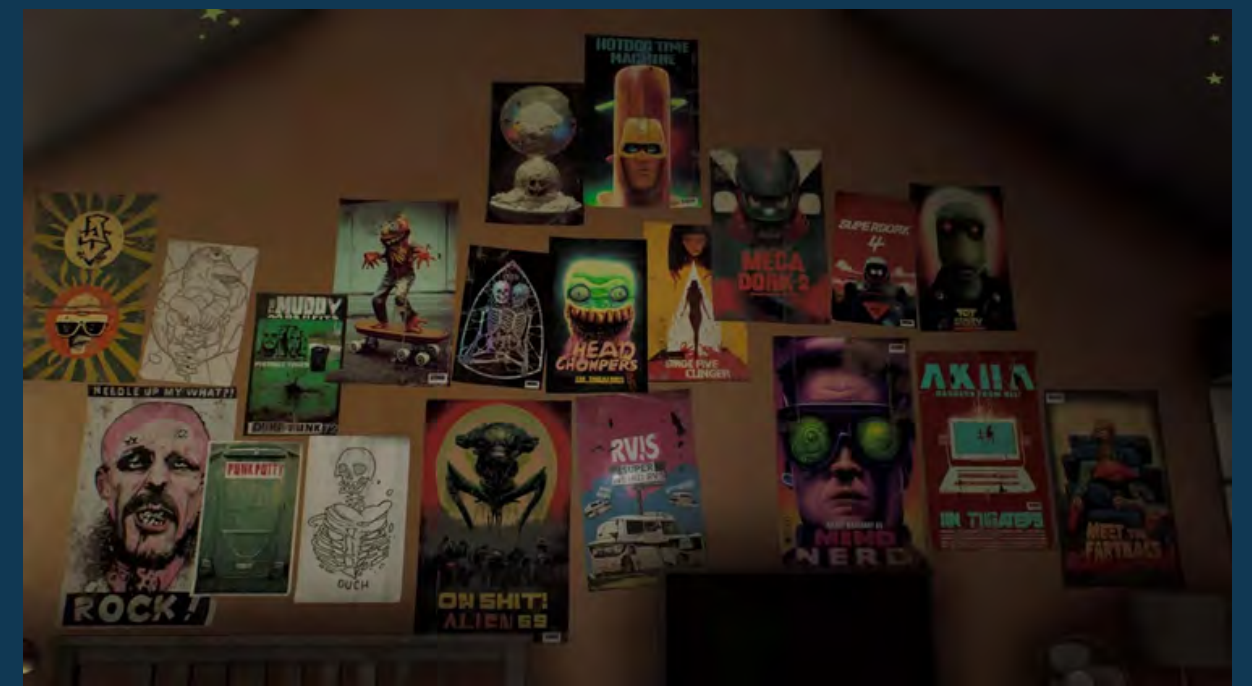
AI and algorithms generate vast and complex game worlds, including landscapes, cities, and dungeons, enhancing realism and variety without extensive manual input.

- Example: No Man's Sky uses procedural generation to create its massive universe with diverse planets and ecosystems (Ikeda, 2023).

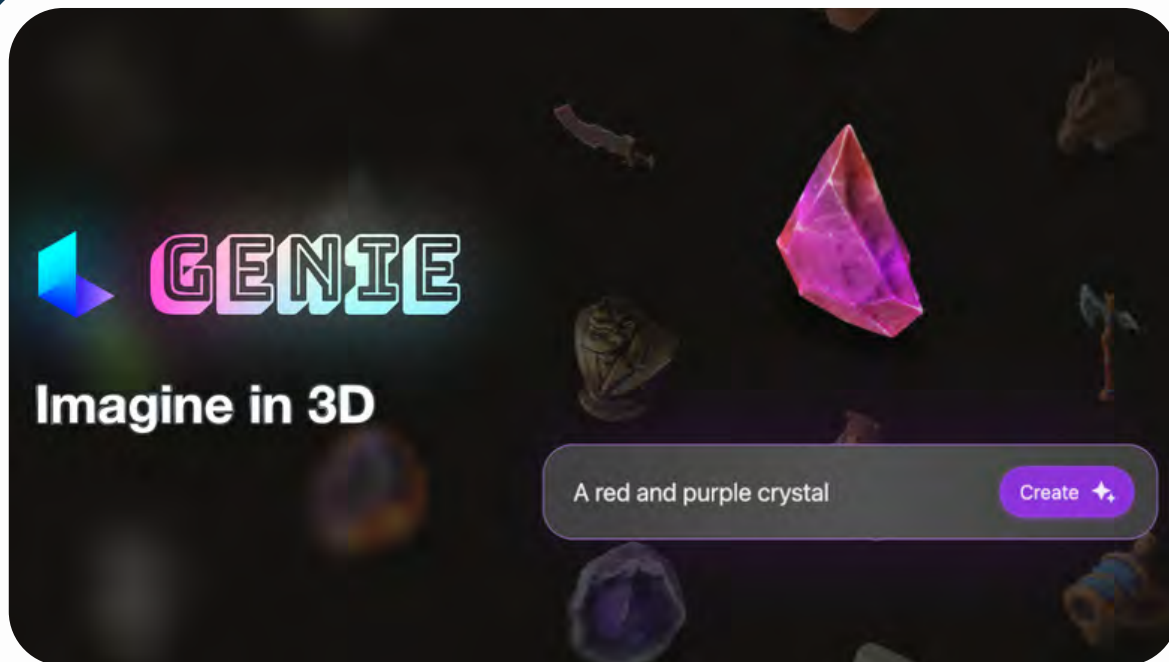
Motion Capture and Character Animation:

