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AI-Mediated Multimedia
Transforming Content Creation
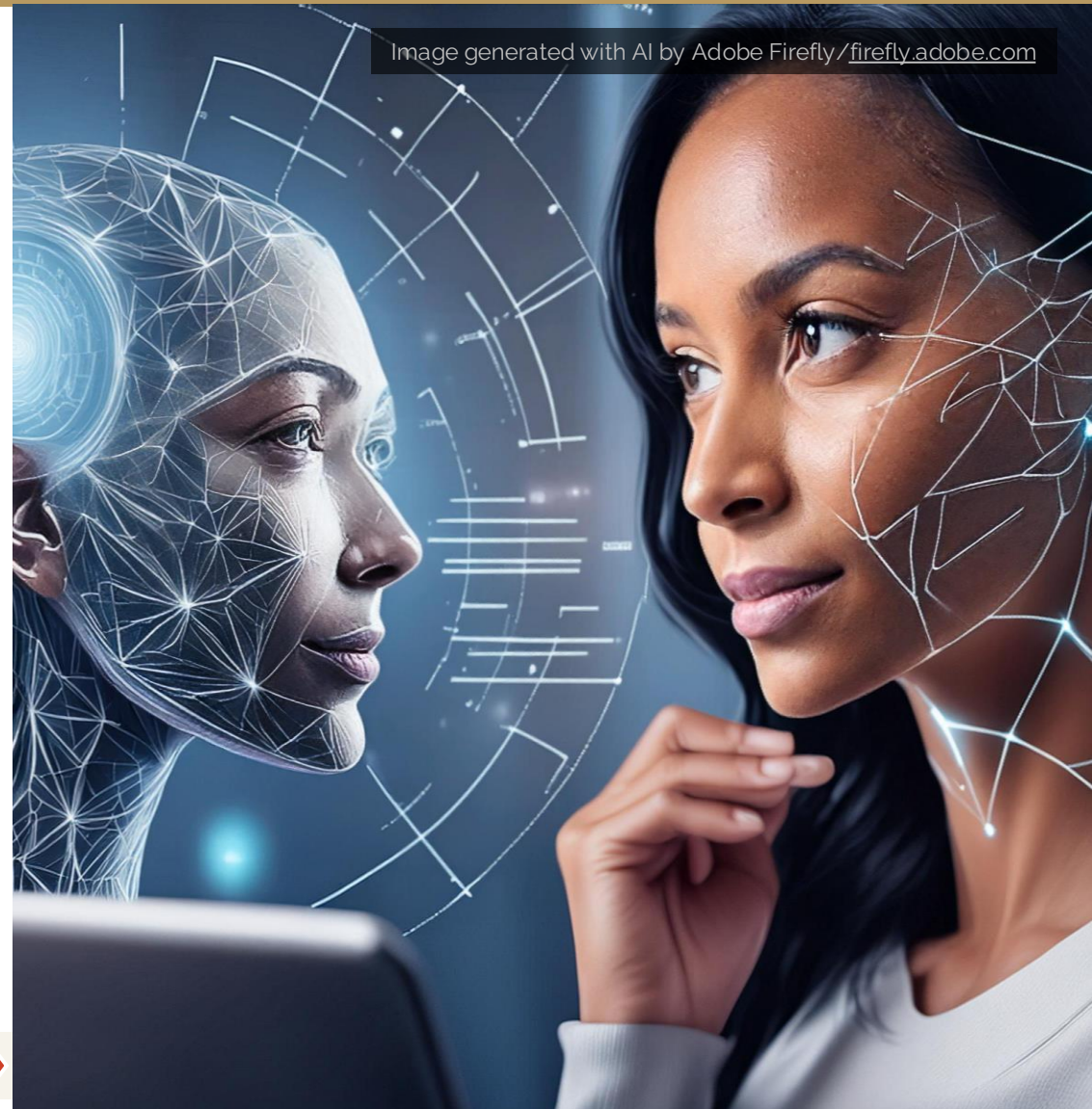
INTRODUCTION

Overview of AI in Multimedia

AI-mediated multimedia refers to the use of artificial intelligence (AI) to create, enhance, and optimise various forms of media, such as images, videos, and audio. This technology has rapidly evolved, significantly influencing content creation, for example, creating high-quality images from simple text descriptions which allows for rapid content creation.

Purpose of the Document

This document **provides guidance on using Generative Artificial Intelligence (GenAI) tools and applications to enhance educational content creation**. It aims to help you understand and effectively apply GenAI tools to enrich both synchronous and asynchronous teaching materials, making your lectures more engaging for students. While the **primary focus is on AI text-to-image generation**, it also includes recommendations for websites offering audio and video generation, though these are not covered in detail.

Access to **GenAI tools and applications is often free, but the free versions may have restrictions on downloads and usage**. The tools and apps are for each individual user's testing and evaluation.

"A person engaged in an imaginative conversation with a chatbot, featuring a digital overlay." »

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INTRODUCTION

Disclaimer: AI Image Generation

Please note that **generating images using AI can be a time-consuming process**. The complexity of the image request, the AI model's capacity, and the desired level of detail can all significantly influence the generation time. If you require images quickly, we recommend exploring stock image websites, which offer a vast library of pre-generated images that can be accessed immediately.

