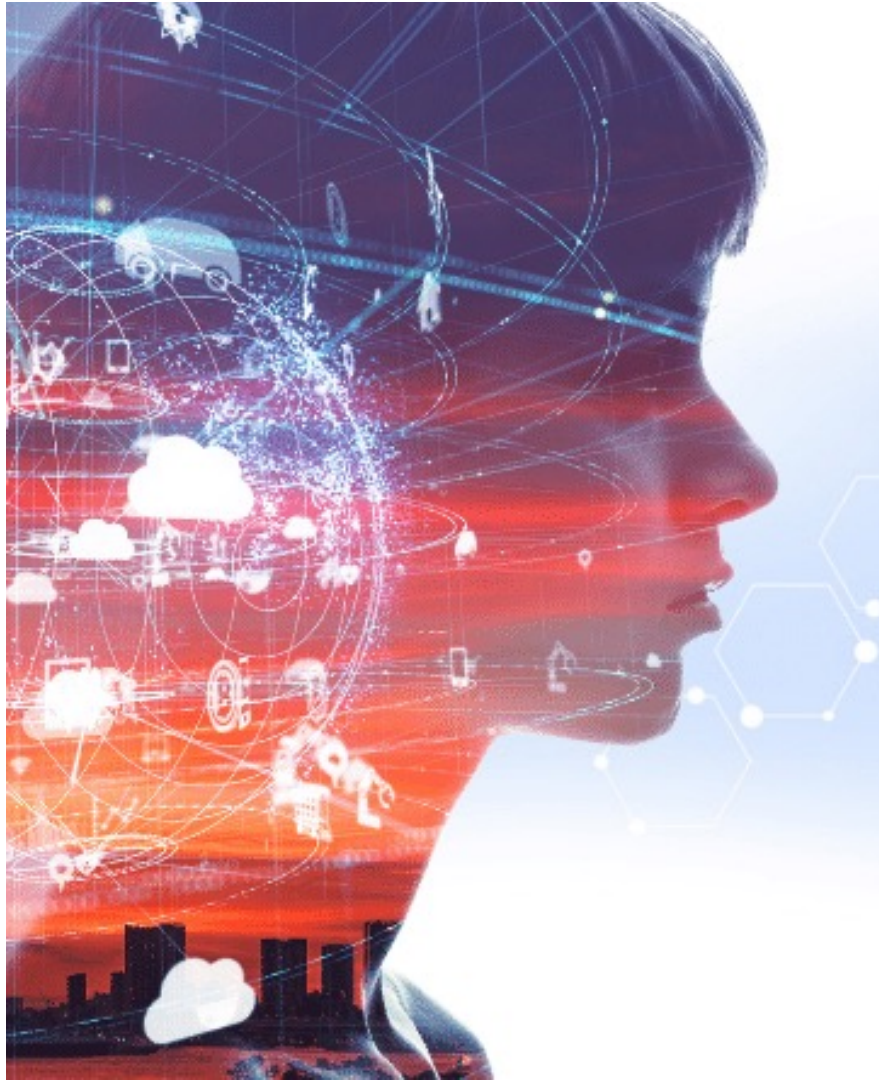


Teaching Excellence Conference 2024

Optimizing Ideation and
Digital Prepress Workflows
with AI Integration

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AI Text-to-Image Generation

Text-to-image generation is a field of research that involves generating images from textual descriptions. The process of text-to-image generation involves encoding textual input into a format that can be used to generate an image.

Background: Spring 2022

Students were assigned a refresher project with one change. Include a written outline of the process steps (workflow) used to create their work. Submit the following:

- Sketches and Ideation Process
- Software applications utilized
- Final artifact and file(s) within assigned constraints
 - Spot color separations
 - Color trapping
 - Named spot colors
- A written outline of their process steps (Primarily to incorporate writing in the discipline)



Create an AI Art Logo Design with Midjourney (AI Logo design & Inspiration)

<https://www.youtube.com/watch?v=hd9HsXzrCsc>



5. Once I came up with a background and basic outline I liked I went into Midjourney (an ai bot that creates images based on your ideas) and used it to bring my sketch to life.