AI enhances motion capture by refining the captured data, creating more fluid and natural movements for characters.

- Example: Hellblade: Senua's Sacrifice employs AI to improve the quality of its motion-captured animations (Goodall, 2019).
- Example: Cyberpunk 2077 uses AI for lifelike character animations and facial expressions.



AI Tools for 3D Art



Luma AI Genie

Luma AI Genie is a cutting-edge AI tool for creating high-quality, photorealistic 3D models from images or videos.



Sloyd AI

Sloyd AI is a tool that creates 3D models using artificial intelligence, automating and enhancing the modeling process for designers.



Move AI

Move AI is a technology that captures human movement for animation and gaming using artificial intelligence and machine learning.

AI Tools for 2D Art



Stable Diffusion

Stable Diffusion is a text-to-image model that generates high-quality images from textual descriptions using advanced AI techniques.



Image 2 Go

Image 2 Go AI is a tool for generating images based on text descriptions, enhancing creative and educational projects.



Adobe Photoshop AI

Adobe Photoshop AI leverages artificial intelligence to enhance photo editing, offering automated tools for retouching, selection, and creative effects.

Approaches:

AI has been increasingly integrated into creative education, serving as a powerful tool that enhances the ideation process, provides inspiration, and facilitates iterative development. Here are the main ways AI, particularly generative AI, has been implemented in creative education within Animation and Games at Arts University Plymouth as a potential tool:

1. Idea Generation and Brainstorming

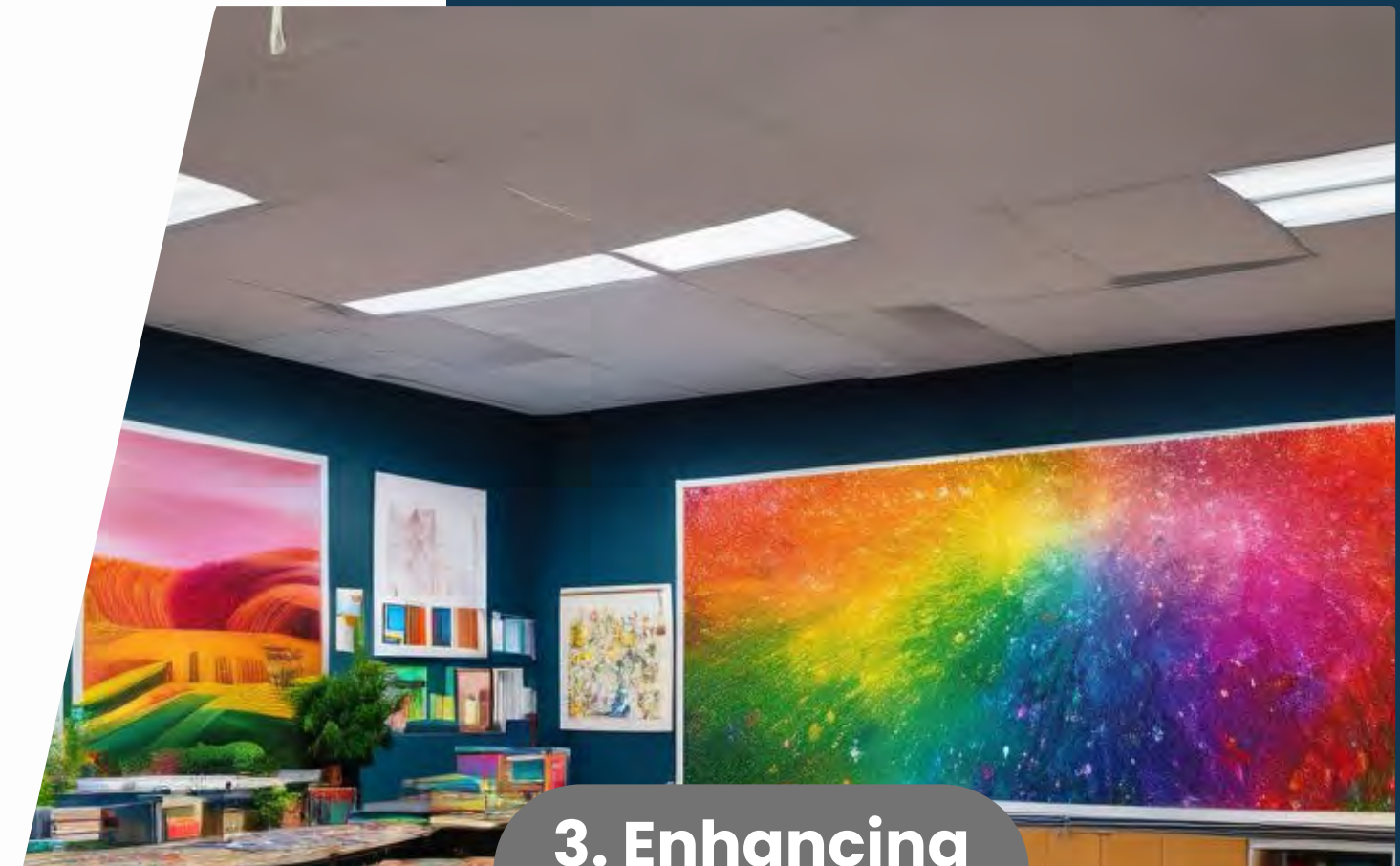
- Automated Curation: Generative AI can gather images, color schemes, textures, and other visual elements from various sources to create mood boards that align with a given theme or concept.
- Style Transfer: AI can apply the style of famous artists or specific art movements to images, providing unique inspirations that can spark new ideas.
- Trend Analysis: By analyzing current trends across different creative domains, AI can suggest relevant themes and concepts for inspiration boards.

