# Developing Collaborative Artificial Intelligence in Artistic Practices: Using AI in Creative Explorations

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**This article shares details regarding four sections of an asynchronous, studio-style Understanding and Exploring Artificial Intelligence (AI) course run once per season via the Rhode Island School of Design (RISD) online learning facility during the 2024-25 academic year. Students were introduced to mediated action theory with a suggestion they attempt to treat AI as a mediating collaborator in exploring potential workflows to use in their artistic practice. Case studies chosen from documented collaborations between AI and human efforts were provided by way of articles to provide inspiration. Post-submission discussions were encouraged to critique and discuss implications of all collaborative outputs. Weekly video and text-based resources provided background information on artificial intelligence historically, while reinforcing a context contemplating mediated action theory today.**

Figure 1 – Example collage result from a series of explorations in sketch-guided visual mood generation as prompted by student Jaya Adusumilli, including her own sketch. The sketch was inspired by Giovanni Civardi (2011). *Flowers, Fruit and Vegetables*, page 31. Tunbridge Wells, Kent, Great Britain: Search Press Limited.

The RISD community typically engages in studio-style learning in both the classroom and private studio. As a result, students are adept at discussing artistic practices documented by their peers and classmates, and expert at participating in a critique of artifacts created through a process that follows well-established RISD organizational norms, which often are not dramatically different from professional norms students encounter outside of the campus environment.

The Understanding and Exploring Artificial Intelligence (UEAI) course is an elective course administered by way of the RISD campus' Canvas Learning Management System (LMS). Through Canvas, students are asked to participate in an asynchronous equivalent of typical in-person studio-style courses. Students adapt well to online behaviors and etiquette that support such a request.

As a strictly optional elective for the 2024-25 academic year, with no prerequisites or expectations regarding skills and knowledge, students clearly expressed their choice to take the AI course with a sense of the subject being important to consider as they found the topic being mentioned increasingly in their day-to-day experience.

Students described their interest in the first week personal introductions forum, documenting the wide range of thoughts they held based on what they had paid attention to when presented AI. That collection of thoughts helped students interact as they asked questions or shared their perspectives in anticipation of having an active discussion-based course. Those thoughts also helped the faculty member ground the students in the subject effectively.

Assigned weekly videos and text-based resources provide background information on artificial intelligence, as it is being developed today and historically, while emphasizing a perspective of mediated action theory [1]. Four of the recommended readings listed first among each week's resources come from a single special issue on Art and AI publication in Computer Graphics & Applications [2]. Two peer-reviewed articles and two departmental articles consider four different aspects of artificial intelligence that are targeted for their relevance to artistic practice.

The four articles focus on mediated action, professional workflows, handling visual complexity, and long-term artistic practices. They clearly influenced the comments students made in the weekly discussion forums by framing the discussions. Other articles on issues of copyright [3] and the usefulness of mood boards [4] are highlighted to foster discussion during the other two weeks.

The UEAI course's studio-style format engages students to produce case studies by way of forming hypotheses and testing those hypotheses via well-planned activities roughly performed as experiments with AI, often less formally than a rigorous scientific method might require. The teaching faculty member and classmates all help each student refine their hypotheses and approach for incorporating hypotheses consideration in a process that generates outputs via artistic practice.

For the course during the 2024-25 academic year, students were not required to have any formal art training, and they were not required to be adept at the scientific method. The nature of critique from each student typically reflects their previous experience, and students tend to gravitate towards a consensus based on the quality of the readings and student work in demonstrating art and science as professional norms. The faculty member moderating the discussions considers the evolution in group dynamics over the course of six weeks to be a highlight of the course.

Course materials encourage students to emphasize a consideration of AI services as a collaborator, consistent in effect to other human collaborators in a mediated action model. Students are encouraged to imagine the AI as fulfilling the role of any human collaborator in a collaborative project effort. Critiques are intended to be framed from that perspective, even when it was harder to determine or describe the explicit role of the AI collaborator.