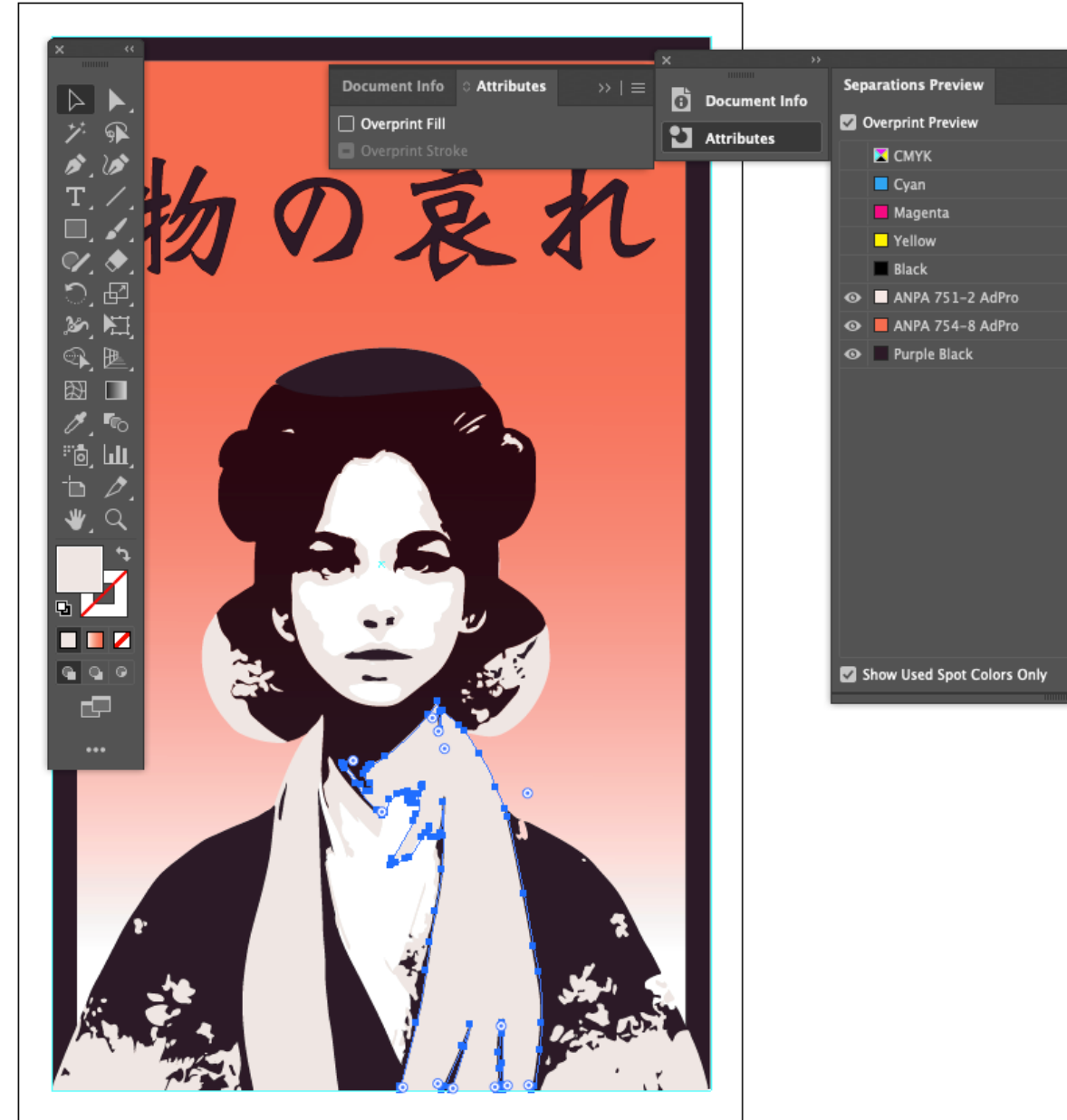
6. I then brought this image into illustrator and used image trace on it.

7. I then blocked out basic shapes of the pieces I liked and filled them in with different shades of gray.

5. I used select>all same fill to select the shade of gray I wanted and played around with the suggested colors tab until I came up with the three poster colors I wished to use.