2. Iterative Design and Development

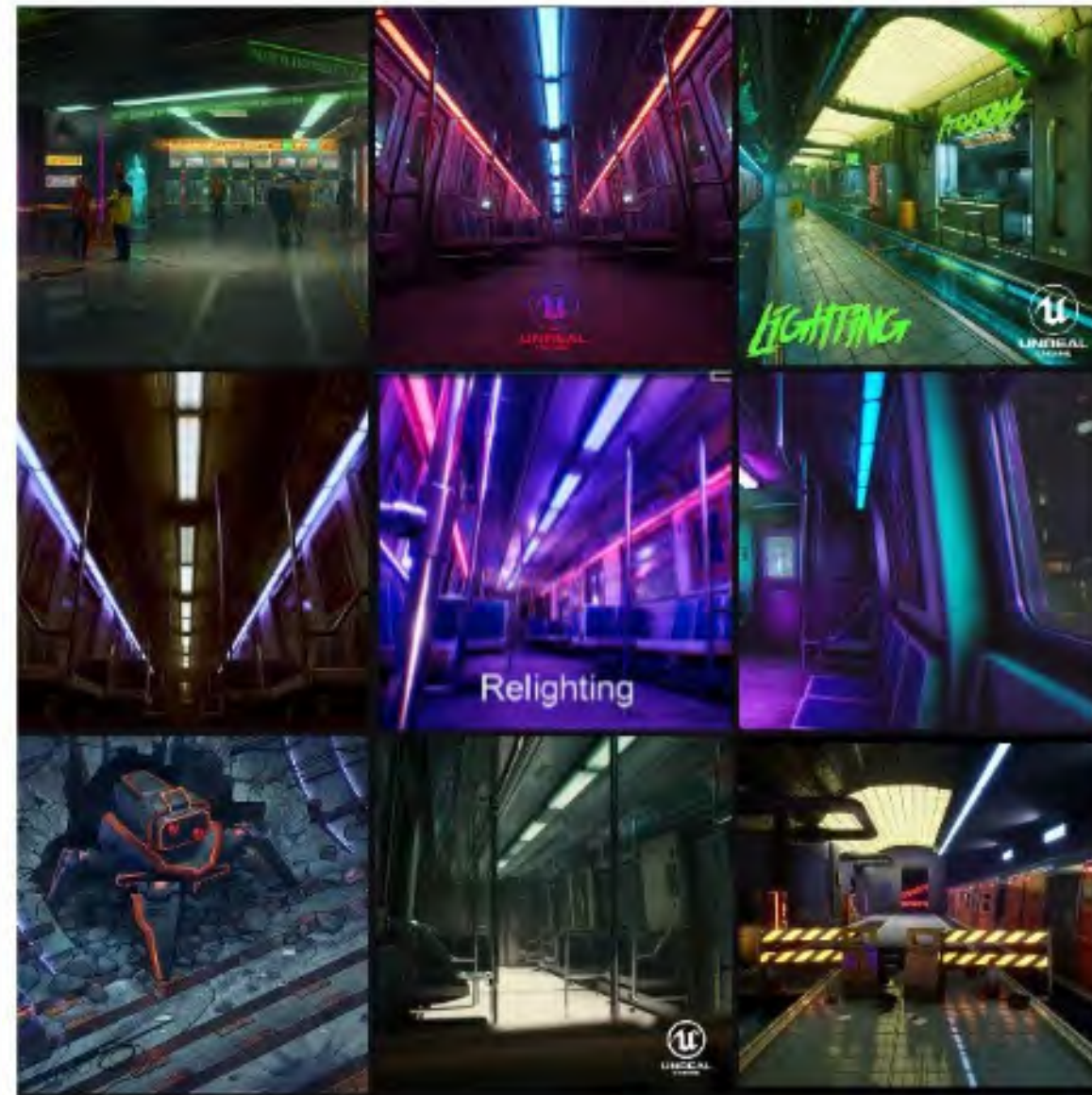
- Multiple Iterations: Generative AI can produce numerous variations of an initial design, allowing students to explore a wide range of possibilities and identify the most promising directions.
- Style Exploration: AI can generate different styles and variations of an idea, helping students see their concepts from various artistic perspectives.
- Rapid Prototyping: AI-driven tools can quickly create prototypes of designs, enabling fast experimentation and iteration.