## Introduction to the Course Exercises

Students work on weekly exercises suggested in the syllabus, although each student is encouraged to replace the exercise with another if deemed necessary to better align with their personal goals for the course. Traditionally, over eighteen years that the 2024-25 faculty member has moderated courses at RISD, roughly seventy percent of students attempt the suggested exercises instead of replacing them, but a small percentage of the 70% alter the exercise in slight ways to accommodate their creative interests. The UEAI participants in all four sessions behaved similarly.

The first exercise of the UEAI course invites students to participate in an AI-facilitated image generation exercise. Students take turns adding a word or phrase to a growing text prompt they submit in an AI image generator (an online genAI tool) and use the previously generated image as an image prompt component in conjunction with the text prompt. The exercise is intended as an ice-breaker whereby some norms of vocabulary and interactive discussion can be formed to pursue consensus among students.



Figure 2 – Example week 1 group exercise result with prompt: Dragon talks to the Beatles smoking pipes, in the rain, wearing yellow rain jackets, atop Machu Picchu with glowing elements in the ground, hyperrealistic, hd image-1

An example of a week 1 final image appears in Figure 2. The range of genAI tools use grows through discussion among students and the moderating faculty member. In this case, the generation of an image integrating a western icon (The Beatles), eastern icon (a dragon), and far south place (Machu Picchu) fostered a rich discussion, as did subsequent week 1 final images.

The second exercise of the UEAI course invites students to create a prompt of their own choosing and explore image generation across five to twelve different genAI tools of their choosing that are available for use online via a web browser. The tools evolved significantly throughout the 2024-25 academic year. Students get to know each other by expanding upon the initial student introductions through documenting their choice of prompt as relevant to their artistic interests. The exercise is intended to build momentum and enthusiasm for a wide number of genAI tools, while developing a shared lens through which students can discuss differences between the tools in niche and user interface.

The third exercise introduces students to two online random word generators that students are encouraged to explore in text-based prompting. The first random word generator provides words from an internal list of readily recognizable words. The second is a random word generator that uses all words in the Oxford English dictionary, minus formal names. Typically, this second tool provides only one or two words, out of each ten, that are readily recognizable to class participants. The exercise encourages students to investigate their own mental images formed by the random words, archetypes suggested by individual words in their mind's eye, and form hypotheses as to why the images generated from the genAI tools vary from their mental images.

The fourth exercise introduces students to a process for illustrating text-based stories with the assistance of genAI tools. Students are provided a short chapter from a novel which they can use for prompting, or they can use their own short story or story component. By this point in the course, some students have read or realize that genAI tools are capable of generating stories which they then readily illustrate. As a result, students have a rich discussion space for discussing AI in the context of human story-telling. RISD is recognized as a campus that focuses on narrative and the power narrative can provide humans in story-telling. The results seen in the fourth week exercise reflect a common exposure to that organizational focus.

The fifth exercise investigates explicit mood prompting through the introduction of mood boards and a request that each student create a mood board as a mix of traditional visual imagery and AI-generated visual components. The exercise is the one exercise that remains from the previous faculty member's syllabus for this course as it ran its first four sessions during 2022-24. An example is shown in Figure 1, in which a student used a personal sketch in conjunction with a text-based prompt to request services from a genAI tool.

Students tend to find the consideration of mood a good substitute for considering emotion with artificial intelligence. Some students try to investigate emotion more directly through innovative methods. By the fifth week, a small subset of students is already invested in a final project

and substitute an iteration on their final project to bypass the mood board exercise, which incorporates a goal of evoking emotion in some significant way.

## Final Project Instructions

As is a common requirement across most RISD courses, students submit a final project to a formal critique process whereby each student is requested to critique every other student's work over a one-week period. The final project typically follows a trajectory of work that leads to a portfolio piece eventually, whether within the timeframe of the course or beyond. The case studies to be presented in the next section come from UEAI submitted final projects during 2024-25 and the critiques made by classmates.

The following instructions are given to students to motivate a milestone for each student's personal portfolio, as provided in the LMS:

> Finish up your milestone project so you can participate in our class critique. You can take one of your prior submissions and embellish it into a fuller project, or you can focus on a statement of intent that you then explore and share your thoughts about with regard to conclusion you've reached in the class so far.

