AI IN GRAPHIC DESIGN:

Here to Help or Replace Us?

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SIGNATURES

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ABSTRACT

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Artificial intelligence is becoming more commonly used in the creative space. With the implementation of AI, it has provided many benefits to working design professionals making their workflow more efficient. AI has also proposed a potential threat to the careers of graphic designers by reducing job opportunities in art and design.

This thesis will expand on areas where artificial intelligence is impacting the fields of art and design. Possible use cases will be expressed throughout, for example graphic designers eventually having to adapt and implement the use of AI daily to promote creativity and speed up workflow.

After completing this research, a literature review was conducted and analyzed case studies and visual analyses. Based off the research throughout this thesis, two solutions were created to inform, teach, and educate designers and non-designers working in artificially-based design platforms about brand styling while utilizing online AI-driven design platforms. These two solutions consist of a do's and don'ts style guide utilizing online AI-driven design platforms and a series of three infographics expanding on the impact AI has already made in art and design.

CHAPTER 1:

Introduction

INTRODUCTION

Research Problem

Online AI-driven design platforms fall short in delivering a sense of creativity and precision, as they primarily rely on pre-made design templates and prioritize speed over craftsmanship.

Objectives

This thesis will explore the impact artificial intelligence has made and is still creating in the fields of art and design. Different areas in this thesis will expand upon the history of AI, understanding its use in the design industry, and its impact while exploring the different online AI-driven design platforms, as well as going into detail upon the pros and cons related to the careers of graphic designers.

There are many benefits to having AI-assistance, which can help improve efficiency and workflow. With a handful of benefits, there are also many concerns upon the use of AI in the creative space, which are later explored in the Literature Review.

Towards the end of this thesis, I will communicate what the future looks like for working design professionals employed in the fields of art and design. More so what design professionals could expect to see in the future as artificial intelligence continues to make its way into the creative space. And ending with how working design professionals can adapt to using AI in their daily workflow.

Research Questions

- What impact is AI exerting on design thinking practices?
- Can AI develop the best design thinking practices?
- How does AI develop creative thinking for design?
- Can AI think like a real, human graphic designer?
- How many phases does an AI need to endure to become efficient?
- Will human creativity die out while data-driven design ideation rises?
- What can graphic designers expect with the rise of data-driven design ideation?
- Can and will these AI platforms deliver current trends in the creative space with the utilization of data-driven ideation?
- Will graphic designers eventually need AI-assistance and if so, how can they adapt to those tools?
- What are the creative processes like working with AI as a graphic designer?

Knowledge Gap

The Literature Review provides insight on the impact AI is creating in art and design. Research consists of what artificial intelligence is and its purpose, the pros and cons since its implementation, understanding why AI is circulating through the creative space, and what creative processes could look like for designers.

However, there were some limitations in findings regarding human interaction with online AI-driven design platforms, like interviews/reviews of organizations utilizing such platforms. And if users utilizing these platforms are benefiting from them to get projects done quickly like a flyer, postcard, social media post, and anything else that could be a quick turnaround.

Another limitation was investigating how much financially has been invested in the creation of artificial intelligence, and if it is costing more to create “intelligent” machines versus hiring a real, human graphic designer.

Despite the limitations imposed by the novelty of the subject matter within this thesis topic, I approached this research topic with enthusiasm and determination, driven by the prospect of uncovering valuable insights that could shape the future of creativity and technology.

CHAPTER 2:

Research

RESEARCH

Rationale

As artificial intelligence continues to make its way into art and design, benefits rise and so do deeply expressed concerns. The use of AI in the fields of art and design can either help improve design today or take over employment opportunities for many design working professionals. One of the major advantages seen with AI is the amount of efficiency and productivity with client projects, as well as project intake. Online AI-driven design platforms can automate tasks and generate design material, but they are not able to match up with the creativity and artistic touch of a real, human graphic designer. Additionally, with more and more implementation of AI, there could be a decline in job opportunities and displacement ultimately leading to tasks being given to online AI-driven design platforms.

The aim of this thesis research is to investigate those areas of concern and to address them.

This thesis research is also intended to create a conversation as to how these online AI-driven design platforms can best help graphic designers improve efficiency and project workflow. The implementation of artificial intelligence may seem scary at first, but it takes a little research to get a sense of AI's purpose in the fields of art and design.

Stakeholders

Since this thesis focuses on the use of artificial intelligence within the fields of art and design, the target audience would consist of those who work in creative fields and the tech industry.

The Tech Industry

The tech industry is a key stakeholder as they can assess how their intelligent pieces of technology are performing. This research will provide some insight to the tech industry with both the pros and

cons regarding their pieces of technology, as well as how organizations are benefiting from them. This research will also help tech industries find errors in their design tools which organizations are reporting, so they can tweak and put out better pieces of intelligent technology. An example of an error can consist of a AI-assisted design tool not performing well, giving users a hard time processing their request and/or prompt. Assessing the issue and improving pieces of technology can help tech industries understand the need for such platforms for organizations to keep enhancing their workflow utilizing AI.

Design Professionals

Another key stakeholder is those who teach in art and design. Will working design professionals like professors need to adjust their lesson plans to accommodate the implementation of artificial intelligence? How will students benefit from the utilization of AI if it generates creative solutions through data and user preferences? If students utilize AI in their course work, then what students create won't be considered their own. It has been said that AI is not mature enough to replace humans in any endeavor. In fact, many times AI produces falsehoods, which the person in education needs to figure out and correct. Professionals who teach art and design spend a lot of money to go to school to learn and to develop skills within art and design... all for it to be much simpler for graphic designers in the making today. It will be interesting to see how education transforms with AI in art and design.

Organizations like marketing firms that utilize design professionals within their workplace can greatly benefit from this research as it provides insight on what is to be expected soon in the design practice with AI continuing to make its way into the industry.

Research Methods

Research methods are simply avenues one can take to collect and analyze data. Using such research methods serves as an important tool to identify important aspects of a specific topic. For the purposes of this thesis project, research methods such as a literature review, case studies, and visual analyses were conducted.

Literature Review

For this thesis topic, the literature review will expand on topics like the history of AI, where it's at, and the pros and cons as it has implemented itself into art and design.

Case Studies

A case study is simply an in-depth examination that creates an even deeper conversation upon a specific topic, situation, or an occurrence that could potentially happen. Three case studies sourced from diverse areas, such as generative AI and AI-logo generators are communicated in this thesis after the Literature Review. By scrutinizing the intricacies of these generators, the case studies aim to ascertain their capacity to effectively respond to prompts.

Visual Analysis

Visual analysis is a method of understanding something, whether it is a piece of art or a design piece, based upon analyzing its visual elements like color, line, texture, scale, and much more. Basically, it is a description of some thing's visual structure. Along with the case studies, a visual analysis will be included to increase the readers' understanding of what is being communicated in the case studies, like an example. A visual analysis will help the reader increase their understanding of how visual material communicates and functions.

LITERATURE REVIEW

Introduction

Artificial intelligence has become the new norm when it comes to a variety of disciplines, including areas like art and design. The use of AI has the potential to improve productivity while offering easy, intelligent tools to quickly create material with already-made design assets. As the utilization of such online AI-driven design platforms increases, graphic designers fear their spot in art and design could replace them and its significant value of delivering high-quality graphics.

Where does creativity come from in the human brain? Creativity is seen to be one of the most predominant aspects of the human mind. Adam Green, PhD, a cognitive neuroscientist at Georgetown University and founder of the Society for the Neuroscience Creativity, found real evidence that an area in the brain called the Frontopolar Cortex, in the brain's frontal lobes, is associated with creative thinking abilities (Wier). This area of the brain helps generate possible solutions to questions, create emotions and have self-reflection. Creativity is the idea of generating and/or ultimately recognizing ideas that may be useful in solving problems, communicating with others, and entertaining ourselves as well as others. Whether or not the use of AI will replace graphic designers all together, how design will be affected, and how AI will aid aspects of design through the idea of machine learning... there is still much more to learn about the topic given it is still relatively new within the fields of art and design (Rezk, 2).

Artificial Intelligence

History

The word "artificial intelligence" is described as incorporating and/or implementing aspects of human knowledge into machinery, but in this case in the form of online design tools. AI was built upon the field of computer science which focuses on increasing behavior, knowledge and skill in the form of machinery, as well as automating those human skills to assist in a variety of ways (Hashemieh, 4).

"Image recognition, smart speakers, and self-driving cars–all of this is possible due to advances in artificial intelligence (AI), defined as a system's ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation" (Haenlein, 5).

AI has to be one of the most highly developed and widely transformative pieces of technology in the history of the world, and you can see it everywhere from machines making and/or dispensing food to machines creating material in the design industry in an online format.

Back in the mid-20th century, AI was first implemented into the creative space when the idea of computer-generated art first emerged (Filimowicz). During this period, computer-generated art gave artists and scientists the opportunity to explore the potential of using computers to create art. In the earlier stages of experimentation, computer-generated art involved simple algorithms that produced geometric shapes and patterns, which gradually evolved into more complex forms as technology improved.

"In the 1960s and 1970s, the field of AI started to gain momentum, and researchers began to experiment with AI techniques such as neural networks to generate more sophisticated artwork. This period saw the rise of computer-aided design (CAD) tools that allowed artists to create intricate digital designs." (Filimowicz).

AI in art and design has evolved over several decades mainly focusing on automating repetitive tasks such as image manipulation, typography, layout, and more. Earlier online AI-driven design platforms were limited in terms of their capabilities and functionalities, but since then have evolved and advanced in their easy, intelligent design tools over the years.

Deep Learning

Artificial intelligence has become such a unique piece of technology given that it has the potential to mimic the human brain where it can learn and solve problems just like a normal human would. The use of AI has been around for years, even decades, and many of us may not even know it. AI started implementing itself in technology on computer games like chess, solitaire, and many other computer games that may sound familiar.

There are other games, apps, and platforms that use artificial intelligence like Apple Maps and Google Maps. They both use AI to determine which route is best for a driver to take, ultimately creating a fast and efficient route through the power of GPS data, user input, and real-time traffic patterns on the road. Smartphones like the Apple iPhone use face recognition like unlocking a device or purchasing something on the virtual wallet, and verbal commands to ask something or to complete certain tasks like sending a message or asking Siri to make a phone call.

Other AI devices like the Alexa, another artificial assistant, can help complete tasks, answer questions, and can engage within your favorite streaming services (Mou, 1).

Investment

An estimate of $15.7 trillion will be invested in AI development by the year 2030 (Choudhury, 2). Data shows the United States and China are both in the lead to have invested the most into the development of artificial intelligence, along with China dominating global AI funding. Within almost a decade, the U.S. has invested a total of $694 billion while China comes in second with a total of $185 billion, all in just AI development globally (Mou, 2).

> **"Perhaps due to this rapid growth in the AI space, there is now an acute shortage of AI talent in many workforces. And this is accelerating the race to acquire early-stage AI companies with promising technologies and personnel" (Mou, 3-4).**

China is pro-active in the creation of artificial intelligence. The Chinese government is promoting its initiatives and goals to develop an AI sector worth about $150 billion by the year 2030. China has subsectors in which the Chinese government has already invested in B2B Services, Lifestyle and Consumption, Transportation and Automobile, Health, and Fintech being the top five subsectors along with several other deals (Mou, 4).