6. I used white as the substrate color because I thought it enhanced the image the best.

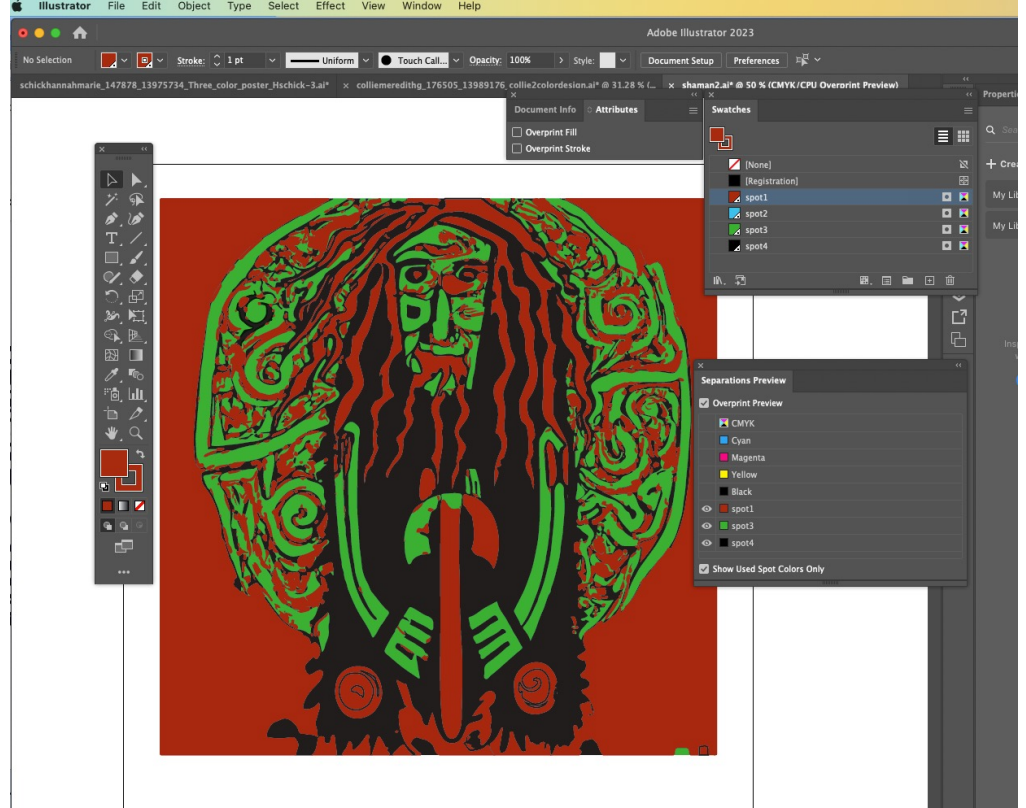
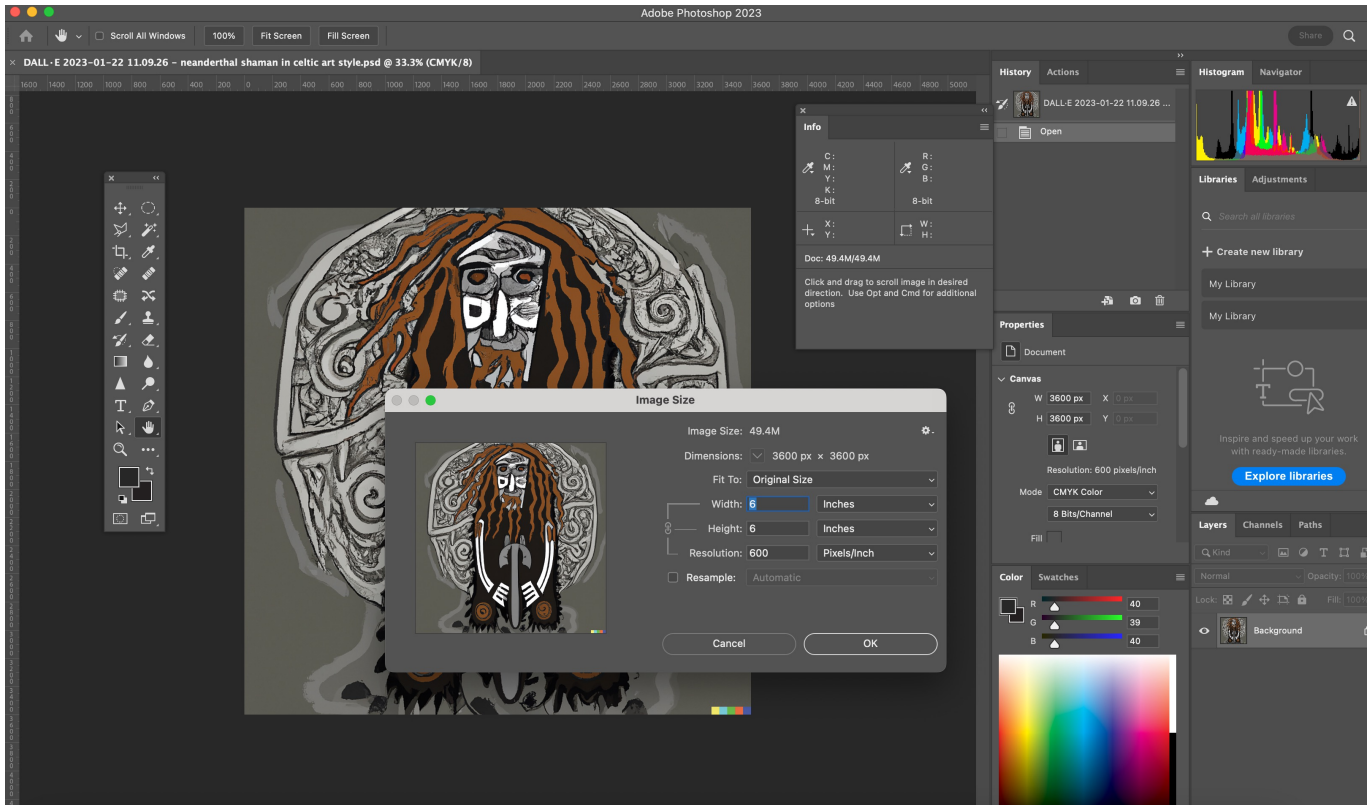
7. I then added a gradient background to create more movement in the artwork.