> Be sure to document your project workflow with clear explanations for how each image, or other artifact, in your submission was produced.

> Include a concluding perspective on AI and its potential usefulness as a collaborator for mediated actions. The more explicit you can make your instincts known for sharing with us all, the better you will communicate. Consider your point of view at the start of our class. Compare and contrast with your point of view at the end, and where you think it might drift should AI mature into a ubiquitous presence in our built world.

> If your project work presents a perspective, you can integrate your paragraphs with your project at the center. Mention how you see your project iterating into the future as iterations on AI algorithms change the landscape of tools and results obtained from using those tools. Provide a perspective on "what is the ideal mediation AI can provide and how far away does that seem from today's available mediations?"

As a result of the openness of the instructions, students submitted work across a wide range of artistic processes during 2024-25, with a variety of artifacts produced (see Table 1). A third of the students either engaged in online discussions with class participants, or a one-on-one discussion with the faculty member, to help them scope their work and envision their submission.

| | |
|---|---|
| Story Illustration: 4 | Design Patterns Generation: 1 |
| Photography: 3 | Story Text Generation: 1 |
| Reproducing Artistic Style: 3 | Animated Film Assistance: 1 |
| Sketch-based Prompting: 3 | Art Education Curriculum: 1 |
| Playing Cards Generation: 2 | Cell-based Comics Generation: 1 |
| Interpreting Philosophy: 2 | Record Album Generation: 1 |
| Website Generation: 2 | Video Game Ideation: 1 |
| Continuation on Random Words: 2 | AI Inspired Architecture: 1 |
| Continuation of Collage Study: 2 | AI Gender Study: 1 |

Table 1 – Count of Final Project Genres

Of the thirty-two final projects submitted by the thirty-six students who took the class in 2024-25, only one involved more than one AI collaborator in a direct team collaboration-based artistic process, and yet many involved multiple genAI tools in redundant roles to investigate differences between genAI tools in completing specific tasks where each performed the same role.

## Artistic Process Augmentation Case Studies

Students come to the course with a variety of roles they perform professionally outside of class. The roles they perform appear to have an effect on the projects they choose. The first case study comes as a result of a high school teacher who explicitly used the final project as an opportunity to develop a work assignment plan for an Advanced Placement (AP) art course for high school students in a school district more than 100 kilometers away from any city environment.

The student had spent weeks two through five investigating the potential of AI in assisting his personal artistic practice which produces output in painting media. He felt confident that AI might be useful in demonstrating a colored pencil sketching artistic process through producing pencil sketches based on reference images of painted artwork. He then tested that confidence to see if it was warranted or not.



Figure 3 – The steps in the example used for teaching colored pencil-sketching. A reference photograph (left). A genAI tool output result (middle). A photograph of the final hand-drawn sketch (right). Images from Matt Kelly used with permission.

The student submitted this concluding paragraph along with the various images taken from his final project, AI-infused, artistic process (see Figure 3):

> When I started this course, I did not realize that AI imagery could be generated from a photograph. If you asked me in early January what I thought of using AI in my art and teaching practice, I would've said, "using AI is taking the creative process away from the artist, so I would not recommend it." Now it's late February and my option has completely expanded by finding a way to use AI to enhance original imagery. Now I will promote integrating AI into art making as I've found a way to use AI as a tool in the creative process while keeping human choices front and center. This tryptic composite illustrates the

process I used to create a colored pencil drawing: image 1 is the B&W photo I took with a phone, image 2 is the AI generated version which enhanced the color & lighting of the photograph, and finally image 3 is my 6x9 inch color pencil drawing on tan paper.