Creative Processes

The fields of art and design are very complex, difficult disciplines that require a lot of attention to detail and an eye for graphics to hit all the critical points of any piece of design. For the creative processes of an AI to develop, there must be a series of training the AI model needs to endure and validate its capabilities. There can be a series of improvements along the way, which ensures the process of the AI model is efficient, consistent, and valid (Choudhury, 1).

AI's easy, intelligent design tools are one of the many ways it is being used within the fields of art and design today. Various design tools like generative fill, already-made design assets, and so much more all use AI without any means of having a graphic designer's involvement in its process.

With the rise of AI in the creative space, its ability to analyze a vast amount of data combined with the ability to learn and adapt has eventually led to the development of new easy, intelligent design tools and techniques in art and design. This technique is transforming the way graphic design is created today and is greatly impacting the fields of art and design.

History of Graphic Design

Gutenberg's Printing Press

The Gutenberg Printing Press was one of the first pieces of technology that revolutionized the way graphic design was done and viewed. During the first half of the twentieth century, televisions appeared and started to create a shift where written communication became digital and more visual (Duarte, 111).

Towards the end of the twentieth century and at the beginning of the twenty-first century, smartphones began to rise. With this, many organizations saw this rise in new technology as an opportunity to distribute more information on devices that are being more commonly used. The utilization of computers and the internet has also revolutionized the way information is perceived. We see visual communication everywhere like on computers, tablets, phones, TVs, even digital billboards while driving on the highway.

> **"The term printing press in the context of the book serves simply as a convenient label – a shorthand way of referring to a larger cluster of specific changes that entail the use of movable metal type, oil-based ink, and so forth" (Eisenstein, 24).**

The printing press and the creation of movable type created the largest impact on the world. The printing press was able to produce and reproduce multiple copies of different publications, including the Bible to help distribute God's word much wider and faster than ever before during that time. For many years, the publishing of certain publications relied solely on the printing press, and other forms like handwriting. Now printing is widely available at schools, colleges and universities, at work, printshops, and so much more. Although this world is slowly switching to be more digital, the idea of printing still creates a positive impact on the way information gets distributed (Eisenstein).

The Industrial Revolution

The Industrial Revolution took place between 1760 and 1840 and had positive impacts economically, socially, and politically, which allowed us to get to where we are today. Graphic design became one of the most important forms of production during the Industrial Revolution. Graphic design is the reason typographic letterforms explode in size and are heavily altered in the form of visual communication. Philip B. Meggs and Alston W. Purvis, the authors of *Megg's History of Graphic Design*, mention that larger scale, greater visual impact, and new tactile and expressive characters were demanded (Meggs and Alston, 152). Also, many inventions during the Industrial Revolution have positively impacted the field of graphic design. Introducing machines for typography and graphic design helped save time and decrease the amount of costs for production. The Industrial Revolution changed technology just like AI is changing technology today.

Understanding the Use of AI in Design

Automating Design Tasks

One of the ways AI is significantly impacting the fields of art and design is through the ability to automate repetitive tasks. Such tasks include image manipulation, web design, and collateral mockups. By automating design tasks, AI has given graphic designers more time to focus on their creativity and strategic aspects of their work, like brainstorming new ideas and ways of thinking as well as exploring new design possibilities and conceptualizing new projects which can lead to more innovative and successful design executions. By doing so, this not only improves effectiveness, but it allows graphic designers to be more expressive within their work and leads to better design choices (Mustafa, 245).

AI-Assisted Design Tools

The automation of such design tasks mentioned can be achieved through various AI-assisted design tools. Examples of such design tools can be image manipulation: 1. Adjust the brightness, contrast or color of an image, 2. Adding more to an image by using a generative fill tool, and 3. Amping up the resolution of an image if it is too small in size. Next, another example is web design where a user can utilize an AI-based web development tool to create a website from scratch without any knowledge of coding. Lastly, collateral mockups can become an essential tool to graphic designers where they can mockup their design(s) on pieces of collateral like postcards, brochures, cups, pens, on a billboard, and so much more. With the implementation of AI-assisted design tools, it has become beneficial to graphic designers since it can help save vast amounts of time in the design process, as well as generate designed material (Mustafa, 245).

AI-Driven Graphic Design

To better understand the impact these AI-driven design platforms are creating, we need to examine the scope of data and user preferences when it generates designs. This is possible and managed through deep learning and neural networks, which allows these online AI-driven design platforms to analyze and interpret vast amounts of data in a way that was not previously possible (Mustafa, 243).

"AI-based design tools can be used to generate designs that are tailored to specific age groups, gender, or geographic location. This can help to ensure that designs are relevant and appealing to the target audience, which can increase the chances of engagement and conversation. Similarly, AI-based design tools can be used to generate designs that are tailored to specific browsing and purchase history. This can help to ensure that designs are relevant and appealing to the user, based on their past behavior, which can improve the user engagement and increase customer loyalty" (Mustafa, 246).

This type of benefit from AI can ensure that designs stay relatively current and appealing to users, which can improve user engagement and customer loyalty. It can help, users and graphic designers, know what stakeholders are interested in and what is currently trending in the creative space. It makes it easier for graphic designers to generate material from those online AI-driven design platforms. This kind of benefit also helps graphic designers identify what organizations are currently looking for in terms of design aesthetics. Creating pieces of work that make a specific audience feel they are important and valued is a great confidence boost for viewers. A lot of businesses are now being inclusive and more open within their marketing strategies and initiatives.

Adapting to AI-Driven Design Platforms

Understanding the use of AI in art and design informs better decision making and leads to more strategic and effective design solutions.

These kinds of benefits can help graphic designers work more quickly and efficiently in such fields as branding or marketing, especially when data-driven design decisions can create a significant impact on the success of a campaign. As AI continues to advance over time, it is still improving based off users' feedback. This means AI is becoming more accurate and efficient and will eventually be able to generate design material tailored to the user's preferences, needs, and wants.

For non-designers, adapting to utilize AI can become difficult in the design process. Since online AI-driven design platforms are accessible to the public, many users don't realize how they are communicating brand inconsistency. When communicating brand with AI, nothing is "consistent." Items like character/paragraph styles, colors, typography, and many others can be so different across the different assets being created. Online AI-driven design platforms like Canva created a resource for users to utilize called a Brand Kit and the idea of a Brand Kit is to stay on brand when creating designs for different organizations and/or campaigns.

AI and its Impact in the Design Industry

Advantages

Online AI-driven platforms for graphic design, logo generation, and web design all offer smart, free and 24/7 online access to their platforms. Most platforms are free but if a user wants to access more than what is offered for free, they pay a fee which is much cheaper than hiring a graphic designer to physically do the job.

These online AI-driven design platforms are logical and offer a sense of professional accuracy since these platforms are programmed to follow the rule of three, Fibonacci's spiral, the golden ratio, sacred geometry, and so many others (Bosyuk, 36).

"AI technology has a positive effect on art design. AI technology can be applied not only in art design, but also in art education. AI technology can effectively cultivate students' art knowledge, help students get more practice in a short period of time, constantly accumulate experience, and lay the foundation for future art design" (Zhai, 984).

With online AI-driven design platforms, there are opportunities for graphic designers to learn something new and fresh. Graphic designers can expect to learn more about design if they are lacking a bit of creativity and would eventually need to adapt to AI since this new kind of "intelligence" has gained popularity. When graphic designers begin to adapt to this new kind of intelligence, they can expect to produce a series of design material in a matter of minutes (Bosyuk, 37).

"AI-based design tools have made it easier for designers to identify patterns and trends in data, which can inform design decisions and lead to more strategic and effective designs. This can be especially beneficial for designers working in fields such as branding and marketing, where data-driven design decisions can have a significant impact on the success of a campaign" (Mustafa, 245).

AI has made its tools based upon data and user preferences, which has made it possible for graphic designers to adapt to these preferences. With this, it has increased the personalization of such designs, and it has improved user engagement and customer loyalty. These kinds of online AI-driven design platforms have been able to obtain these user preferences and data by looking at demographics, browsing history, and purchase history. While obtaining these data points, graphic designers can use this to pivot towards what is currently trending and what customers are currently searching for in terms of design aesthetics (Mustafa, 245).

Additionally, these online AI-driven design platforms have made it easier for graphic designers to identify the kinds of patterns, elements, and trends in data, which has informed graphic designers to be better decision makers when it comes to a clear, visual design aesthetic. Working in branding and marketing, with this benefit that these online AI-driven design platforms offer, data-driven decisions have made a significant impact on the success of many campaigns that have taken place already.

"Overall, the impact of AI on the graphic design industry has been significant, with the ability to automate repetitive tasks and generate designs based on data and user preferences. This has led to an increase in productivity, efficiency, and personalization, which has improved user engagement and increased customer loyalty. As technology continues to evolve, we can expect to see even more exciting developments and possibilities in the field of graphic design using AI" (Mustafa, 245).

More into the topic of branding and marketing, online AI-driven logo generators have progressed in graphic design, offering quick and easy brand creation of a single logo. Out of the three million users who have created their logo using an online AI-driven logo generator say those generators offer a wide selection of logos to choose from (Bosyuk, 36).

Online AI-driven web design platforms like Wix, GoDaddy, Weebly, Squarespace, and so many others offer the ability to fully create a website from scratch with no coding experience required. Wix was the first-ever online AI-driven web design platform to be used by more than one million users and since then has grown over the years (Bosyuk, 36).

AI has revolutionized web design, enabling millions of users to effortlessly craft a professional website in minutes, without the need for a web designer or developer.

Disadvantages

Online AI-driven design platforms are not always going to be perfect or turn out to be a great solution as they too can carry weaknesses. Customers who use these platforms can get a sense they are time consuming whereas the user might need time to learn some features as well as explore and learn what these platforms can create in terms of deliverables. If a user is looking to create something unique and original, then these online AI-driven design platforms are not able to perform those tasks given their set limitations (Bosyuk, 36).

These online AI-driven design platforms can substitute a real graphic designers' physical job, which applicants can see a significant decline in design opportunities being offered in the fields of art and design.

To work in the fields of art and design, you need to know about art and design in the form of knowledge and skill obtained through education. Design professionals spend a large amount of funds and/or take out loans to afford to go to school. With all these online AI-driven design platforms, it has become easier for anyone to become a "graphic designer." Design professionals often have spent years going to school, learning about art and design, and have created pieces of work for their courses demonstrating their expertise. When utilizing online AI-driven design platforms, no design experience is required to work with the software since these platforms have made it accessible for anyone to use.

When using online AI-driven design platforms, there is no originality when it comes to generating design material. There could also be technical faults and delays, as well as the lack of support in updating when it comes to generating new creative ideas and ways of thinking in terms of aesthetics (Bosyuk, 37).

Graphic designers could see a possibility of losing the opportunity to design brand marks, also known as logos, to let all the work be done by an online AI-driven logo generator (Duarte, 109).

Although these online AI-driven logo generators can help users create a logo in a matter of minutes, they also lack originality, ultimately leading to users generating similar logos every time given their limitations. Often small start-ups use these logo generators, and you can see logos that are somewhat similar, but can vary in color, type, and design elements.

Online AI-driven Design Platforms

Many online AI-driven design platforms, like Canva and Figma, offer a creative space that promotes best practices for design creation utilizing already-made design assets. These platforms offer already-made design assets like marketing material, social media posts, infographics, posters, slideshow presentations, and so much more. This could come as a bit of a shock to design professionals, but platforms like Canva offer courses through their Design School to learn how to design using their platform. Canva also offers thousands of design tutorials on how to design like a pro, explore typography, design trends, color, and so much more.