Stock Image Websites

Here are a few reputable websites offering copyright-free images:

> **Pixabay**: Known for its extensive collection of high-quality images, videos, and music.

> **Pexels**: Offers carefully chosen selection of free stock photos, ideal for diverse projects.

> **Unsplash**: Provides beautiful, high-resolution images and illustrations.

> **Freepik**: Offers a wide range of free stock photos, vectors, and illustrations.

"African looking chatbot, side view, medium close-up."

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CONTENTS

"A person sitting on a chair with a tablet, surrounded by icons."

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1. Considerations for Creating AI-Mediated Multimedia

"An open book with letters flying out of it."   "A computer with a robot in the centre."   "A robot speaking into a microphone surrounded by people."

1.1. The Evolving Landscape of Education

GenAI is fundamentally transforming how educational content is created, tailored, and delivered. By automating repetitive tasks and offering new ways to engage students, AI-mediated tools allow educators to focus more on the quality and interactivity of their teaching materials.

1.2. Benefits of AI-Mediated Multimedia

GenAI introduces efficiency by automating content creation and fosters innovation through dynamic and creative content formats. These advancements not only enhance learning experiences but can potentially save lecturers' time.

1.3. Challenges and Ethical Considerations

GenAI offers significant benefits, but it also **raises concerns about copyright and intellectual property, data privacy and security, potential biases**, and an over-reliance on automated tools. Educators should use GenAI responsibly, ensuring its use aligns with educational values and ethical standards. We will return to this topic later under nr 6. Rules and Guidelines on AI-Generated Images.

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Image generated with AI by Adobe Firefly / firefly.adobe.com

2. How to Create AI-Mediated Multimedia

2.1. Understanding and Identifying Appropriate GenAI Tools

A **variety of GenAI tools are available to assist in multimedia creation**, including text-to-image generators, video generation platforms, and audio synthesis software.

2.2. Conceptualisation

Begin by **defining your content goals** and selecting appropriate GenAI tools. Ensure that you are aware of the affordances of the tools that you are considering.