The second case study comes from an animation professional who investigated the use of AI in producing an animated version of a film that was shot traditionally with live actors and film. He had spent weeks 4 and 5 investigating the potential of AI to produce alternative versions of frames from a film he had created, focusing on aesthetics and moods the scenes they were taken from were intended to produce for the audience.
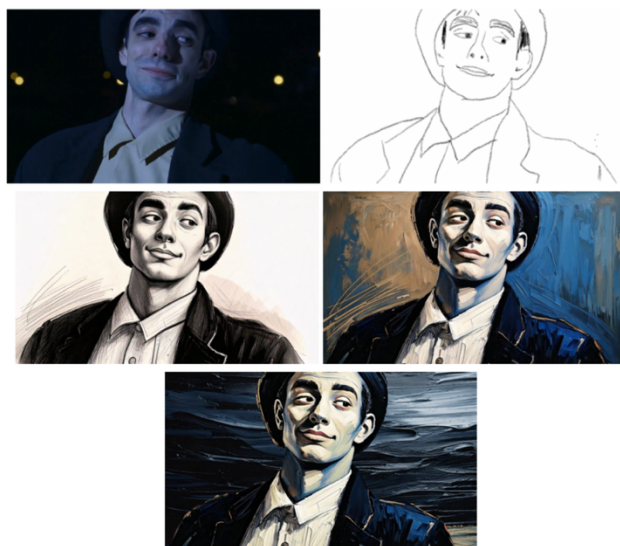


Figure 4 – Illustrated components of the process converting a traditional film (upper-left) to an animated film (bottom) with assistance from reference sketches (upper-right). Figure used with permission from Jake Humpfrey.

The student submitted this concluding paragraph along with the various images taken from his final project, AI-infused, artistic process (see Figure 4):

> The long and short of it was that I attempted to turn a scene from my college film into a set of fully rendered storyboards/an animatic, inspired by my week 5 mood board. I used a method of tracing stills and processing them through Adobe Firefly and photoshop to get my end results. I'm generally more pleased with the individual images than the combined animatic. That said, this process taught me a lot about the potential AI has for storytelling and animation as well as what shortcomings exist in the tools we've been using in this course so far and what adjustments could be made to correct them.

The third case study comes from a student who investigated the potential for collaborating with AI in the generation of traditional panel-based comics.

Figure 5 – Two examples of a variety of comics generated as AI outputs, as included in student Janina Hartley's final project submission (used with permission).

The student submitted this concluding paragraph along with the various images taken from his final project, AI-infused, artistic process (see Figure 5):

> Building upon previous submissions, I was curious if genAI could create a comic. Aiming for a simple 4-panel story, I dug up an old doodle of mine and started with ChatGPT. It took me some back and forth for it to understand that I wanted it to generate images. I think I've learned that I prefer the conversational style of ChatGPT to other alternatives. There's something helpful about going back and forth with an interface.

Another class participant submitted an image and the following paragraph as a part of a reply to the comic-producing student's submission (see Figure 6):

> I can also imagine a playful exercise where someone submits a comics result without revealing any captions for the cells in the comic. Others could then suggest captions for each cell. The creator would go last with their captions and share notes regarding their process and evaluation of AI's assistance. Classmates could ask questions. It could even be a game where they vote on the best captions and a point is awarded, without any intense competition that would interfere with awareness of the usefulness of collaboration. I just had to let your work inspire me to play with GIMP and see where I might take it if I was passed this image of four comic cells.

The fourth case study comes from a student who was interested in researching bird photography and the ability of genAI tools to generate simulated photographs.

Figure 7 shows the results from this pursuit the student shared with his submission:

> I wanted to see if genAI can create an image that would have similar photographic qualities as my own and would specifically generate an accurate bokeh in the form of "shallow DOF". My image of what I believe to be a "Tufted titmouse" backyard bird taken with a 35mm full-frame DSLR Canon 6D after ALRC processing. The second image is of the same species of bird generated by Adobe Firefly using the "bokeh" filter.

Figure 7 spurred on a tremendous discussion regarding the history of photography and the changes to artistic processes brought on by inventions and innovations over time.



Figure 6 – Result submitted by a classmate picking and choosing frames, and integrating with GIMP, from the Janina Hartley's submission (used with permission).

The consensus was that the results using AI could evolve to be a contribution to photography as a medium, even though the submitter of the photography lamented a sense of loss of his joy of using a camera in the field.

Two other students chose projects looking at photography and the ability of genAI algorithms to produce satisfying simulated photographs: a student looking at astronomical phenomena between our sun and moon, and another looking at the nature photography of Ansel Adams. Their shared conclusions for discussion were not significantly different from the bird photography student in essence.