3. Enhancing Visual Creativity

- AI-Assisted Drawing and Painting: Tools like AI-powered drawing assistants can help students by providing suggestions for shapes, lines, and colors, or even by completing parts of their artwork.
- 3D Modeling: AI can assist in generating 3D models from sketches or 2D designs, allowing students to visualize their ideas in three dimensions.



Originality and Inspiration, Human and AI



Human made artwork and inspiration board
(Artstation, 2014).



AI made artwork and inspiration board
Night Cafe, (2019).

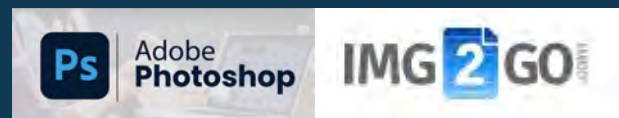
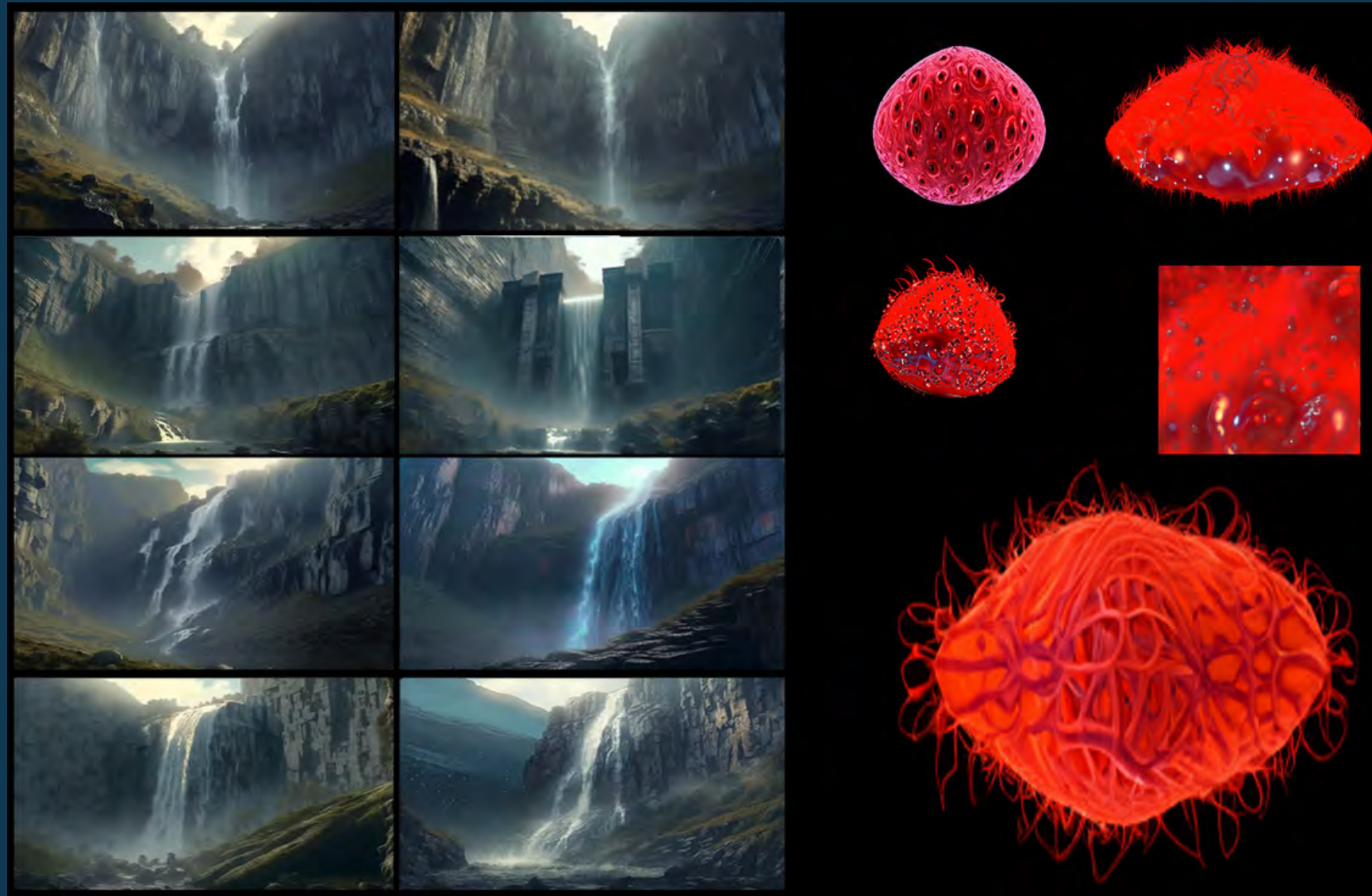
Implementation, AI as Idea Generation