A company like Adobe, who has created the Adobe Creative Cloud suite, has developed an AI-driven design platform that creates design material based on data gathered over time on creativity and design. Adobe has introduced Adobe Sensei and it has proven to either assist in the design process or to increase potential creative expression by speeding up activities and workflows (Engawi, 2.1).

Most art and design programs at colleges and universities use the traditional Adobe Creative Cloud suite applications to teach their students. The Adobe Creative Cloud suite applications are an industry standard for graphic designers, whereas newcomers can feel a bit overwhelmed by those programs. Within the Adobe Creative Cloud suite comes Photoshop, Illustrator, InDesign, Lightroom, Dreamweaver, and many other applications to express one's own creativity.

One can find themselves creating, editing, and organizing images; creating print and digital publications; creating logos and visual elements using shapes, color, effects and typography; creating slideshows and videos; and designing posters, infographics, user interfaces, and much more (Lehnen, 2).

The Careers of Graphic Designers

Artificial intelligence has already projected either a threat or a sense of help to the careers of graphic designers. It is not known if graphic designers may lose their job to a machine in the years to come. Based on research and current findings, AI is here to help inspire graphic designers while promoting creativity and inspire new ways of thinking.

Pros

AI has made it helpful for graphic designers to adapt to this new evolution with the most diverse software, making it increasingly easier to use during any design process. Online AI-driven design platforms can help increase creativity by introducing already-made design assets so graphic designers stay relevant and current within the creative space. This transformation has empowered graphic designers to think of future possibilities by pushing them to positively adapt to this change rather than fear whether they will lose their job, and more so their career.

"Besides the fear of AI-robots taking over jobs in the Graphic industry, Artificial Intelligence has made the work easier like it does in any field. It is now clear that the relationship between graphics and AI is increasing on a large scale, its implementations are being widely used" (Sindhura, 826).

AI has introduced assisted design tools to help graphic designers speed up workflow like implementing generative fill, photo resolution enhancers, and so much more. AI comes in to help graphic designers save a significant amount of time to speed up workflow so they can complete projects more quickly and to take in more work.

With the implementation of AI in art and design, automated design has reduced labor costs significantly compared to having a human graphic designer on the team. This implementation of reducing labor costs has left organizations with more money, which they can put elsewhere (Nguyen, 5).

Cons

Graphic designers face an impact from these new pieces of technology, such as AI, with its easy, intelligent design tools making them easily accessible for anyone to use. It is well-known that AI, as an innovative tool, could improve the way organizations market within the design industry.

"Of course, the development and implementation of AI is not without its share of controversy, and the debate about the risks and rewards of this unique and revolutionary technology tend toward extremes, with many observers predicting that AI will destroy jobs and even eventually threaten humans" (Mou, 1).

It is already known that AI has started taking over jobs, routine tasks, and projects from real, human graphic designers. With an increase in AI development and usage of such platforms, the challenge to find opportunities in the fields of art and design is starting to become harder. Many graphic designers fear that a machine can potentially replace them in the years to come with the rise of technology.

"Today, the question is not whether machines have the ability to think but whether machines are as creative as people. In 2014, Mark O. Riedl proposed a test, named "Lovelace 2.0," which measures creativity of machines. Like in other fields, AI has entered business areas that require creativity. Employment declines in certain sectors as AI comes into play. Some argue that employment rate will go down in the field of design in the future. Others think there is not going to be much change in the employment rates of professions that require creativity, which a robot can ever have" (Karaata, 184).

Job displacement is one of the major concerns graphic designers fear due to the development of AI. As technology advances every day, the use of computer intelligence may replace real, human graphic designers while leading to a loss in human creativity and skill within the fields of art and design. With AI's technical limitations, the idea of generating new ideas and ways of thinking is nowhere in sight (Karaata, 184). AI is unable to generate new ideas and ways of thinking on the spot like human creativity can due to technology needing to be updated every so often.

An example of this can be an online AI-driven design platform struggling to generate a design that is deep in human emotion or creating a design that evokes a particular mood to target a specific market or audience (Nguyen, 2).

"As AI technology continues to advance in the design industry, companies are considering automated processes that can streamline work and improve efficiency. This development has led to concerns among designers about the potential replacement of their jobs by machines" (Nguyen, 2).

While utilizing AI algorithms, the automation of doing design tasks can already be easily accessible through various platforms to complete many of the practical tasks performed by a human graphic designer. Doing this will allow users the ability to bypass human graphic designers altogether. Some work has been replaced with AI, which includes graphic design work. In the Design in Tech Report 2019, it pointed out visual designers will be replaced by AI within the next five years, beginning in 2024 (Mada, 69). Many graphic designers also begin to worry and start to re-define their value in the creative space to see where else they fit in, and to see where their knowledge and skill is valued.

"The advancement of AI technology raises significant concerns about the impact on unemployment. As AI technology continues to advance, it has the potential to automate and replace numerous job roles traditionally performed by humans. Tasks such as data entry, customer service, and even some aspects of manufacturing, can now be efficiently handled by AI systems. Goldman Sachs predicts that 300 million jobs will be lost or eliminated due to AI" (Nguyen, 7).

Conclusion

Online AI-driven design platforms are rapidly developing and gradually conquering new sectors in the design industry from simply structured eye-catching templates for graphic design, logo generation, web design, and so much more. Though these online AI-driven design platforms are here to assist users in the design process, at the same time these platforms range from a variety of strengths and weaknesses, risks and opportunities (Bosyuk, 37).

"But how do we regulate a technology that is constantly evolving by itself–and one that few experts, let alone politicians, fully understand? How do we overcome the challenge of being sufficiently broad to allow for future evolutions in this fast-moving world and sufficiently precise to avoid everything being considered as AI?" (Haenlein, 13).

AI in art and design both have advantages and disadvantages, which can either help improve design today or ultimately take over the careers of graphic designers.

One of the major advantages seen with AI in art and design is the amount of efficiency and productivity with client projects, as well as project intake. There is no doubt AI has very much improved the way graphic designers work today and the way the market flows. On the other hand, there are many disadvantages to the use of AI in art and design. One of the major concerns is the loss and disconnect of human touch upon aspects of creativity. Online AI-driven design platforms can automate tasks and generate design material, but they are currently not able to match up with the creativity and artistic touch of a real, human graphic designer. Additionally, with more and more implementation of AI, there could be a decline in job opportunities. Ultimately leading to tasks previously performed by a real, human graphic designer to being automated by online AI-driven design platforms.

With literature that has already been published, it is seen that AI can only assist users in completing part of a design task and realistically can't completely replace human thinking. AI can only do so much with the number of limitations it is pre-programmed with, versus a human who can generate creativity and analyze new ways of thinking.

"AI can complete the analysis of massive data in a short time, but it is unable to properly analyze the extremely rich human thoughts and emotions. From this, it can be seen that the judgment and grasp of emotion can't be perfectly realized by AI at this stage, which leads to the fact that AI can't well present the content that people are most concerned about in the field of art design, and can't create highly infectious and shocking works of art, which is an argument problem to be solved in the future development of AI" (Zhai, 985).

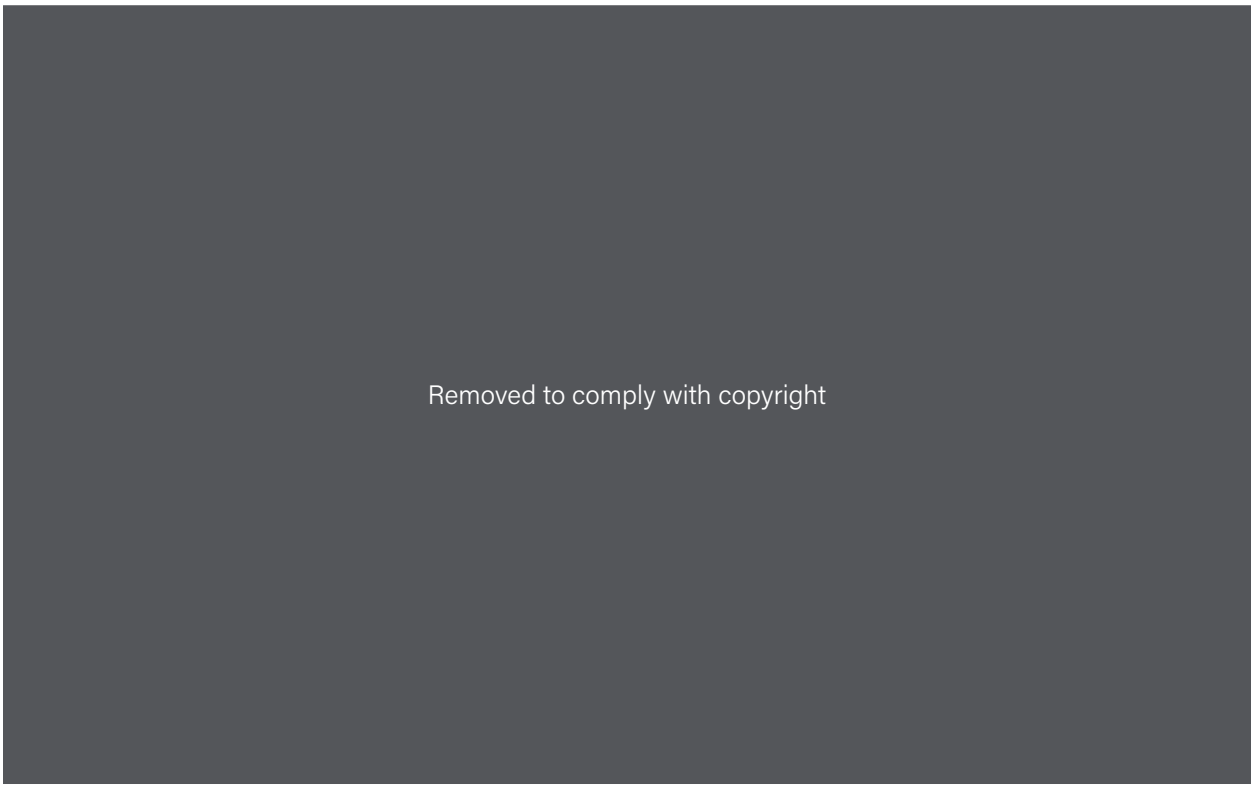
Despite the advantages and disadvantages of AI in art and design, there is so much more development that needs to be done. By working together, both design and tech industries can ensure that AI is implemented into such platforms responsibly and ethically that will be beneficial to stakeholders as well as graphic designers. Implementing something as powerful as AI in the creative space is complex. The implementation of AI in the creative space requires careful consideration between graphic designers, developers, and tech companies to ensure the right approach and best practices in terms of online AI-driven design platforms. While doing this, AI could have the potential to revolutionize the fields of art and design and bring significant benefits to graphic designers and consumers today.

For the future, graphic designers should be educated with the essential knowledge and skills about AI-driven technology to effectively adapt to and engage in the future of automation.

Case Study #1

The Impact of Artificial Intelligence on Design Thinking Practice: Insights from the Ecosystem of Startups

1



Company:
GiveWell

Designer:
Artificial Intelligence

Author(s):
Cabirio Cautela, Marzia Mortati, Claudio Dell'Era, and Luca Gastaldi

Publication:
Strategic Design Research Journal

This project is to acknowledge artificial intelligence is impacting organizations in the way they manage their knowledge, activate innovation, and design processes.