The fifth case study comes from a student who looked at creating imagery from song lyrics. As a result of her study, she submitted a series of AI-generated images that could readily be considered for use as old-school album covers in the discussion that took place among classmates. The student framed her project with this intent:

> After doing the previous exercises, I came to my own personal conclusion that generative AI can be used as a wonderful tool. There are so many ways to get inspiration, however like many tools there's a line between inspiration and copying. Like all tools, people can misuse them, but when used right they can be a great help. For my project, I thought of something that could challenge AI more. I wanted to see how well AI can create imagery based on songs. Songs often represent emotion in a very specific and creative way, that I don't know if a computer system could fully comprehend.

Figure 7 – Tufted Titmouse photograph taken by a student (left) and AI generated image produced by Adobe Firefly (right). Photograph used with permission of Ronald Zincone Photography.

The student then submitted various images that had been AI-generated, in a format seen in Figure 8. She opined on the results with each of the images containing some flaws in lyrical interpretation or mood conveyance. The positives she mentioned balanced the flaws to provide an overall neutral reaction to what genAI did in the experiment.

The student submitted these concluding thoughts after critiquing each song-inspired image:

> Overall this was a fun experiment and a very enjoyable class. I loved learning and experimenting with AI. I now know many ways that I can use AI as a tool to help me in many more ways in an artistic process. At the beginning of this class, I thought AI was scary and that there weren't very many benefits to it. Like most things, once I understood how it worked, it was not nearly as scary. I really appreciate hearing everyone's perspectives [to help me think through an opinion on AI collaboration].

The last case study shared in this paper comes from a student who wanted to ideate further with genAI tools, based on earlier results she got for developing a specific mood for a video game. She used many genAI tools and laid out the results in effect of photographer's contact sheets.

Figure 9 contains components from the student's work during week five of the course, which received unanimous positive response from the participants in the class. Additional components came after deciding to continue that work during week 6 for the project.

The student set her intent for the final project with these words:



Figure 8 – AI-generated image from the lyrics for *August* by artist Flipturn. Student Avery Siefried characterized the song as a surf-indie-rock style (images used with permission).

> I continued to work with it in order to brainstorm visuals for the sci-fi/horror video game. Working based on the keywords from prompts that helped create the cohesive environmental visuals, I started trying to develop ideas for character costumes/cosmetics and for enemy design. For costumes, I kept a lot of the same keywords for sci-fi and horror, but explored options for variations: medical personnel, flight suits, pilots, military, and mercenaries.

Figure 9 – Examples of AI-generated play locations for a sci-fi/horror video game, as prompted by student Emma Hitchcock.

The student produced results supporting character and enemy design through additional work, with the enemy results appearing more exotic yet similarly useful for engaging the artist's vision for the game (see Figure 10).



Figure 10 – Examples of AI-generated enemies for a sci-fi/horror video game, as prompted by student Emma Hitchcock.

The student submitted these concluding thoughts after critiquing the images:

> Overall, AI helped give ideas for shapes and detailing [costumes] that could be incorporated into the actual sketches and later modeling. Although I don't think I'd lift any of these specific designs, they would definitely be helpful in giving inspiration. [The enemy contact sheet] did feel a little underwhelming in range, but gave some interesting ideas for anatomy. Weirdly, [the enemy collage] was one place where the AI wonkiness with anatomy actually lent something invaluable because off-proportions and asymmetry can lend a lot to a sense of horror.

## Conclusions

The case studies provided above, as well as most other final project submissions not elucidated with detail, piqued lively discussion in the final project LMS discussion forums, which provided for a threaded-style critique. Students appreciated seeing other AI collaborations that produced artistic work and shared many insights with regards to their expectations for AI versus what the submitting student achieved. Beyond the case studies above, students were surprised that genAI tools could be capable of providing quality trading card designs, design patterns, story illustrations, website layouts, and text-based stories. A consensus of students believed their peer networks could create better results once they had acquired the vision for a result, but they appreciated the variety of visions genAI tools could provide so rapidly.