"Students working on laptops in a contemporary environment, captured from a side view with a depth of field effect."
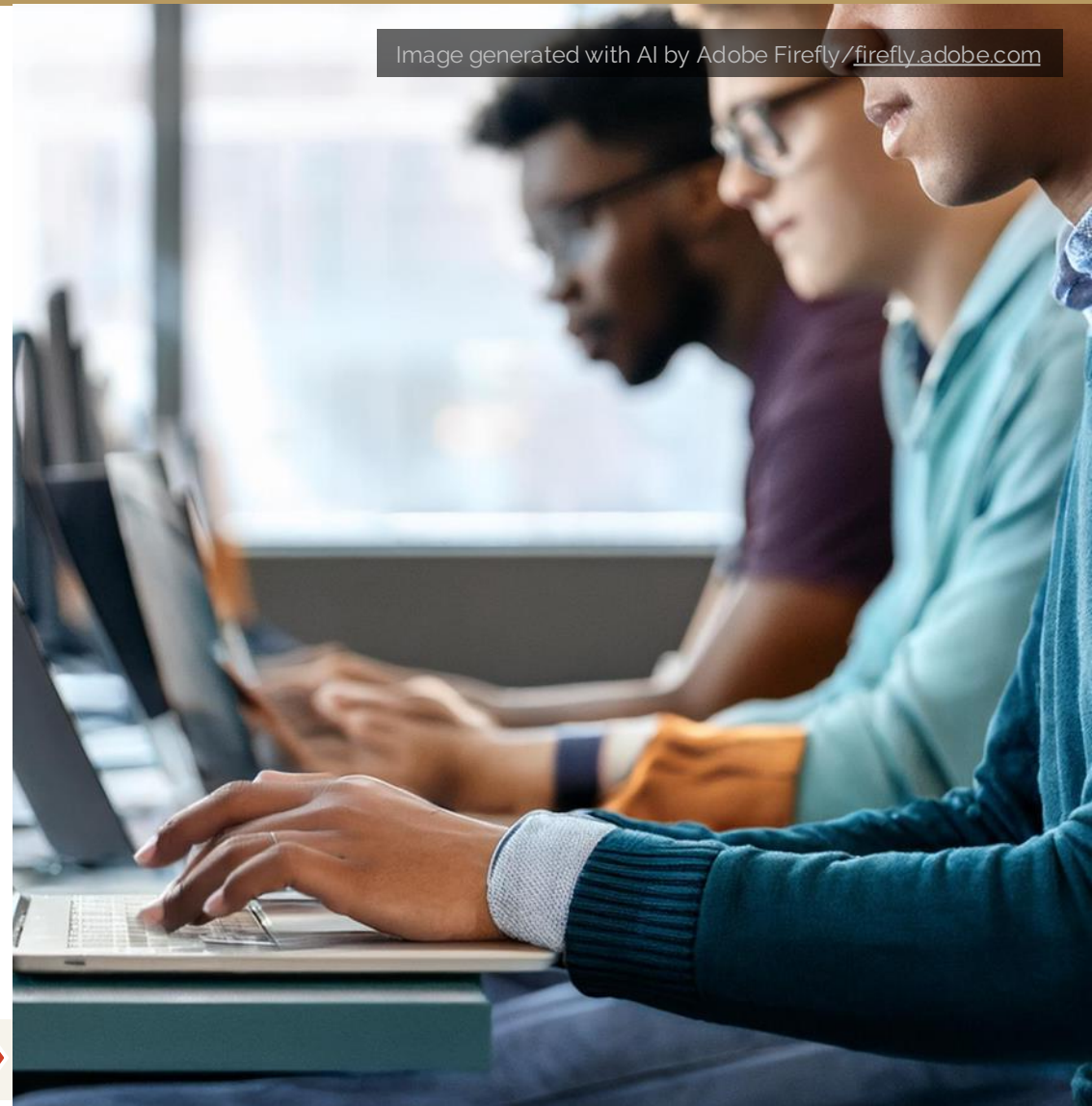
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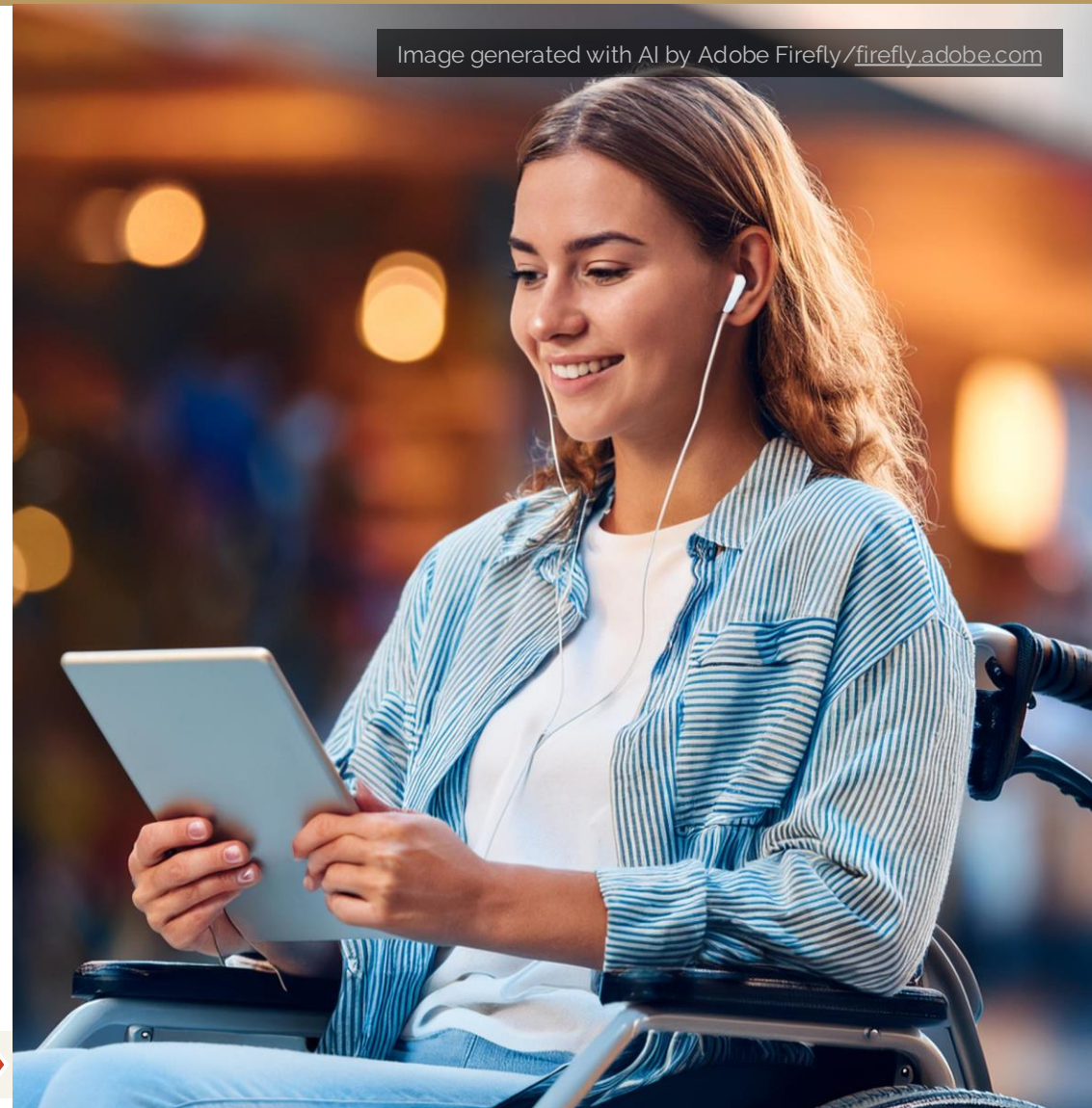
2. How to Create AI-Mediated Multimedia

2.3. Best Practices

When incorporating AI-generated content into your curriculum, **ensure it complements your teaching, learning and assessment objectives** whilst maintaining academic integrity. Critically review GenAI multimedia outputs for accuracy and relevance.