This project asks a series of questions addressed throughout the document, tailored to increase the understanding of the transformative occurrence in design thinking and innovation practices.

This source points out a few main changes: 1. a facilitation in blending the right mix of cultures and creative attitudes in innovation teams; 2. the empowerment of the research phase where statistical significance is gained, and user analysis are less observer-biased; 3. the automatization of the prototyping and learning phases (Cautela, 114).

Outcome

The persons responsible for this project indicate artificial intelligence is impacting the use of design thinking in a variety of ways. If design thinking is mainly referring to the context of the design problem, then the future of AI will probably be directed to the context of the solution (Cautela, 128). It is mentioned that AI is "shrinking and accelerating" the research phase, which is expected so managers and graphic designers can focus more time on activities related to creativity and more on proposing new creative solutions.

This project indicates AI is entering the prototyping phases and while these phases undergo, it could be likely the future of prototyping can be led by an AI. With this, graphic designers can test their solutions on "virtual individuals" characterized by realistic sets of preferences and emotions (Cautela, 128).

Visual Analysis

Figure 1 showcases an AI-generated advertisement consisting of text, graphic elements, and features an image of a child.

Visually analyzing the ad, its purpose is to have its viewers sponsor a child who lives in poverty. As far as design thinking practices go, generative AI failed to do its job to supply an ad tailored to its messaging and to create an emotion.

Target audiences can be individuals living in wealthier areas of the world or close by to those who are living in poverty. Other target audiences can be those who work in industries that help people living in poverty by offering free low-income-driven programs.

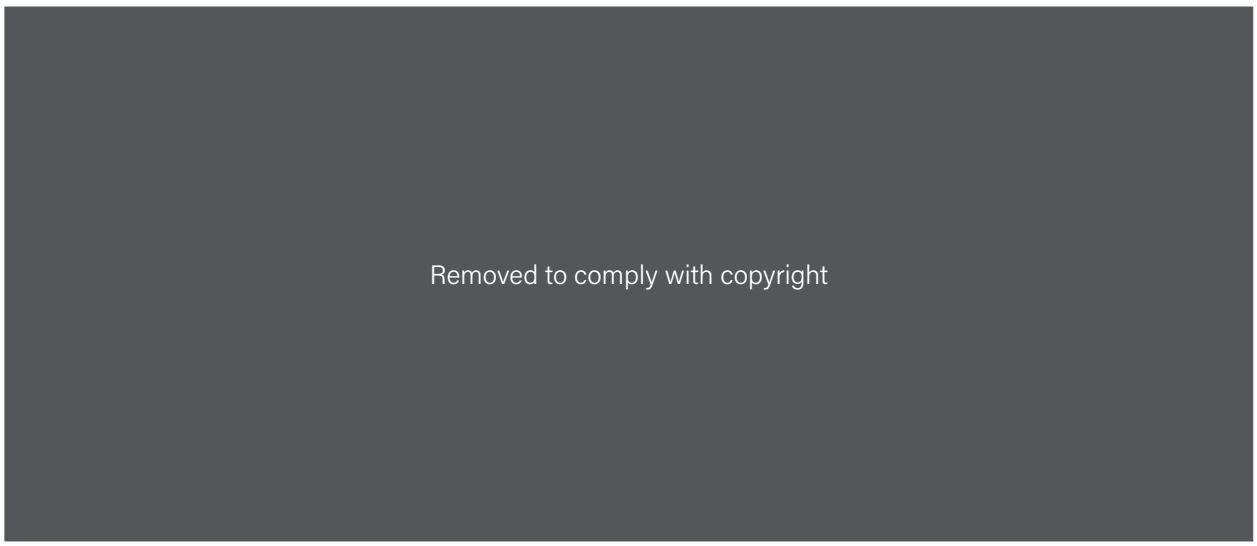
The solution is in the messaging, to have the viewer help save the life of a child living in poverty by simply sponsoring. In the advertisement, it does not identify how an audience member can sponsor a child either by donating money, buying their family groceries, or helping them buy a gift they've always wanted, etc. There is also no call-to-action/button to click on that leads the viewer to a website to act as a sponsor. An audience member can save the life of a child living in poverty with no identifiable solutions.

As far as visually analyzing the advertisement, how does generative AI know what a child of poverty looks like? These are the topics in which generative AI cannot accomplish because it involves real, human knowledge to communicate these sensitive topics clearer.

Case Study #2

The Impact of Artificial Intelligence on the Graphic Design Industry

2



Company:
Koomin

Designer:
Artificial Intelligence

Author(s):
Bahaa Mustafa

Publication:
RES MILITARIS

This project demonstrates how rapidly artificial intelligence is transforming the design industry. It explores the impact AI has already made on graphic design and what the future of the creative space could look like as technology continues to advance.

This project also analyzes a diverse range of case studies that were conducted on different online AI-driven design platforms. The author analyzes platforms like The Grid, Adobe Sensei, Logojoy, Prisma, and so many others. A lot of these different online AI-driven design platforms all have the same purpose. They are intended to make every user a "graphic designer" without any design experience required. With integrated AI-assistance tools, users can create and mock-up designs in minutes like presentations, flyers, social media assets, and so much more. Artificial intelligence has become more common in a variety of different industries for its easy-to-use and efficient software, and quick turnaround time in design execution.

Outcome

The people responsible suggest based off their research in this project that artificial intelligence has the potential to greatly impact the fields of art and design. In their findings, most graphic designers have reported that the use of AI has made a positive impact on their work with many reporting AI's set limitations along with its technical skills required to use the technology.

Visual Analysis

Figure 2 features a logo design solution that has been created by different online AI-driven logo generators. These different logo generators have created ALMOST the same logo with similar type treatments and iconography. The different logo treatments are either linear or stacked with the same exact iconography to go along with the type treatment. Figure 2 also showcases color variations and gradient effects, even drop shadows within the type treatments.

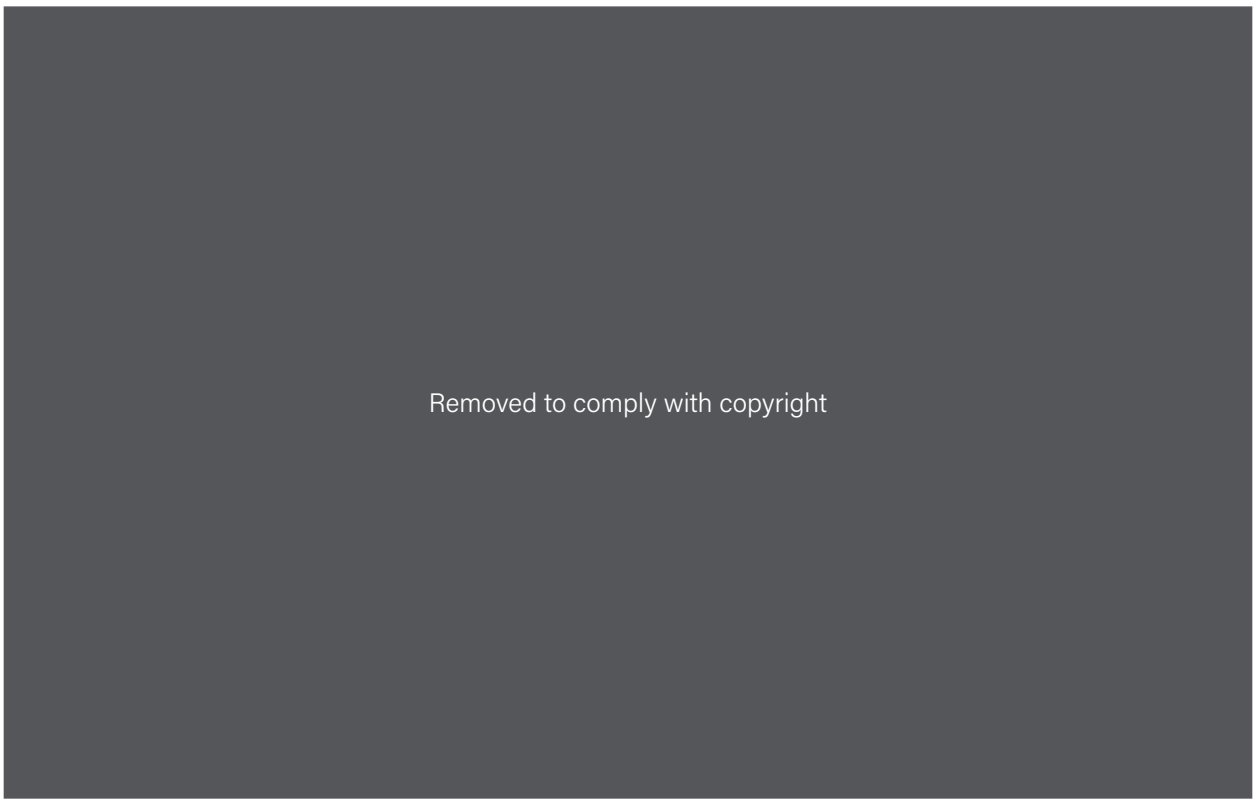
A target audience could be small start-ups, small businesses, or even local businesses as they tend to lean more towards these online AI-driven logo generators to mock-up their own "unique" logo. Another target audience can be those who do not have the finances to afford to pay a graphic designer to create a unique logo for their business.

Figure 2 indicates that these online AI-driven logo generators are not as creative as you may think they are. Two people could have the same name for their business and could potentially have the same visually looking logo. This visual can bring awareness to these generators or create a chance for growth and advancement for them.

Case Study #3

An Artificial Intelligence Based Data-driven Approach for Design Ideation

3



Company:
Mountain Creek Vine Yard

Designer:
Keondre Jones

Author(s):
Liuqing Chen, et al.

Publication:
Journal of Visual Communication and Image Representation

This project focuses on the subject of ideation, that it is a source of innovation and creativity, which is commonly used in the early stages of the design processes (Chen). Ideation is part of the design process and it is intended to help generate new ideas and ways of thinking. With the help of ideation, thereafter comes creativity. With creativity, you can use those ideas from the ideation process to build something together.

This project introduces two models: 1. semantic ideation network; 2. visual concepts combination model. With these two models, they provide inspiration semantically and visually based on computational creativity theory.

Outcome

The authors responsible suggest, based off their research in this project, the semantic ideation network model can provide a variety of cross-domain associations and progress the ideation process forward quickly. They also suggest in the visual concept's combination model, the generative adversarial networks-based algorithm generated a variety of images in the ideation design task. Through this process, it looks to have produced semantic and visual stimuli for ideation, and improve the quantity, variety, and novelty of ideas generated.

Visual Analysis

Figure 3 features a graphic designer who was tasked to work on a logo with DALL-E, an OpenAI used to generate images from language. The visuals depict what looks to be a wine company (based off visual design elements). Within the wine glass is a mountain, the sky, and the sun. Within the typography of the logo, it showcases serif and sans serif typefaces to illustrate the look and feel of the organizations branding. The visuals are also represented in different color variations showing what it would look on a white background versus a colored background.

A target audience could be small start-ups, small businesses, or even local businesses as they tend to lean more towards these online AI-driven logo generators to mock-up their own "unique" logo. This could also be of interest to other graphic designers, like Keondre Jones who is responsible for this project, who work with AI-generated programs to help them with design ideation.

This visual concept aims to convey a crucial message—highlighting the limitations of online AI-driven logo generators in terms of creativity, as illuminated by the struggles faced by the graphic designer involved in this project with DALL-E. It serves as a catalyst for increased awareness around the capabilities of these generators, opening avenues for potential growth and advancement in logo generator technology.

