Thesis Project Portfolio

Building a UVA Course Catalogue and Schedule Builder

(Technical Report)

From Brushstrokes to Binary: The Impact of AI-Generated Art on Artists' Livelihoods

(STS Research Paper)

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Executive Summary

In the realm of university life, the process of scheduling courses can often be a cumbersome and frustrating experience for students. At the University of Virginia (UVA), the existing scheduling websites have fallen short in providing a user-friendly interface, leading to inefficiencies and confusion among students. Motivated by the desire to streamline this process and enhance the scheduling experience for UVA students, a project was undertaken in the fall semester of 2022 as part of CS 3240. This technical endeavor aimed to develop a website that would address the shortcomings of existing platforms by employing agile development methodologies and engaging directly with students to gather feedback and requirements. In the broader context of the art world, the emergence of AI-generated art has sparked profound transformations, challenging traditional notions of creativity and authorship. With the ability to generate art from textual descriptions using generative AI, anyone can create and commercialize art, raising complex questions about the socio-technical dynamics shaping the relationship between technology and artistic practice. Against this backdrop, a research project was undertaken to explore the impact of AI-generated art on artists as a social group. Using the Social Construction of Technology (SCOT) framework, this research delved into the ethical, legal, and aesthetic dimensions of AI integration in the art world, shedding light on the resistance and adaptation within socio-technical networks as artists navigate the implications of technological innovation.

The course scheduling process for UVA students has been hindered by the inadequacies of existing UVA-affiliated scheduling websites. In the fall semester of 2022, as part of CS 3240, our team embarked on a project to enhance the scheduling experience for UVA students by developing a user-friendly website. Employing the agile development approach, we engaged with UVA students to gather requirements, iteratively designed and developed the website, and rigorously tested its functionality before its final launch. Our website introduced several enhancements aimed at simplifying the course scheduling process. We implemented a calendar view where students could effortlessly add courses and interact with each other's schedules, fostering collaboration and coordination. Additionally, we enhanced

course organization and expanded search capabilities, reducing the time and confusion associated with course selection. While our website marked a significant improvement in the course scheduling experience, there are areas for further enhancement. Feedback from students highlighted a desire for Google Calendar integration and features allowing for course and professor reviews, including links to external review platforms. Addressing these suggestions would further optimize the usability and utility of the website, ensuring a seamless and efficient course scheduling experience for UVA students.

The emergence of AI-generated art marks an industry-changing shift in the artistic landscape, challenging traditional notions of authorship and creativity. Anyone can generate art by feeding text into generative AI, and anyone can commercialize the results, using the work as assets, logos, or stand-alone products. How does the socio-technical nature of AI-generated art impact artists as a social group? The STS research investigates AI-generated art and its ramifications for artists and their livelihoods through documentary and discourse analysis. The paper reveals resistance and adaptation within socio-technical networks as artists navigate the ethical, legal, and aesthetic dimensions of AI integration using the SCOT framework as guidance. From the implications of AI on artistic identity and authorship to its impact on market dynamics and cultural norms, this research illuminates the complex socio-technical dynamics shaping the evolving relationship between technology and artistic practice in the digital age.

Both projects tackle addressing societal needs through the application of technology. The technical project offered practical experience in applying Agile methodologies to address real-world challenges, fostering skills in user research, collaborative development, and iterative problem-solving. The STS research deepened understanding of the broader socio-cultural implications of technology, prompting reflection on issues of ethics, equity, and power dynamics in technological innovation. By engaging with both projects simultaneously, a holistic perspective on the multifaceted relationship between technology, society, and human behavior can be gained, highlighting the importance of interdisciplinary approaches in addressing complex societal challenges and opportunities.