2.4. Accessibility

It's crucial to **design AI-mediated multimedia that is accessible to all students**, including those with disabilities. This includes providing alternative text for images, captions for videos, and audio descriptions to ensure that every student can engage with the content fully. View the **Digital Accessibility Guide** for more information.

"A person sitting in a wheelchair with a tablet."

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3. How to Write Good Text-to-Image Prompts

Image generated with AI by Freepik/freepik.com/pikaso

"A group of students studying in a sunlit library, surrounded by towering bookshelves filled with books. The camera angle is an over-the-shoulder shot with a depth of field."

3.1. How AI Image Generators Work

AI models learn from large datasets of images and text, using large language models like ChatGPT to **generate images based on text prompts**.

3.2. Crafting the Perfect Prompt

A **well-crafted prompt is clear, detailed, and provides sufficient context** to guide the GenAI tool or app in generating the desired image.

Effective prompts specify key elements such as objects, characters, settings, and styles, while avoiding ambiguity to ensure the AI produces accurate results.

3.3. Importance of Good Prompts

Crucial for effective AI image generation, requiring skillful writing to achieve desired outcomes.

3.4. Common Pitfalls

Common **mistakes include vague descriptions, missing key details, and overly complex language**. To avoid these issues, **focus on being precise**, avoid unnecessary jargon, and break down complex ideas into simpler components. This may ensure that the GenAI correctly interprets your intent.

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Image generated with AI by Adobe Firefly/firefly.adobe.com

3. How to Write Good Text-to-Image Prompts

3.5. Examples of Text to Use

Find inspiration and improve your text-to-image prompts by exploring helpful websites. Visit **PromptHero** for a variety of examples and creative ideas, **Hugging Face's Promptist** for personalised guidance on crafting better prompts, or **LLM Prompting** for general advice on prompt generation.

> Examples of Effective Prompts
> For instance, a prompt like
> "Identity and Self-Reflection: A person composed of vibrant patterns, representing themes of self, identity, and how we perceive ourselves and others. Digital art painting, medium close-up."
> clearly defines the scene, resulting in a detailed and visually cohesive image.
> Such examples demonstrate how **specificity and clarity lead to better outcomes**.

🎈 Layered paper ✕   🎈 Otherworldly depiction ✕   🎈 Cubism ✕

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3. How to Write Good Text-to-Image Prompts

3.6. Creating an Effective Text-to-Image Prompt

A. Use Descriptive Language

Apply adjectives, adverbs, similes, and metaphors to enhance the richness of the prompt, making the description more vivid and detailed for the GenAI tool or app. **However, avoid overly complex text prompts.**

Select the following link for Adobe Firefly's guidance on writing effective prompts:
https://helpx.adobe.com/firefly/using/tips-and-tricks.html

B. Include Context and Relationships

Describe spatial relationships between elements and highlight interactions to provide a clear picture of how the components of the image should relate to one another.

Image generated with AI by Microsoft Designer / designer.microsoft.com

"A professor discussing a concept with a diverse group of students seated around a round table, with some students taking notes."

»

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Image generated with AI by Freepik/freepik.com/pikaso

3. How to Write Good Text-to-Image Prompts

Working Example: Creating an Effective Text-to-Image Prompt

Camera Angles and Framing

Specify the camera angle and framing, like close-ups, wide shots, or top-down views, to highlight key elements and direct the image's focus. Here are some examples:

C. Camera Angles

> **Eye-Level:** Neutral view at the subject's eye level

> **High Angle:** Looking down, making the subject appear smaller

> **Low Angle:** Looking up, making the subject appear larger

> **Bird's-Eye View:** Directly overhead, top-down perspective

> **Worm's-Eye View:** Low to the ground, looking up

> **Dutch Angle:** Tilted, creating a diagonal horizon

> **Over-the-Shoulder:** Behind a character, focusing on their view

> **Side View:** Subject/object seen from the side

"A person sitting at a desk using a computer." »

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Image generated with AI by Freepik/freepik.com/pikaso

3. How to Write Good Text-to-Image Prompts

Working Example: Creating an Effective Text-to-Image Prompt

Camera Angles and Framing (continues)

D. Framing

> **Wide Shot:** Captures the full subject and environment

> **Medium Shot:** Waist-up view, balancing subject and background

> **Close-Up:** Tight focus on the subject, highlighting details

> **Extreme Close-Up:** Zooms in on specific details

> **Long Shot:** Full-body view with background context

> **Two-Shot:** Frames two subjects together

> **Point of View (POV):** Shows the scene from the character's perspective based on the prompt

> **Overhead Shot:** Directly above, highlighting layout and relationships between elements