CONCLUSION

While existing research provides valuable insights, the evolving landscape of artificial intelligence in the creative space underscores the imperative for further investigation. The relatively nascent nature of AI applications in this domain necessitates ongoing research to comprehensively explore its potential and impact.

Artificial intelligence has many benefits as mentioned in the Literature Review, but it also comes with many disadvantages. There is still yet to be an AI that is efficient enough to be introduced into the fields of art and design. The research presented in this thesis solves the issue that AI is not capable of handling automated design tasks on its own. Having a real, human graphic designer by its side would be the best solution since AI is not 100% accurate in determining what is professional enough to be in a successfully designed asset.

This research reveals a notable gap between the capabilities of an AI and the search for accurate demands of creative tasks. This fundamental challenge underscores the premise of the research presented in this thesis to address the inherent limitations of AI in handling automated design tasks independently.

In the Case Studies and Visual Analysis section of this chapter, it is visually known that AI only generates creative ideation through data and user preferences. There is no real creativity in the ideation process of an AI, and it is not capable of handling creative solutions on its own. AI lacks the ability to innovate, improvise, or envision beyond its programmed parameters. The creative solutions produced by an AI are algorithmically derived responses rather than genuine expressions of imaginative insight or artistic flair.

CHAPTER 3:

Visual Process

VISUAL PROCESS

The two visual solutions for this thesis that would be best, according to the research, to accommodate the use of AI in our daily workflow would be to create a *style guide* and a series of three *infographics*.

The purpose of these solutions are to **inform, teach, and educate** designers and non-designers that AI is here and has significantly made an impact in the design industry over the last several years. Sooner or later, we as designers, are going to have to adapt to this new piece of technology. AI continues to create design tools to help designers and non-designers work more efficiently.

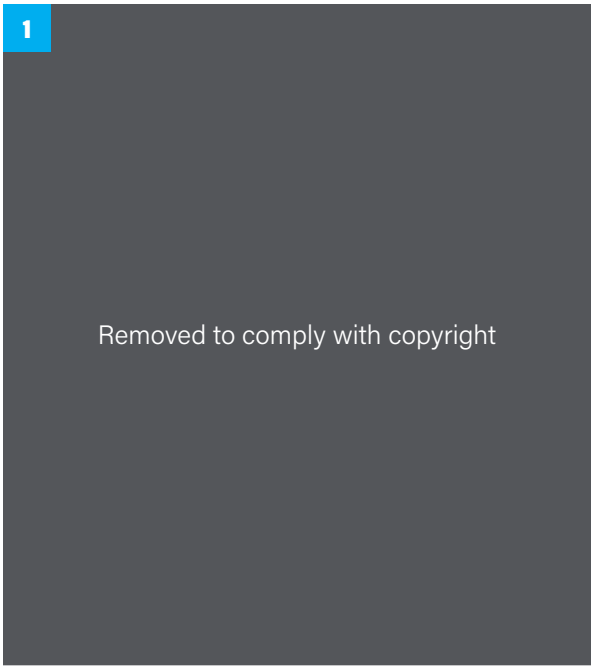
Style Guide

The style guide will function as a comprehensive resource for both designers and non-designers, providing a clear delineation of design principles, essential do's and don'ts, and insightful guidance. The purpose of the style guide is to foster consistency and brand alignment across visual elements, design aesthetics, and messaging, ensuring a unified and compelling brand identity across any organization who utilizes the use of such online AI-driven design platforms.

Infographics

The series of three infographics will act as a powerful testament, illustrating the transformative and empowering influence of AI on the dynamic landscapes of art and design. Despite lingering concerns about the extensive integration of AI in the industry, these visuals celebrate its role in empowering designers to enhance their efficiency within their daily workflows and ushering in a new era of creativity and productivity.

1



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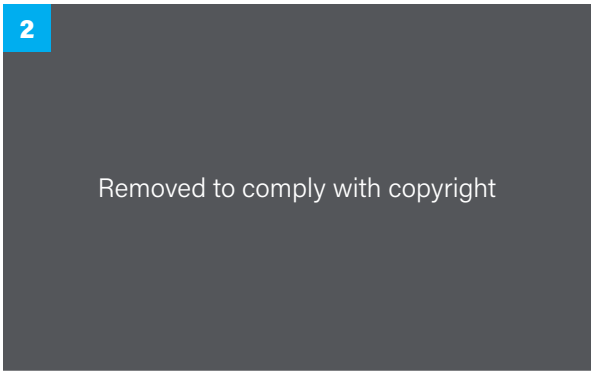

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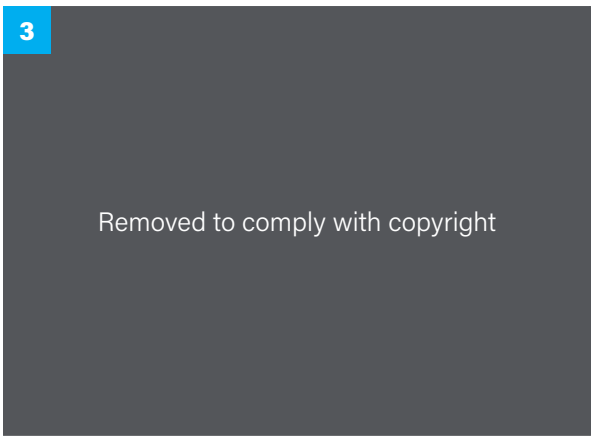
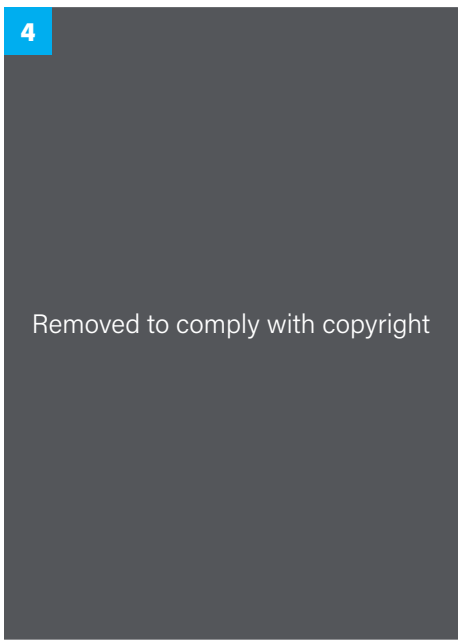


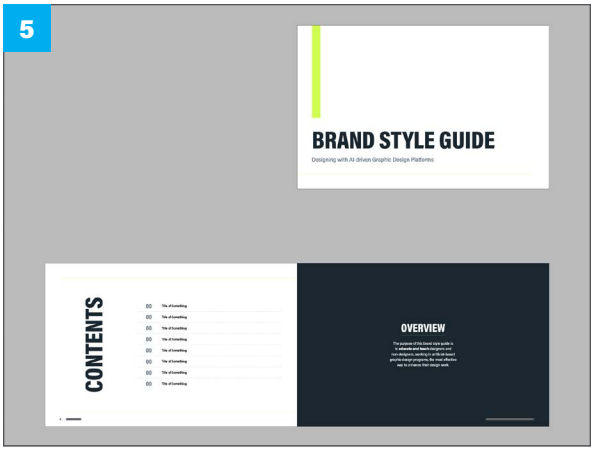
Mood Board

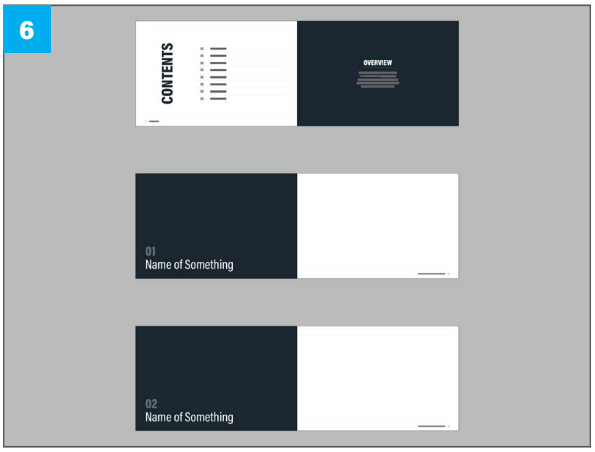
A mood board demonstrates design ideation by evoking a mood, style, or theme. It becomes a versatile tool towards aiding in the creative process, communication, and decision-making, providing a solid foundation for the visual direction of your next design project.

The visual research in this chapter includes sketches, color palettes, branding, layout, typography, and photography. The mood board inspiration reflects a minimalistic style as for my deliverables, the content within them is more important than the design itself. Incorporating a minimalistic style lets the visuals speak for themselves rather than becoming overpowered by the design elements that surround them.

4







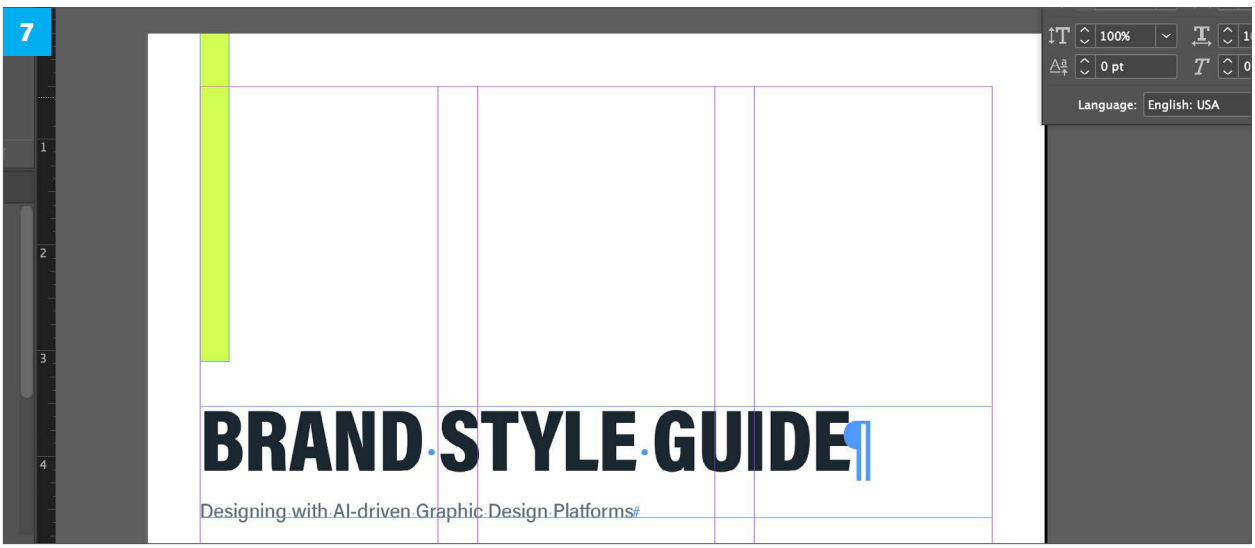
This mood board ensures that the information takes center stage, prioritizing its prominence over the design elements to prevent overshadowing.

Sketches

Throughout this creative journey, sketches emerged as a pivotal component (figures 5–7) in discerning the optimal aesthetics for the visual solutions. Given the digital nature of all the visual concepts, leveraging Adobe Illustrator for sketching proved to be the most effective method in shaping the design process. This approach facilitated the exploration of diverse concepts, including typography, logos, and color ideation, as exemplified in the style guide and infographics.