The use of chat-based AI interfaces grew during each successive session in the 2024-25 academic year as the faculty member began to help students extend their submitted work through guided interaction with chat-based AIs. In discussion, he demonstrated the benefits of explicitly asking an AI how it accomplished certain tasks and whether the AI considered itself particularly capable of those tasks. He helped students realize that chat-based AIs were useful in evaluating imagery with text, and text with imagery, in ways that gave the students insight into how that could benefit their artistic process when collaborating with AI. The aspects of their AI tools that tool makers suggested were the focus of upcoming version releases supported a hypothesis that chat-based interaction would only improve usability. The accumulated evidence provided evoked statements of surprise and awareness that supported the idea of AI as a collaborator in mediated action.

The absence of including any specific tool use details in the case studies above is intentional. Students used multiple tools as inspired by the week 1 daisy chain collaborative exercise and the week 2 submissions that came from processes where students used many tools in conjunction. A list of tools suggested by students reporting their use, as well as URL addresses at the time of publication, is provided in Table 2.

| Adobe Firefly | https://firefly.adobe.com/ |
|---|---|
| Aitubo | https://aitubo.ai |
| Artlist AI | https://artlist.io/text-to-image-ai |
| Atomix XL | https://civitai.com/models/303246/atomix-xl |
| Bolt.ai | https://bolt.new/ |
| Bytedance | https://seed.bytedance.com/en/tech/seedream3_0 |
| Canva AI | https://www.canva.com/ai-image-generator/ |
| Chat GPT | https://chatgpt.com/ |
| Claude Vision | https://docs.anthropic.com/en/docs/build-with-claude/vision |
| DALL-E | https://www.maxai.co/ai-tools/ai-art/ |
| Deep Seek | https://www.deepseek.com/en |
| Deevid AI | https://deevid.ai/ai-image-generator |
| DreamShaper | https://civitai.com/models/4384/dreamshaper |
| FLUX Schnell | https://fal.ai/models/fal-ai/flux/dev/image-to-image |
| Gemini-Imagen | https://gemini.google/overview/image-generation/ |
| Ideogram | https://ideogram.ai/t/explore |
| Krea | https://krea.ai |
| Leonardo AI | https://leonardo.ai/ |

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|---|---|
| Microsoft Copilot | https://copilot.microsoft.com/ |
| Microsoft Designer | https://designer.microsoft.com/ |
| Midjourney | https://www.midjourney.com/home |
| NightCafe Studio | https://creator.nightcafe.studio/ |
| Open Art AI | https://openart.ai/image/create |
| Perplexity AI | https://www.perplexity.ai/ |
| Pika AI | https://pika.art/ |
| Playground AI | https://playground.com/ |
| Runway | https://runwayml.com/ |
| Stable Diffusion Online | https://stablediffusionweb.com/ |
| Stable Diffusion V1 Engine | https://github.com/CompVis/stable-diffusion |
| Synthesia | https://www.synthesia.io/ |
| Tongyi Wanxiang | https://tongyi.aliyun.com/wanxiang |

Table 2 – Tool names and URL addresses

The competition among tool makers fosters rapid development cycles where features of successful tools are incorporated in plans for next releases. Encoding details about the tools used during 2024-25 might do disserve to the reader, compared to considering the processes that could be, and are encouraged to be, attempted by the reader.

A studio-style course for investigating artificial intelligence provided participants opportunities to pursue pathways through the course materials that aligned with their professional approach to creative endeavors. Mediated action theory suggested that such a course would shed light on cultural implications of the subject matter and that light then expanded through consistent mediation across the four seasonal course sessions.

A mind-meld of all the processes pursued, results obtained, and insights shared through discussion seems useful at this point of time where emergent artificial intelligence algorithms are pursuing utility. The academic year 2024-25 will likely be seen as a time of a great emergence of tools and first awareness of them for many people. During this year, students have demonstrated a knack for transference across media outputs, and exploring artistic processes that include AI to generate creative media seems rich for shedding light on utility. Artists are typically effective at communicating their thoughts as they work at developing a process that can lead to craftsmanship. As a result, the one-year experience documented herein seems worthy of ongoing pursuit.

## References

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## Acknowledgements

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