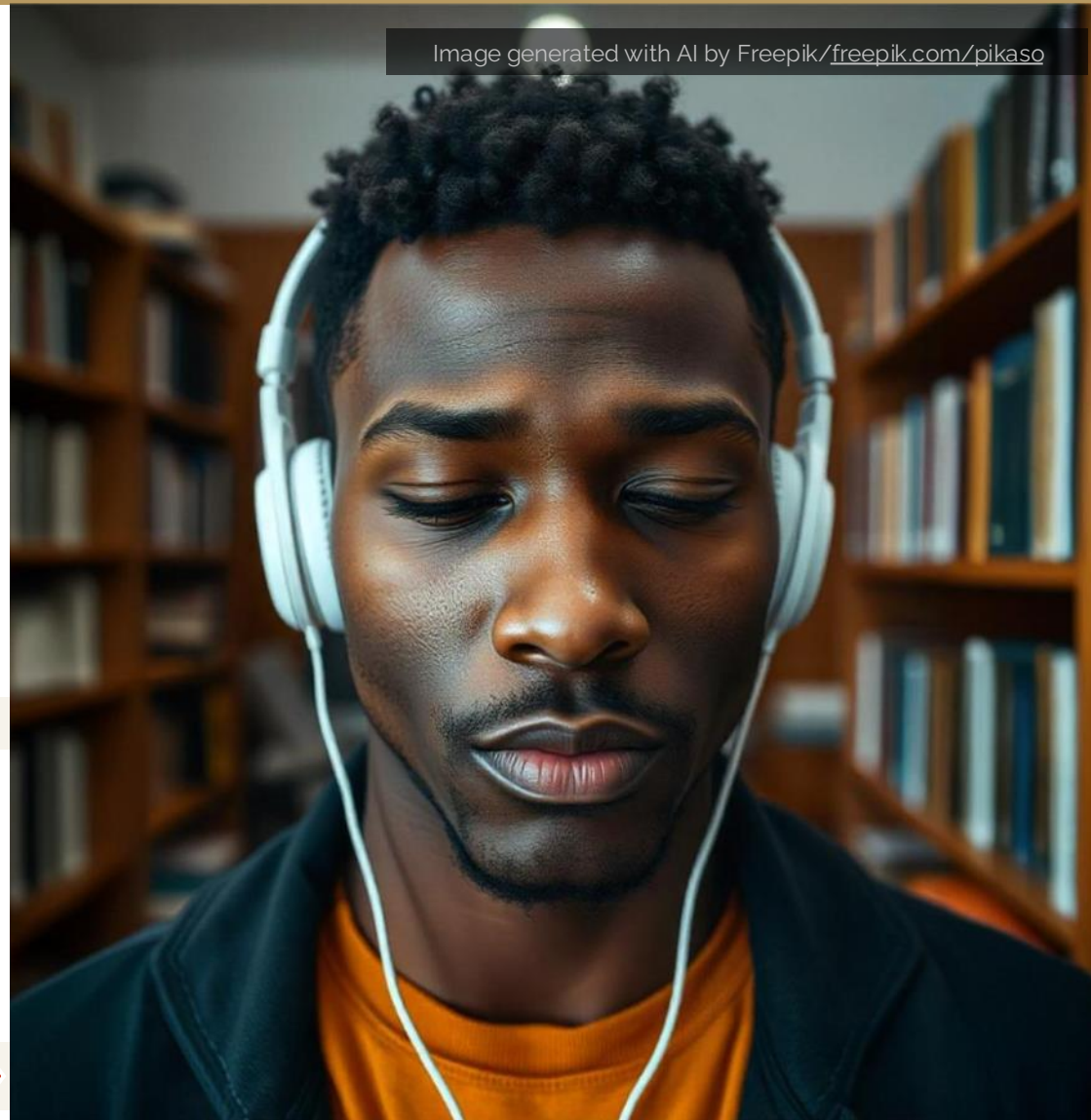"An extreme close-up of a Black man wearing headphones in a library setting."   »

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3. How to Write Good Text-to-Image Prompts

Working Example: Creating an Effective Text-to-Image Prompt

Specify the Style and Surface

Choose a specific style (e.g., realistic, cartoonish, abstract) to **define the image's visual approach**. You can also ask GenAI to create images in the style of a particular artist, like Van Gogh or Picasso. Note that it will replicate only the style, not the exact artwork.

E. Art Style

> **Realism:** Lifelike, detailed representation

> **Impressionism:** Soft, vibrant brushstrokes; focus on light and movement

> **Surrealism:** Dreamlike, blending reality and fantasy

> **Abstract:** Non-realistic, emphasises shapes and colours

> **Cartoonish:** Exaggerated, bold lines, bright colours

> **Minimalism:** Simple lines, few colours, focuses on essentials

"An illustration of a woman with long wavy hair deep in thought holding a pen and a notebook."