NightCafe



Implementation, AI as Idea Generation



AI and Iteration of Concepts



(Neil Blevins, 2022)

BBC CAPTURES STUDENTS' EMBRACE OF AI IN CREATIVE PRACTICE

Friday, 16 February, 2024 — BBC journalists visited the Arts University Plymouth campus to learn more about the impact of generative AI and its effect on the creative industries.

<https://www.aup.ac.uk/posts/bbc-captures-students-embrace-of-ai-in-creative-practice>



Joseff Jones, 2024. Image generated in Stable Diffusion.



Sam Hart, 2024. Original image generated in GenCraft; artist enhanced in Sketchbook Pro.

AI and the Horizon of Creative Practice

Students came together to lead 'AI and the Horizon of Creative Practice', a student symposium introducing the history of generative AI and giving students the opportunity to talk about their own experiences and research into the ethical implications and opportunities of these emerging technologies.

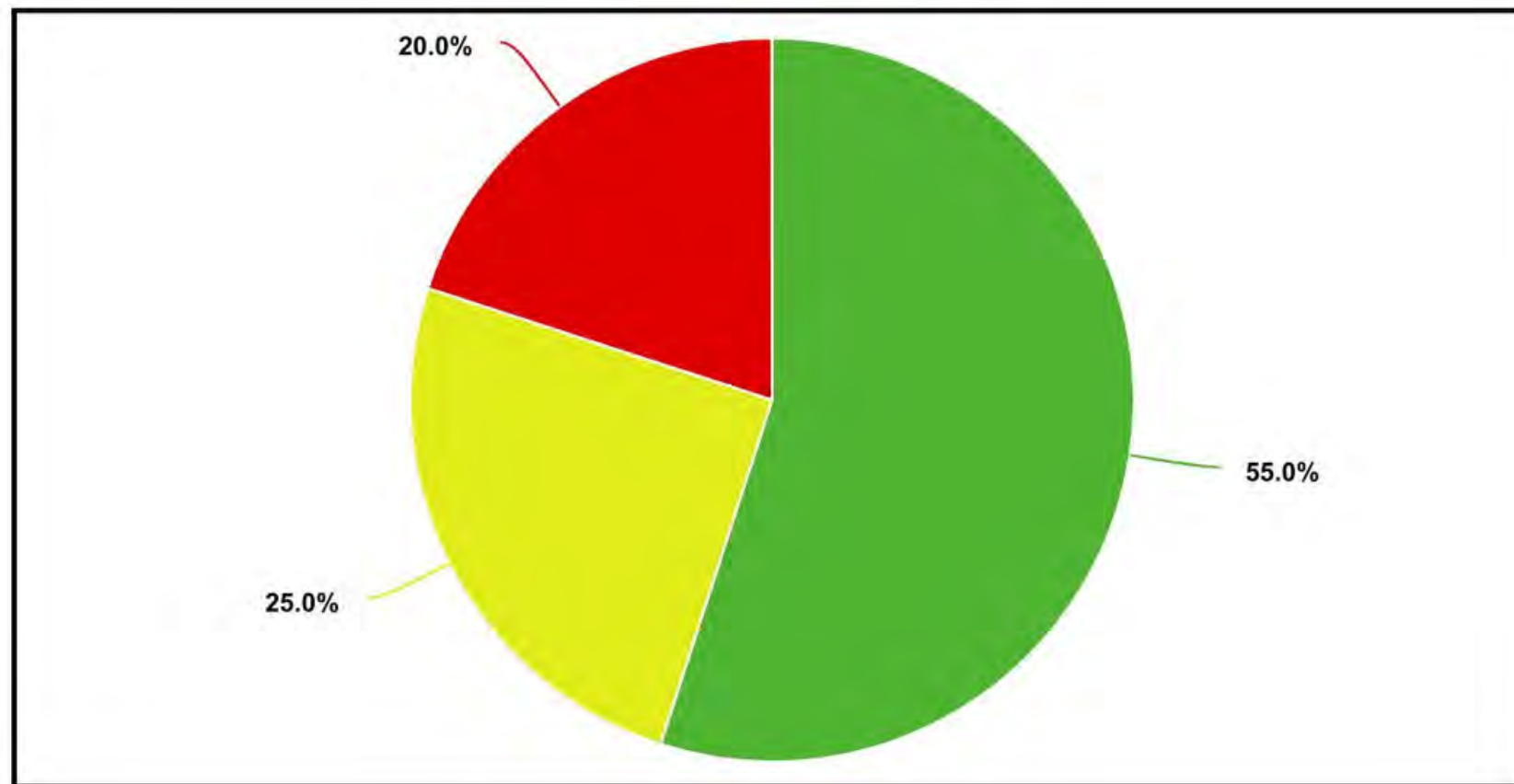


'AI and the Horizon of Creative Practice' student symposium

Statistics

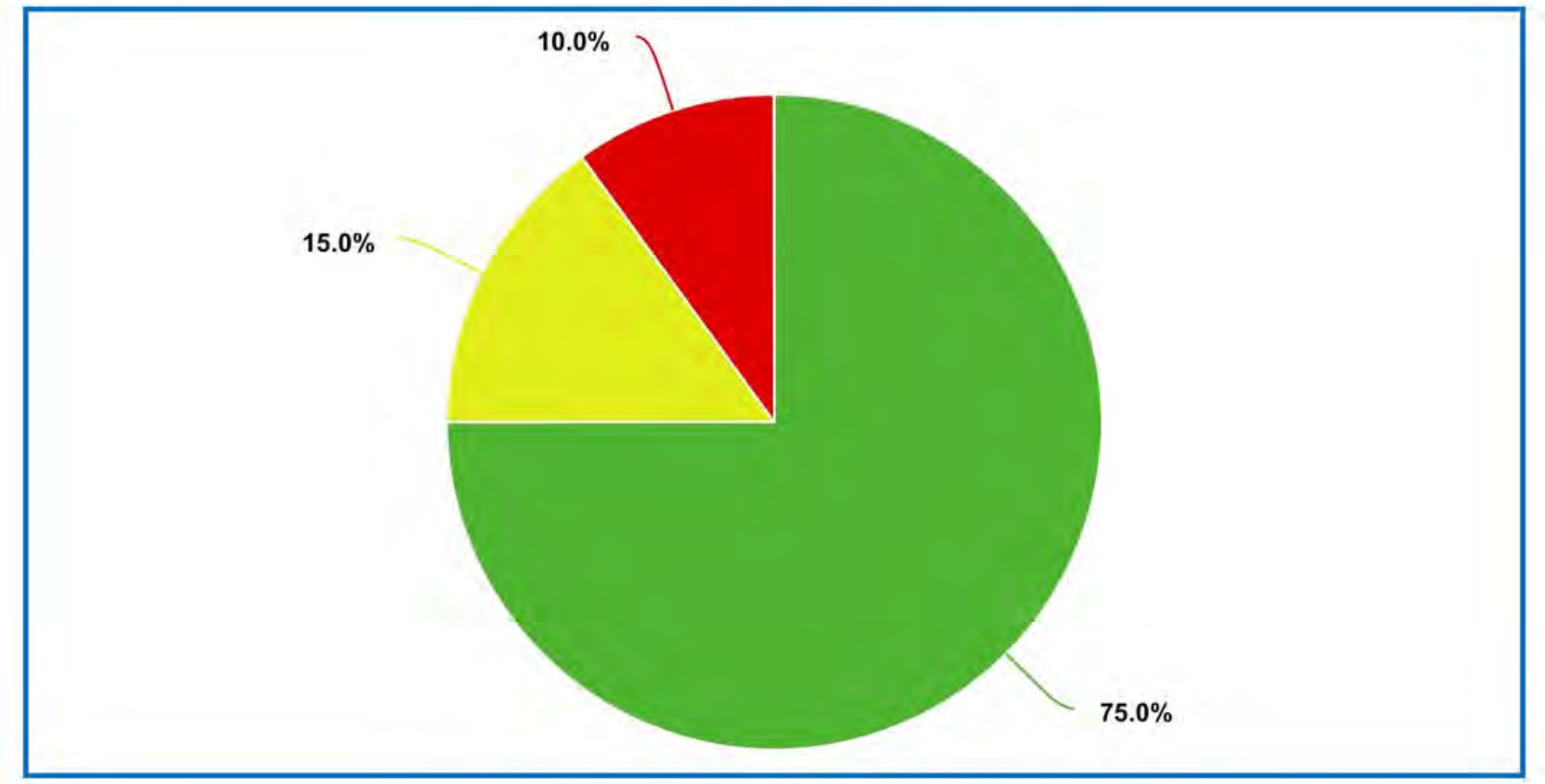
AUP Student Data/Response on AI
Implemented In Design Workflow (2023).