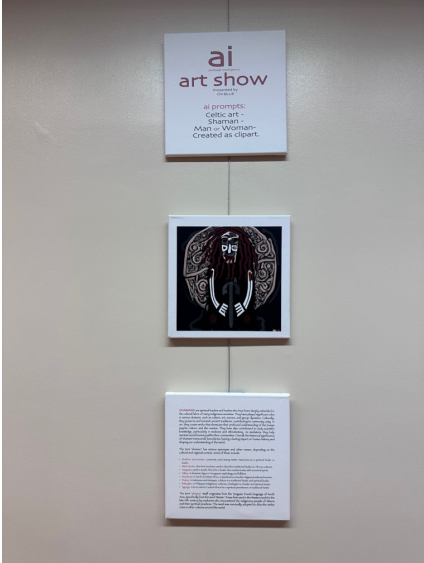
Prompting Dall-e to create a 6x6 in, 600 dpi illustration of a “Shaman”



Press-press AI artwork: Photoshop & Illustrator



AI Art Show: Fall 2023 in lobby of Godfrey



Optimizing Ideation And Digital Prepress Workflows With AI Integration

- Design as problem solving.
- Introducing AI in the ideation process
- Problem-solving under “real world” constraints (time management)
- Understanding and developing workflow processes as best practices
- Incorporating and applying action research into the paradigm
- Enhancing student learning, specifically in technical skills and overall knowledge and execution of the design process.

Action Research: Optimizing Ideation And Digital Prepress Workflows With AI Integration

- The study utilized two in-class exercises, one incorporated into an introductory design and production course and the other in an intermediate print production course.
- This initial exercise focuses on using AI as a design tool in Adobe Photoshop, and the second exercise uses AI-generated images to develop a prepress workflow using Adobe Illustrator.
- Data collection will include class observations, the completed activities, and a follow-up questionnaire.
- In summary of supported research, integrating AI tools like ChatGPT into educational settings has been transformative, supporting continuous student reflection, enhancing learning in specialized subjects, and aiding in lesson plan creation.
- Advancements in AI necessitate a recalibration of professional skills and the development of ethical guidelines to ensure that the potential of AI is harnessed effectively and responsibly, fostering a future where personalized and moral AI-driven education is the norm.