»

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Image generated with AI by Adobe Firefly/firefly.adobe.com

3. How to Write Good Text-to-Image Prompts

Working Example: Creating an Effective Text-to-Image Prompt
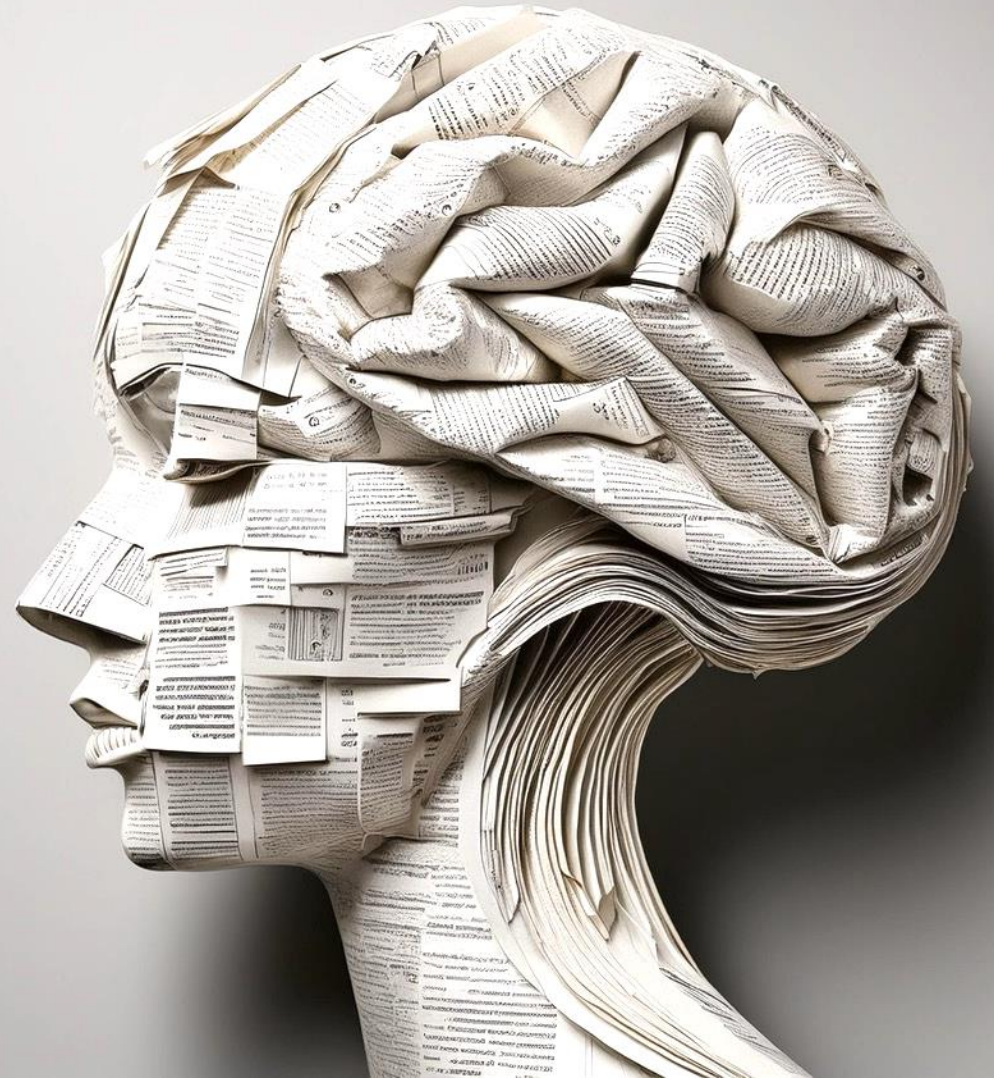
Specify the Style and Surface (continues)

F. Materials/Surface

> **Paper/Newspaper:** Traditional, flat texture for sketches or prints

> **Clay:** Mouldable, 3D material for sculptural art

> **Wood:** Natural, grainy surface ideal for carvings or painted textures

> **Glass:** Smooth, transparent surface for light effects or stained glass

> **Fabric:** Soft, textured surface, often used for textile art or collages

> **Metal:** Shiny, reflective surface for industrial or modern designs

"A head made of newspaper."   »

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Image generated with AI by Adobe Express/new.express.adobe.com

3. How to Write Good Text-to-Image Prompts

Working Example: Creating an Effective Text-to-Image Prompt

G. Mood and Atmosphere

Use descriptive words to convey the intended mood and atmosphere, setting the tone for the image.

> **Bright and Energetic:** "A lively study session in a sunlit room."

> **Quiet and Focused:** "A serene, dimly lit library with students absorbed in their work." »

H. Iterate and Refine

Initial Prompt
Start with a basic version of the prompt to establish a foundation.

Review and Adjust
Refine the prompt based on generated results to better align with your vision and improve the accuracy of the output.

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4. Where to Find Media Generation Websites or Apps

4.1. Text-to-Image Generators

Each text-to-image engine produces unique results, making them suitable for different creative needs. Note that **some of these GenAI tools offer free registration and limited use**. To fully utilise their capabilities, consider purchasing a subscription plan. Here are a few suggestions, though <u>many more options</u> are available.

›› Image generation availability on the free plan – note: this is subject to change.

PicLumen

Transforms text prompts into high-quality, customisable images for creative content creation.

Free unlimited

<u>Terms of Use</u>

Microsoft Bing

Produces images that capture both classic and modern art styles, offering flexibility across various visual themes.