Generative AI Implimented In Idea Generation
Animation and Games Student Response



Positive Unsure Negative

Generative AI Implemented as a Iteration Tool
Animation and Games Student Response



Positive Unsure Negative

Benefits and Challenges of AI in Education

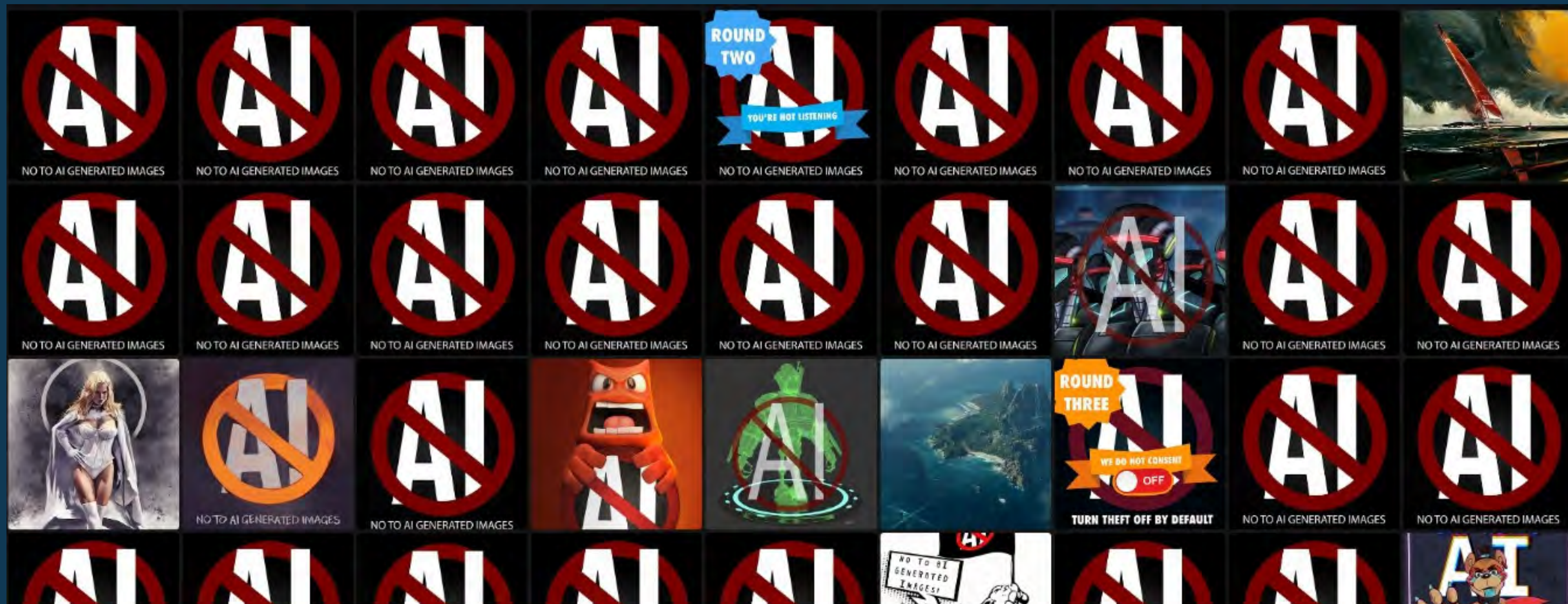
The Current Ethical Downsides of Using AI Art Generators:

- **Copyright violation is the biggest problem alongside the ongoing debate on whether AI-generated images are real art at all.**
- **Most AI generators learn from artists images online without artists' permission.**
- **AI generators don't compensate or give credit to artists.**
- **Data/cloud storage and usage for AI (carbon footprint).**
- **Scale and downsize of Studios and creative jobs due to AI replacing and making workflows/processes faster and or more efficient.**

The Current Pros of Using AI Art Generators:

- **Innovation: AI art generation can help artists innovate by providing new tools and techniques for artistic expression.**
- **Efficiency: AI art generation can create large amounts of art within a short period. This can save time.**
- **Accessibility: AI art generation makes art creation easier and more accessible to everyone. People with no artistic abilities can use AI art tools to create visually appealing pieces.**

(Avey, 2023)



**Social media *Artstation* “Say no to AI” movement
2022.**

AI: A Transformative Force

Beyond a tool - AI is fundamentally reshaping Creative industries, roles, and educational requirements



Creative Industry Transformation

- Fundamentally restructuring companies
- Creating new roles & eliminating others
- Shifting skill requirements at "seismic" pace
- 70% of necessary skills predicted to change by 2030



Educational Imperative

- Universities must adapt quickly & profoundly
- Especially critical for creative fields
- Animation & Games education facing direct impact
- Requires fundamental pedagogical rethinking

AI Literacy & New Skill Requirements

Beyond basic tool usage—developing sophisticated collaboration with AI systems



AI Literacy

- **Top skill for 2025**—understanding AI capabilities & limits
- Effective collaboration with AI systems
- Clear instructions & prompting techniques
- Critical evaluation of AI outputs

Prompting

Output Evaluation

Task Delegation

AI Collaboration



Pedagogical Shifts

- **Beyond software mastery**—orchestrating hybrid workflows
- Curriculum integration across disciplines
- Practical AI integration in creative processes
- New evaluation methods for AI-enhanced work

Hybrid Workflows

AI Integration

Process Design

Curriculum Reform

Reinforcing Human Skills in Creative Fields

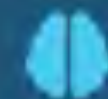
While AI transforms the creative landscape, human skills remain essential and become even more valuable in Animation & Games education



Creative Foundation Skills

-  Design Thinking — conceptualisation beyond AI patterns
-  **Storytelling** — authentic narrative creation & emotional resonance
-  **Aesthetic Sense** — visual culture & artistic judgment

AI can generate based on patterns, but humans create with intention, meaning & cultural context



Critical Human Abilities

-  **Critical Thinking** — evaluating AI outputs & making artistic choices
-  **Ethical Judgment** — responsible AI use & understanding biases
-  **Collaborative Direction** — orchestrating human-AI creative teams

Animation & Games programmes must strengthen these uniquely human foundations to prepare effective AI collaborators

Preparing Students for New Hybrid Roles

Educational institutions must equip students for emerging responsibilities in AI-human collaboration, emphasising strategic management of AI agents

The Agent Manager Role

-  **Strategic Delegation** — designing tasks for AI agents rather than performing them directly
-  **System Orchestration** — coordinating multiple AI tools in complex workflows
-  **Digital Team Management** — supervising AI "employees" alongside human collaborators

Each graduate potentially becomes a chef-agent who conceives, designs, and pilots AI systems to multiply their creative impact

- 70% of skills predicted to change by 2030
- "Almost seismic" shift in role requirements

Educational Response

-  **Workflow Integration** — embedding AI tools throughout creative processes
-  **New Evaluation Methods** — assessing AI direction & supervision capabilities
-  **Risk Management** — avoiding "skill inversion" where beginners lack foundations
-  **Well-being Protection** — preventing AI-induced creative burnout
-  **Style Cultivation** — maintaining distinctive creative voices amid AI homogenisation

Animation & Games programmes must urgently integrate strategic AI collaboration without sacrificing the human creative essence

Conclusion:

AI in art education offers transformative benefits, including personalised learning, access to diverse artistic techniques, and enhanced creativity. However, challenges such as ethical concerns, the risk of devaluing human creativity, and the need for technological literacy remain. The rapid evolution of AI in this field is inevitable, necessitating ongoing human input, adaptation, and discourse. AI and AI-generated art will always rely on human oversight to ensure they complement rather than replace traditional artistic practices, fostering a collaborative future that enriches both education and artistic expression.

“Collaborate and Share Best Practices: To truly harness the potential of AI in education, it is essential for teachers to connect with other educators who are also embracing AI in their classrooms” (Culican, 2023).



THANK YOU!

Questions



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