Color Palette

Various color palettes were generated based on the branding of each example shown in the visual solutions. As a result, when researching and combining color codes to determine which color combination fits best, the idea of color theory, the study of how colors interact with each other to create an impact on both emotion and perceptions, was taken into consideration.



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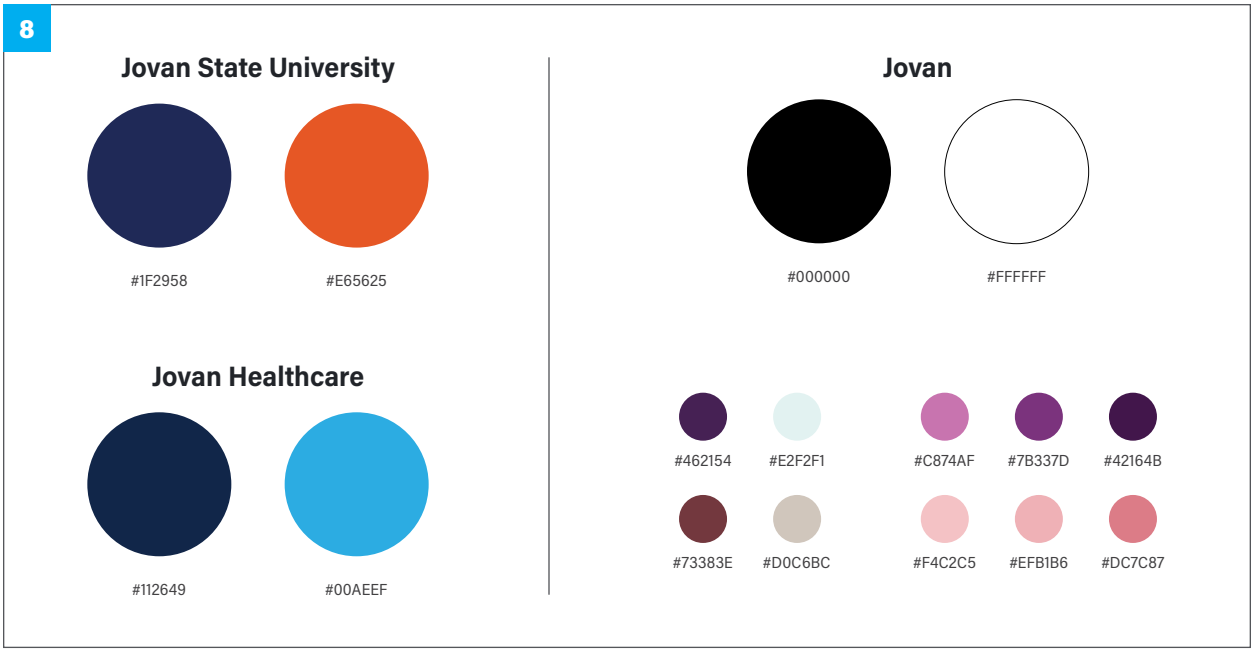

Utilizing color is not just about making something look pretty or aesthetically pleasing, but rather, it is a powerful tool for building brand identity and communicating with consumers (Maidment). Colors can evoke specific emotions and affect us in many ways, as well as create brand expression that can drive effective decision making and influence a viewer's behavior.

Color is one of the most essential components of visual brand identity, so choosing the right color palette matters for the success of your brand as it embodies personality, appeals to your audience, and it differentiates your company from fellow competitors (Maidment).

In figure 8, the decisions made for my color choices were based on different shades of the same color and to have a color completely opposite to serve as an accent color for small design elements like lines and buttons to draw attention to/call-to-action.

Branding

Style Guide

When creating the branding for the style guide, it needed to prioritize the content rather than the design itself. There are a few design elements within it, but it is very minimal like handle/anchor points, white object/text boxes, and a cursor. The overall design mimics the look and feel of the Adobe programs like Photoshop, Illustrator, and InDesign. I designed the style guide this way to tie into the topic of this thesis.

The layout of the style guide offers a minimalistic feel that embodies structure to showcase the creative elements within its contents.

Infographics

When creating the infographics (a series of three), they needed to emphasize their content as these pieces are statistical facts about how AI has impacted the design industry.

9

Acumin Variable Concept

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The infographics embody the same stylistic elements as the style guide for them to act as a pair.

Jovan State University

When creating the branding for Jovan State University (figure 14), the university wordmark needed to establish an educational institution feel. It also needed to demonstrate that this institution works hard on creating an impact to its students' knowledge, confidence, morals, values, and discipline.

Jovan

When creating the branding for Jovan (figure 22), a luxury-goods company, the wordmark needed to embody the characteristics of living a luxurious lifestyle.

Jovan Healthcare

When creating the branding for Jovan Healthcare (figure 27), it needed to embody characteristics of a healthcare facility and emphasize trust to its patients ensuring quality healthcare.

Typography

Style Guide and Infographics

When determining which type treatment to use for the style guide, a sans serif typeface was best because sans serif typefaces can be condensed to accommodate space for lengthy copy, taking into consideration that this visual solution is a teaching tool.

The typeface used in the style guide is Acumin Variable Concept. This sans serif typeface is versatile and equipped with a variety of styles ranging from extra light, light, regular, medium, semibold, bold, black, italics, and condensed styles. This typeface also allows you to adjust the weight and width of its letterforms to accommodate for any typographic situation.

10 Liberty University

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11 California State University, East Bay

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12 California State University, Chico

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13 California State University, Fresno

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Jovan State University

A wordmark is similar to a logo, but a wordmark only carries typographic elements to form an original mark with no other design elements within it (Logomakerr.ai).

When determining which type treatment to use for the university wordmark, a serif typeface represented more of a professional feel with its thin and thick strokes throughout its alphabet. While carrying thin and thick strokes, serif typefaces promote readability that help readers read faster and enhance legibility of individual letterforms by providing an additional cue to the location of its stroke ends.

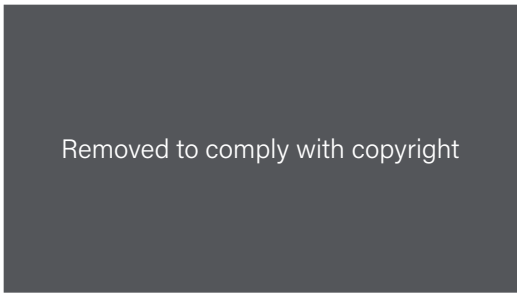
The typeface used in the Jovan State University wordmark is Baskerville with Jovan upper/lower case, State University all caps and tracked out at 400. The wordmark also features a line as a symbol of modernism, but its purpose is to separate State University so that Jovan is the only element that is emphasized.

14

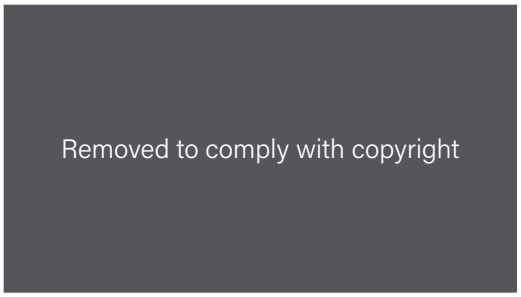
The reason for utilizing Baskerville in the university wordmark is because the typeface has an increased contrast between its thick and thin strokes, making the serifs in its letterform's sharper, more tapered, and shifts its axis of its letterforms more vertical positioned compared to other serif typefaces.

The Baskerville typeface is known for its historical components because it represented a deliberate move away from the Old Style typefaces of the preceding centuries and foretold the Moderns that were to follow (Murrayims). In this case, the utilization of the Baskerville typeface was to demonstrate the institution has a historical representation for its accomplishments in providing its students with quality education that can offer them career opportunities for a lifetime.

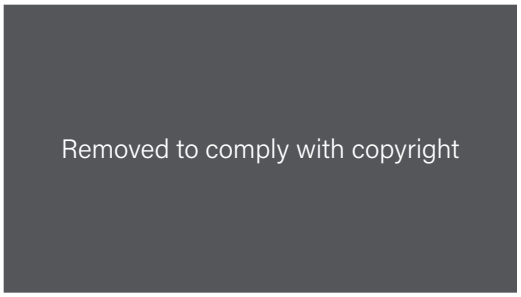
15 Armani



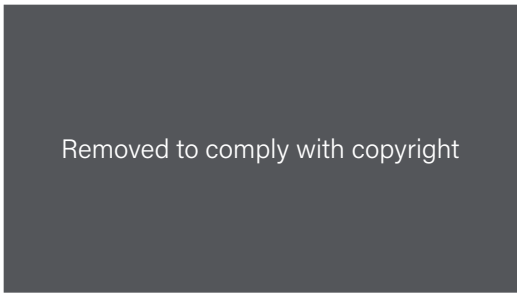
16 Louis Vuitton



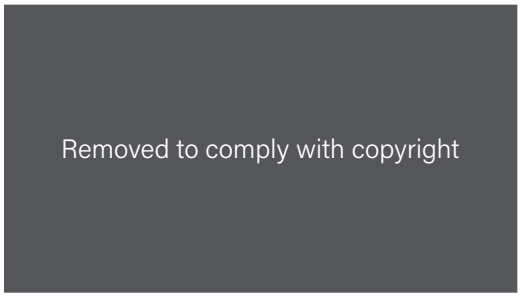
17 Prada



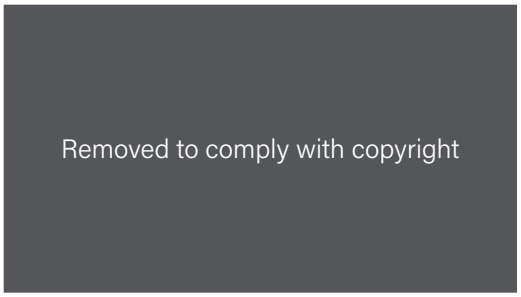
18 Dior



19 Jimmy Choo



20 Tiffany & Co.



21

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22

JOVAN

JOVAN

Ivy Presto Headline

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Jovan

In the process of creating the Jovan wordmark, researching popular luxury companies like Gucci, Tiffany & Co., Louis Vuitton, Dior, Prada, and much more became the direction in which it took. The reason these luxury companies were the avenue Jovan wanted to go in was because of their choice of white space, bold colors, geometric and high contrast fonts. Out of all luxury companies in the world, 80% of the brands are utilizing serif typefaces in their wordmarks (“Fonts and…”).

The typeface used in the Jovan wordmark is IvyPresto Headline, all caps, and SemiBold. The reason for utilizing IvyPresto Headline in the Jovan wordmark is because the typeface carries large x-height, thin serifs, hairlines, and narrow proportions making the typeface ideal for the luxury-goods company.

The Jovan wordmark represents itself to be a unique mark as the letterforms were altered by combining the “OV” and “AN.”

The reason behind the customized type treatment is because other luxury companies like Vera Wang, Gucci, Yves Saint Laurent, Chanel, and Louis Vuitton have a customized typographic element that combines one or more letterforms to create a unique mark.

23 Cedars Sinai

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24 Kaiser Permanente

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25 Cigna

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26 Dignity Health

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Jovan Healthcare

Noting the Jovan Healthcare logo is not a wordmark. Though the Jovan Healthcare logo does carry typographic elements within it, there is also a design element incorporated into the typography.