<u>Pricing</u>

<u>Terms of Use</u>

Adobe Firefly

Specialises in generating art techniques, graphics, and text-based visuals. Ideal for projects that need refined and detailed imagery.

<u>Pricing</u>

<u>Terms of Use</u>

Midjourney

Renowned for creating highly artistic and stylised images, perfect for more creative and expressive visuals.

<u>Pricing</u>

<u>Terms of Use</u>

Stable Diffusion

Generates images by refining random noise into detailed visuals, offering a balance of creativity and precision.

<u>Pricing</u>

<u>Terms of Use</u>

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4. Where to Find Media Generation Websites or Apps

4.2. GenAI-Powered Design Tools

These tools are designed to assist users in creating visual content, such as graphics, presentations, and social media posts. They provide design suggestions and layouts based on user input, simplifying the creative process. Keep in mind that **some of these GenAI tools provide free registration with limited usage through daily or monthly credits**. Subscribing to a paid plan can offer greater flexibility in generating media.

》 Image generation availability on the free plan – note: this is subject to change.

Microsoft Designer

Employs AI to generate high-quality design recommendations and layouts for various content types, including presentations and social media posts.

Pricing

Terms of Use

Adobe Express

Delivers easy-to-use design tools with AI-enhanced features for swiftly creating attractive graphics, videos, and web pages.

Pricing

Terms of Use

Freepik

Provides a platform for users to access and download high-quality free and premium graphic resources, including vectors, photos, illustrations, and PSD files.

Pricing

Terms of Use

Canva

Offers an accessible platform for designing graphics, presentations, and social media content, featuring AI-driven design recommendations and templates.

Pricing

Terms of Use

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4. Where to Find Media Generation Websites or Apps

4.3. Video Creation and Music Composition

There are numerous AI tools available for generating videos and composing music. **Many of these tools allow you to sign up and create an account for free, giving you the opportunity to experiment and create your desired media output. However, be aware that there may be a charge when downloading** your final video and/or music. To **avoid any surprises, check the software's terms and conditions beforehand** to see if any fees apply.

GenAI Media Solutions

Easy with AI

This site offers a collection of AI-powered image, video and music generators for creating custom media quickly and easily.
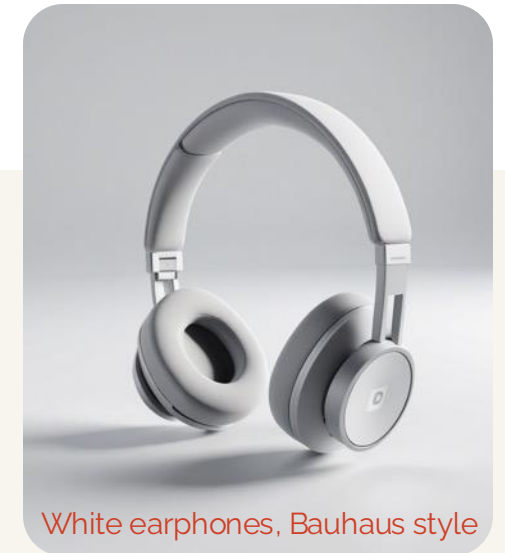
Future Tools

This platform provides an extensive directory of AI tools across various categories, helping users find and utilise cutting-edge AI technologies.

Clapboard, Bauhaus style

White earphones, Bauhaus style

Images generated with AI by PicLumen/piclumen.com

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5. How to Give Attribution

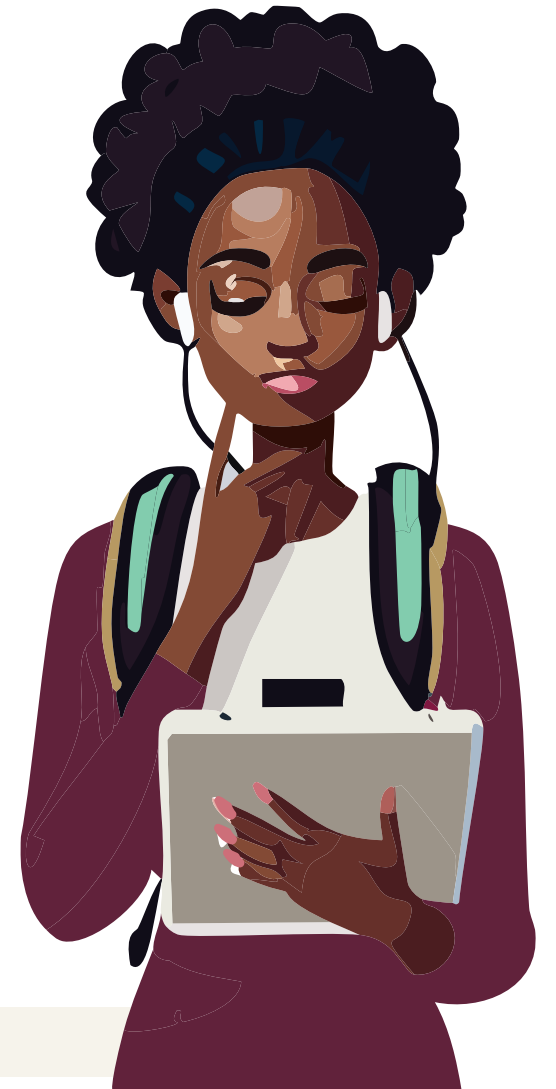## 5.1. Importance of Attribution

Proper attribution is important as it acknowledges the original creators' works, prevents plagiarism, and maintains transparency, which helps in upholding ethical and moral standards and legal compliance with applicable regulatory requirements.