Action Research: Optimizing Ideation And Digital Prepress Workflows With AI Integration

Introductory Course Observations

- The overall feedback received was positive; students generally appreciated the need for AI integration into class assignments.
- Many students expressed verbal appreciation after the assignment because this was their first experience with AI, and they were excited to experiment with the feature.
- The positive outcome that many achieved should lead to less apprehension about AI in design and its use in future classes.
- However, it highlighted some limitations of generative design in Photoshop that students will now be aware of, which can help them overcome those challenges.

Intermediate Course Observations

- The 42 reflections on the assignment revealed it to be a constructive and multifaceted educational experience.
- Despite facing challenges such as adapting to new AI technologies and navigating ethical considerations, participants benefited from hands-on experience and the practical application of theoretical knowledge.
- The assignment also highlighted the critical nature of a structured design approach, emphasizing the need for meticulously documented workflow outlines.
- This project not only bolstered technical skills but also fostered a deeper understanding of the evolving role of AI in the graphic design process.

Action Steps: A Unified Approach to Effectively Integrating AI into the Graphic Communication Pedagogy

- 1. Embrace and Increase Familiarity with AI Technology:** Integrate AI into the graphic design curriculum to keep pace with advancements and provide training or tutorials to increase comfort levels with AI tools, particularly the generative options in software like Photoshop.
- 2. Strengthen Core Skills and Leverage AI for Design Principles:** Continue to focus on essential prepress skills, such as vectorization, color separation, and image tracing, while using generative features to support and enhance the application of design principles in students' work.
- 3. Detail Workflow Processes and Integrate AI-generated Imagery Appropriately:** Stress creating and adhering to detailed workflow outlines and develop guidelines for when and how to incorporate AI-generated imagery effectively, ensuring multiple iterations for refinement if necessary.
- 4. Balance Efficiency with Quality and Evaluate Time-Effectiveness:** Instruct students on using AI to save time without compromising quality, assessing when the generative feature is most efficient and suitable for specific design tasks.
- 5. Facilitate Technology Adaptation and Refine Prompting Techniques:** Help students overcome the challenges of adapting to AI by providing support and resources and educating them on crafting precise prompts to improve the AI's output.

Action Steps: A Unified Approach to Effectively Integrating AI into the Graphic Communication Pedagogy

- 6. Navigate Ethical Terrain and Address Intellectual Property Considerations:** Encourage ethical discussions around AI in design, develop originality and intellectual property guidelines, and ensure that students understand AI-generated content's implications.
- 7. Promote Reflective Learning and Document Workflows:** Encourage documentation of design processes to foster reflection and provide a structure for ongoing learning and self-improvement.
- 8. Anticipate Future Needs and Identify Project Suitability:** Prepare students for the evolving industry trends, identifying types of projects where AI tools are most beneficial, such as creating basic backgrounds or adding specific elements.
- 9. Quality vs. Speed and Continuous Learning:** Teach students to compare the quality of AI-generated images with other sources and to decide on the appropriate approach based on project requirements while staying updated on AI advancements for continuous learning and adaptation to new standards.

This unified approach provides a comprehensive strategy for educators and practitioners to leverage AI in graphic design, ensuring that the adoption of this technology is both practical and reflective of industry standards and ethical considerations.

Conclusions

- This study adds to the existing body of AI educational research.
- We provide educators with a thorough action plan for integrating AI teaching strategies into multi-level courses through practical, hands-on exercises.
- Results from the introductory and intermediate courses showed that students found the AI tools helpful and recognized the need for their inclusion into the curriculum.
- Results also demonstrated that student learning was enhanced, specifically in technical skills and overall knowledge and execution of the design process.
- Action research proved valuable for conducting this type of educational research and allowed for a systematic development, implementation, and evaluation method.

Thank you

Questions?

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