In the process of creating the Jovan Healthcare logo, while researching healthcare facility and hospital logos, it became the avenue towards the development and execution of the logo.

The typeface used in the Jovan Healthcare logo is DIN Condensed. Jovan is shown bold, all caps, and tracked at –25 while Healthcare is similar, much smaller, and tracked at 400.

The reason for utilizing DIN Condensed in the Jovan Healthcare logo is because the typeface is best, in this instance, for clarity, legibility, and it creates a sense of seriousness.

Another reason for this type treatment is because while researching other healthcare facility and hospital logos like Cedars Sinai, Kaiser Permanente, Cigna, and Dignity Health (figures 23–26), they all utilize bold, sans serif typefaces.

The Jovan Healthcare logo showcases a design element, an electrocardiogram, that has been implemented into the typography starting with the letter "A." The letter A has a triangular shape to its letterform, which was the ideal spot to place the electrocardiogram in its place.

27

DIN Condensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

This design element makes the logo unique compared to other healthcare facility and hospital logos out there.

In conclusion, serif typefaces carry traditional elements that create more of a historical feel wherever they are used. Sans serif typefaces carry more of a modern and minimalistic feel while also demonstrating seriousness in its letterforms.

Photography

The images used in the examples of the luxury-goods company, Jovan, were taken by Christian Rodriguez. The rest of the images in the examples by Jovan State University and Jovan Healthcare were found searching through the free, stock photo website called Unsplash.

The images chosen to represent Jovan State University were selected by prioritizing the student experience and enhancing student development. The images enhance the creative assets by creating a mood that communicates to the audience the JSU community puts its students first.

The images chosen to represent Jovan Healthcare were selected to have a relationship with the typography used in the creative assets. The creative assets demonstrate diversity amongst people and the kinds of medical conditions one can live with or is currently living with, communicating Jovan Healthcare is here when you need them most.

Jovan State University

Photo by Javier Trueba on Unsplash
https://unsplash.com/photos/woman-carrying-white-and-green-textbook-iQPr1XkF5F0

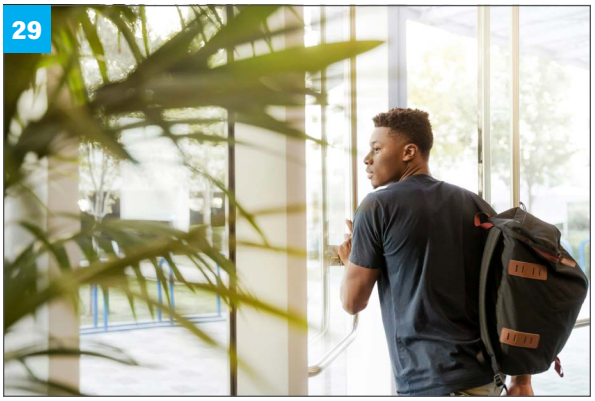

Photo by LinkedIn Sales Solutions on Unsplash
https://unsplash.com/photos/man-holding-glass-door-jJFrkJP_-RA

Jovan

Photo by Christian Rodriguez

Photo by Christian Rodriguez

Jovan Healthcare

32

Photo by Leilani Angel on Unsplash
https://unsplash.com/photos/man-wearing-eyeglasses-K84vnnzxmTQ

33

Photo by Alexander Grey on Unsplash
https://unsplash.com/photos/woman-lying-on-bed-tKnqkvFcmyM

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CHAPTER 4:

Final Solution

FINAL SOLUTION

The final deliverables created are a *Style Guide: Design Resources for Beginning AI Users* and a series of three *Infographics*.

The purpose of the style guide is to educate and teach designers and non-designers, working in artificially-based graphic design programs, the most effective way to enhance their design work. The purpose of the series of three infographics is to educate and deliver data surrounding the impact of AI in the creative space. The data within the series of infographics is intended to bring comfort and help digest the implementation of AI in a graphic designer's daily workflow.

Adobe Photoshop, Illustrator, and InDesign were the main Adobe programs used to create these final deliverables.

Adobe Photoshop was used to edit the photos used in the style guide by either using the generative expand tool or simply making minor adjustments like brightness, contrast, color, etc. Adobe Illustrator was used to create all the logos/wordmarks for the fictional organizations used as examples in the style guide, as well as most of the vector-based graphs used on the series of three infographics. Adobe InDesign was used to create the entirety of this thesis, the style guide and the graphic examples within it, and the series of three infographics.

An online mockup platform called Placeit was used to create mockups of my final deliverables and a stock photo website called Unsplash was used to find the stock photos used on a few of the examples in the style guide.


STYLE GUIDE
Design Resources for Beginning AI Users

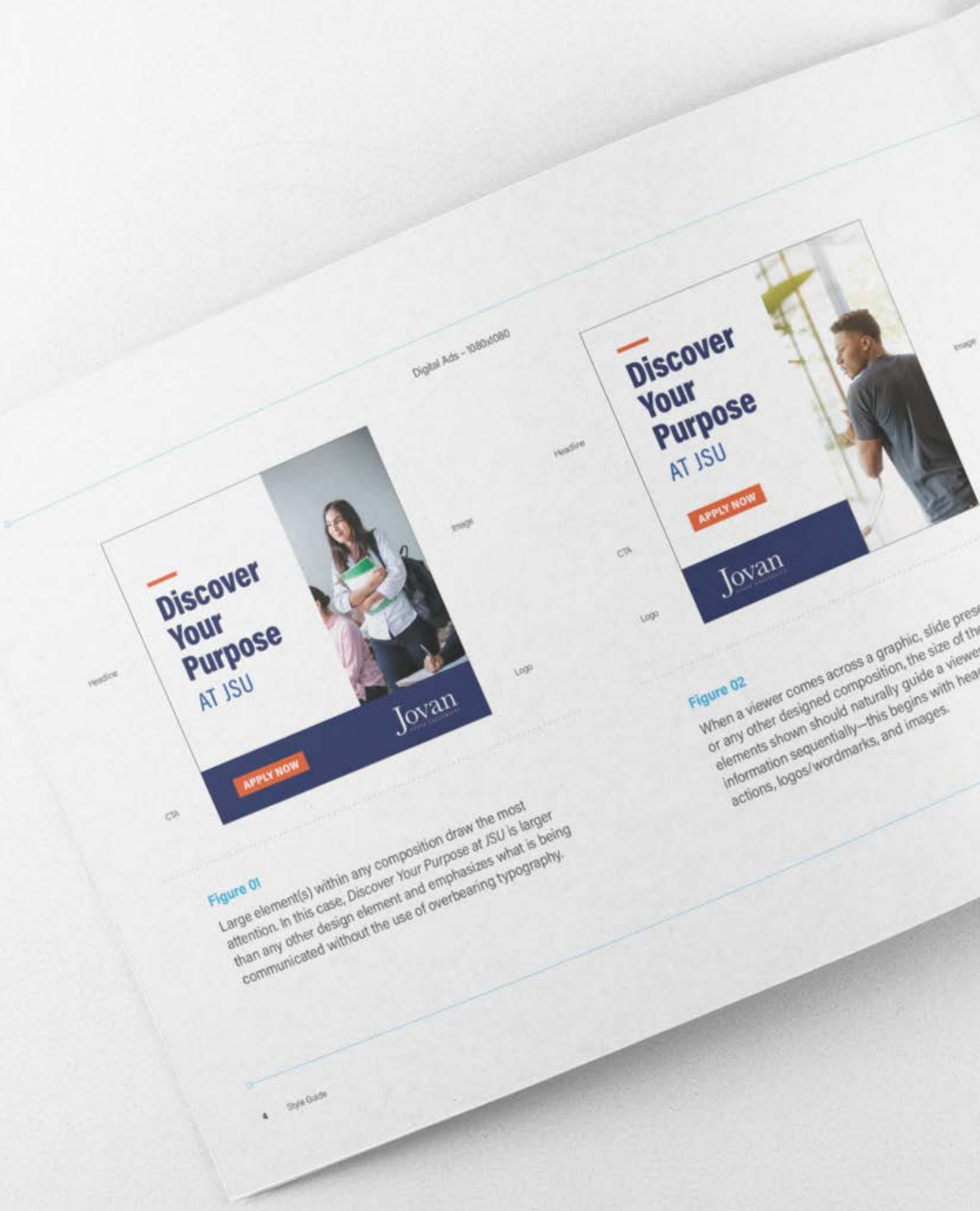
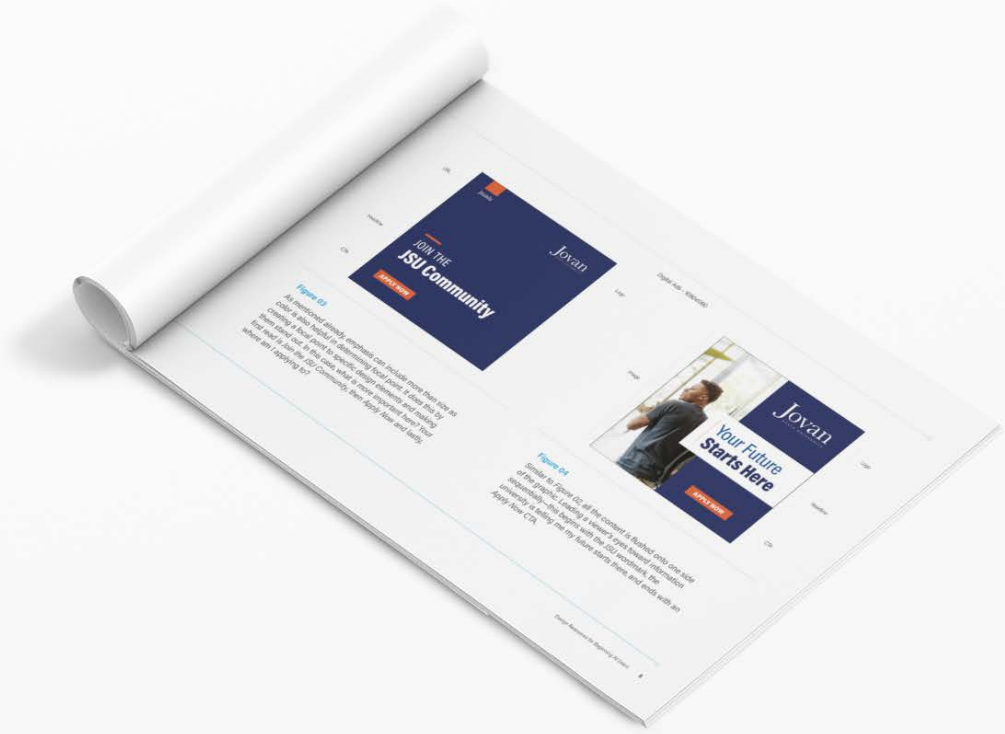


Figure 01

Large element(s) within any composition draw the most attention. In this case, *Discover Your Purpose at JSU* is larger than any other design element and emphasizes what is being communicated without the use of overbearing typography.

Figure 02

When a viewer comes across a graphic, slide prese
or any other designed composition, the size of the
elements shown should naturally guide a viewer
information sequentially—this begins with hea
actions, logos/wordmarks, and images.



Style Guide: Design Resources for Beginning AI Users

The style guide consists of a 40-page booklet educating beginning AI users how to enhance their design work utilizing online AI-driven design platforms.