5.2. Best Practices for Attribution

When attributing AI-generated content, always clearly credit the GenAI according to their terms and conditions. If applicable, provide a direct link or reference to the source to ensure clarity and respect for the contributions made.

e.g., Image generated with AI by Adobe Firefly/**firefly.adobe.com**

"An African-looking student holding a tablet in one hand, with the other hand resting thoughtfully under her chin." »

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6. Rules and Guidelines on AI-Generated Images

6.1. Copyright and Intellectual Property

Only works created through human input are eligible for copyright protection. Therefore, images created with no human involvement and where AI is sole creator are not eligible for ownership protection under copyright laws. However, this may change in the future with updated legal sources.

AI-generated images are created by training on large amounts of copyrighted materials, without its owners' permission. Furthermore, AI-generated images may be substantially similar to other original works. These cases may result in infringement, and extreme caution must be exercised when using these AI tools and generated images.

"A gavel and scales of justice." »

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6. Rules and Guidelines on AI-Generated Images

6.2. Data Privacy and Security

When using GenAI tools to create media, users consent to the tool using their text prompts or uploaded images to train its model for generating new outputs. It is important to be aware that any newly generated content may be accessible globally and could be used by others to create new outputs with the tool. Additionally, the text prompt might be visible to others and included in the content credentials for transparency purposes.

Read more about it here:

> **https://helpx.adobe.com/firefly/using/content-credentials.html**

6.3. Potential for Bias

GenAI models can produce biased content that lacks diversity or inclusivity. Many GenAI tools have been trained on biased data, potentially favouring certain races, cultures, or genders. Educators should be aware of these biases and take steps to **mitigate them by crafting effective prompts**. For example, when writing a text-to-image prompt, it is important to clearly specify what should be included in the final image.

"A gold padlock featuring a keyhole, set against a background of digital lines." »

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6. Rules and Guidelines on AI-Generated Images

6.4. Verification

The Content Credentials Verify tool **allows users to verify the authenticity and provenance of digital content,** such as images, videos and music. By uploading a file, users can access information about the content's origin, edits, and any associated metadata. This helps to ensure the credibility and trustworthiness of digital media by providing transparency about its history and alterations.

ⓒ content credentials

Read more about it here:

> **https://contentcredentials.org**

Generated Image
Issued by Adobe Inc. on Aug 27, 2024

Content summary
ⓘ This image combines multiple pieces of content. At least one was generated with an AI tool.

Process ⌄
The app or device used to produce this content recorded the following info:

App or device used
Adobe Illustrator 28.6

AI tool used
Adobe Firefly

Actions
Other edits
Made other changes

About this Content Credential ⌄

Issued by
Adobe Inc. ⓘ

Issued on
Aug 27, 2024 at 12:46 PM GMT+2

"An African-looking student holding a tablet in one hand, with the other hand resting thoughtfully under her chin."

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6. Rules and Guidelines on AI-Generated Images

6.5. Ethical Guidelines

When using AI-generated images, consider the potential of embedded biases or inaccuracies in the images, the risk of spreading misinformation, and the importance of transparency about the use of GenAI in creating these images to maintain integrity and trust.

Example
Imagine you are creating an image to visually represent the concept of diversity for a university lecture on social sciences. You use an AI tool to generate this image. The result is a vibrant and inclusive collage featuring people of various races, ages, genders, and abilities engaged in different activities.

Transparency Statement:
In your presentation, include the following note:

"This image was generated using an AI tool to illustrate the concept of diversity. While the AI provides a broad representation, it is important to acknowledge that no image can fully capture the richness and complexity of human diversity. We have reviewed the generated image to ensure it aligns with the intended message and accurately represents the diversity concept without reinforcing stereotypes or biases."

For more information visit:

> **Microsoft AI / Responsible AI | Tools and practices**

"An African-looking student holding a tablet in one hand, with the other hand resting thoughtfully under her chin." »

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6. Rules and Guidelines on AI-Generated Images

6.6. SU Policies

Need more information?

Consult **SU's specific guidelines or policies** regarding the use of AI-generated images, which may outline requirements for attribution, acceptable use cases, and any restrictions. Adhering to these guidelines or policies is essential to ensure compliance with institutional standards and maintain academic integrity.

For more information please read:

> **Draft interim SU guidelines on allowable AI use and academic integrity in assessment**

Need to get in touch?
Please send an email to Lucille Müller at **Lm2@sun.ac.za**

"A computer displaying a digital overlay with 3D graph illustrations in the background."

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