The style guide highlights important design principles like Hierarchy, Layout, Typography, Color, Communication, and along with a variety of do's and don'ts in graphic design. The purpose of these design principles outlined in the style guide are to influence the way a viewer interacts with design. When implementing these design principles appropriately, they can create a powerful and profound impact on the viewer and elevate the user experience to new heights.

Within the style guide, you'll find illustrative graphics featuring fictional companies and businesses, as mentioned in Chapter 3 of this thesis, that expertly demonstrate the application of those design principles by providing practical examples on their effective implementation.

Utilizing online AI-driven graphic design platforms, users are often limited to what they can use in their design work. Canva for example, you are often limited to utilizing higher-end graphics, stock images, and typefaces. For the purposes of the limitations on such AI-driven graphic design platforms, the examples within the style guide are intentionally crafted to be exceedingly simple and straightforward. This thoughtful approach considers the audience, acknowledging that non-designers, with little to no design experience, will find the content accessible and user-friendly.

4


Discover
Your
Purpose
AT JSU
APPLY NOW
Jovan
STATE UNIVERSITY


Jovan State University
Sponsored
Join a university community that puts you first.
Discover
Your
Purpose
AT JSU
APPLY NOW
Jovan
JSU.EDU
Discover Your Purpose
at Jovan State University
Apply now
Like
Comment
Share

5


Discover
Your
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Share

6


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JSU Community
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JSU Community
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JSU.EDU
Join the JSU Community
at Jovan State University
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Like
Comment
Share

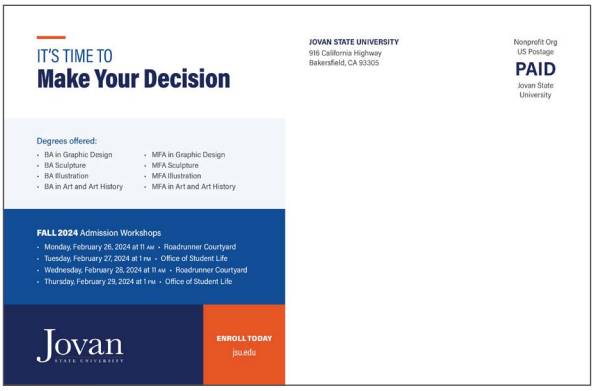
7


Jovan
STATE UNIVERSITY
Your Future
Starts Here
APPLY NOW


Jovan State University
Sponsored
Build a career with a degree that matters.
Jovan
Your Future
Starts Here
APPLY NOW
JSU.EDU
Your Future Starts Here
at Jovan State University
Apply now
Like
Comment
Share

8


jsu.edu
Your
Future
Starts
Here
Jovan
STATE UNIVERSITY


IT'S TIME TO
Make Your Decision
JOVAN STATE UNIVERSITY
916 California Highway
Bakersfield, CA 93305
Nonprofit Org
US Postage
PAID
Jovan State
University
Degrees offered:
• BA in Graphic Design
• BA Sculpture
• BA Illustration
• BA in Art and Art History
• MFA in Graphic Design
• MFA Sculpture
• MFA Illustration
• MFA in Art and Art History
FALL 2024 Admission Workshops
• Monday, February 26, 2024 at 11 AM • Roadrunner Courtyard
• Tuesday, February 27, 2024 at 1 PM • Office of Student Life
• Wednesday, February 28, 2024 at 11 AM • Roadrunner Courtyard
• Thursday, February 29, 2024 at 1 PM • Office of Student Life
Jovan
STATE UNIVERSITY
ENROLL TODAY
jsu.edu

9


jsu.edu
Your
Future
Starts
Here
Jovan
STATE UNIVERSITY
JOVAN STATE UNIVERSITY
916 California Highway
Bakersfield, CA 93305
Nonprofit Org
US Postage
PAID
Jovan State
University
Degrees offered:
• BA in Graphic Design
• BA Sculpture
• BA Illustration
• BA in Art and Art History
• MFA in Graphic Design
• MFA Sculpture
• MFA Illustration
• MFA in Art and Art History
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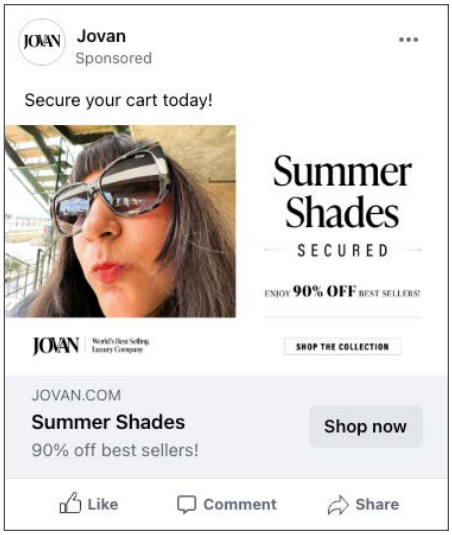
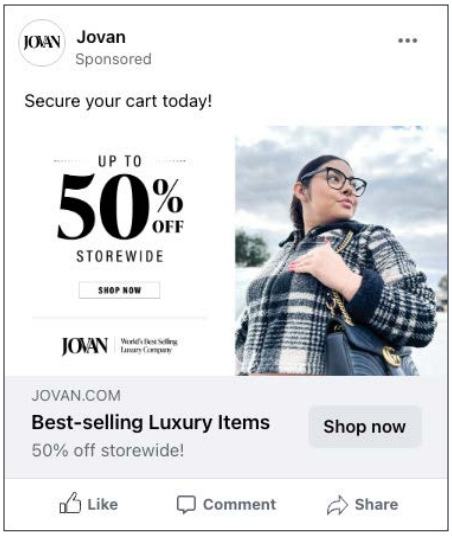
• Thursday, February 29, 2024 at 1 PM • Office of Student Life
Jovan
STATE UNIVERSITY
ENROLL TODAY
jsu.edu

10



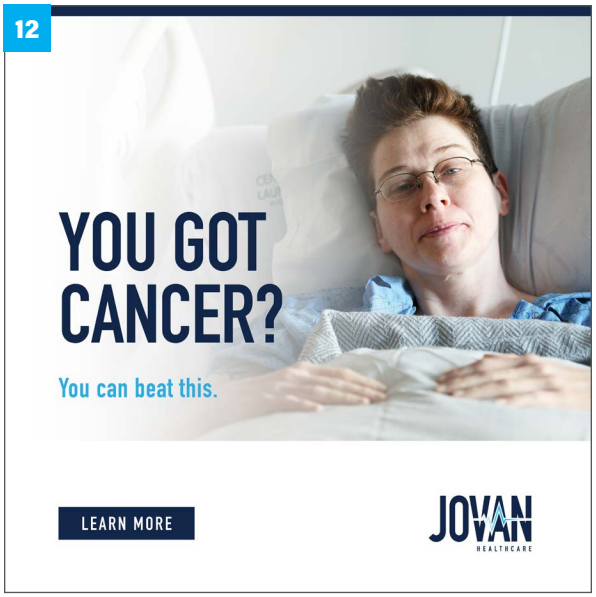
11



Even in current design trends, the graphic design space is becoming more simplified in terms of visually designed aesthetics. Each image, accompanied by its corresponding graphic, is uniquely envisioned to convey distinct messages, ensuring a diverse and purposeful visual communication.

Designers can create a good design without any thorough understanding of the principles of design. It may take some trial and error to create something that is effective, aesthetically pleasing, and creates an impact. A lot of time and energy can be saved by practicing these principles of design, as discussed throughout the style guide, until they become second-nature.

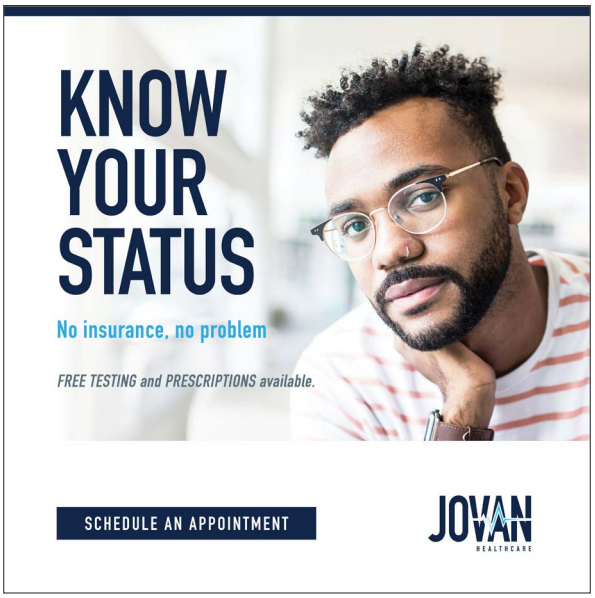
12


YOU GOT CANCER?
You can beat this.
LEARN MORE
JOVAN HEALTHCARE


YOU CANCER BEAT THIS
LEARN MORE
JOVAN HEALTHCARE

13


HIV POSITIVE?
Need help paying for your medications?
SCHEDULE AN APPOINTMENT
JOVAN HEALTHCARE

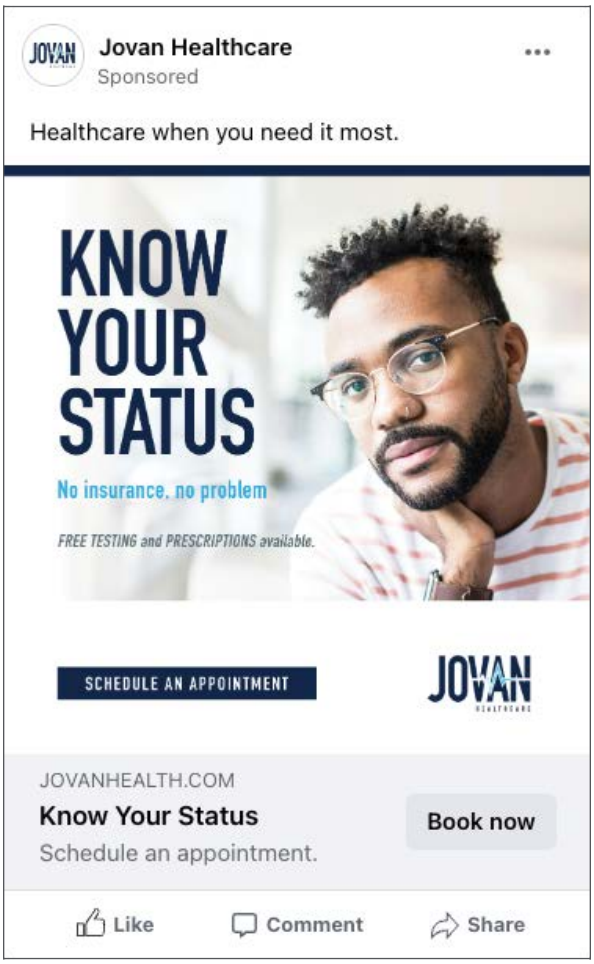

KNOW YOUR STATUS
No insurance, no problem
FREE TESTING and PRESCRIPTIONS available.
SCHEDULE AN APPOINTMENT
JOVAN HEALTHCARE

What I hope for readers to get out of the style guide is to understand exactly HOW each of their design choices create an impact on the work they create. Studying design choices made by other designers can be a valuable tool to enhance your own design work.

The style guide's mission is to help designers and non-designers, working in AI-based graphic design programs, to create the most effective way to enhance their design work. Understanding, learning, and implementing the design principles covered in this style guide is a vital part to the success of any design project.

14

15



Sample AI generated image

Corrected AI generated image

Figure 19

Never underestimate negative space.

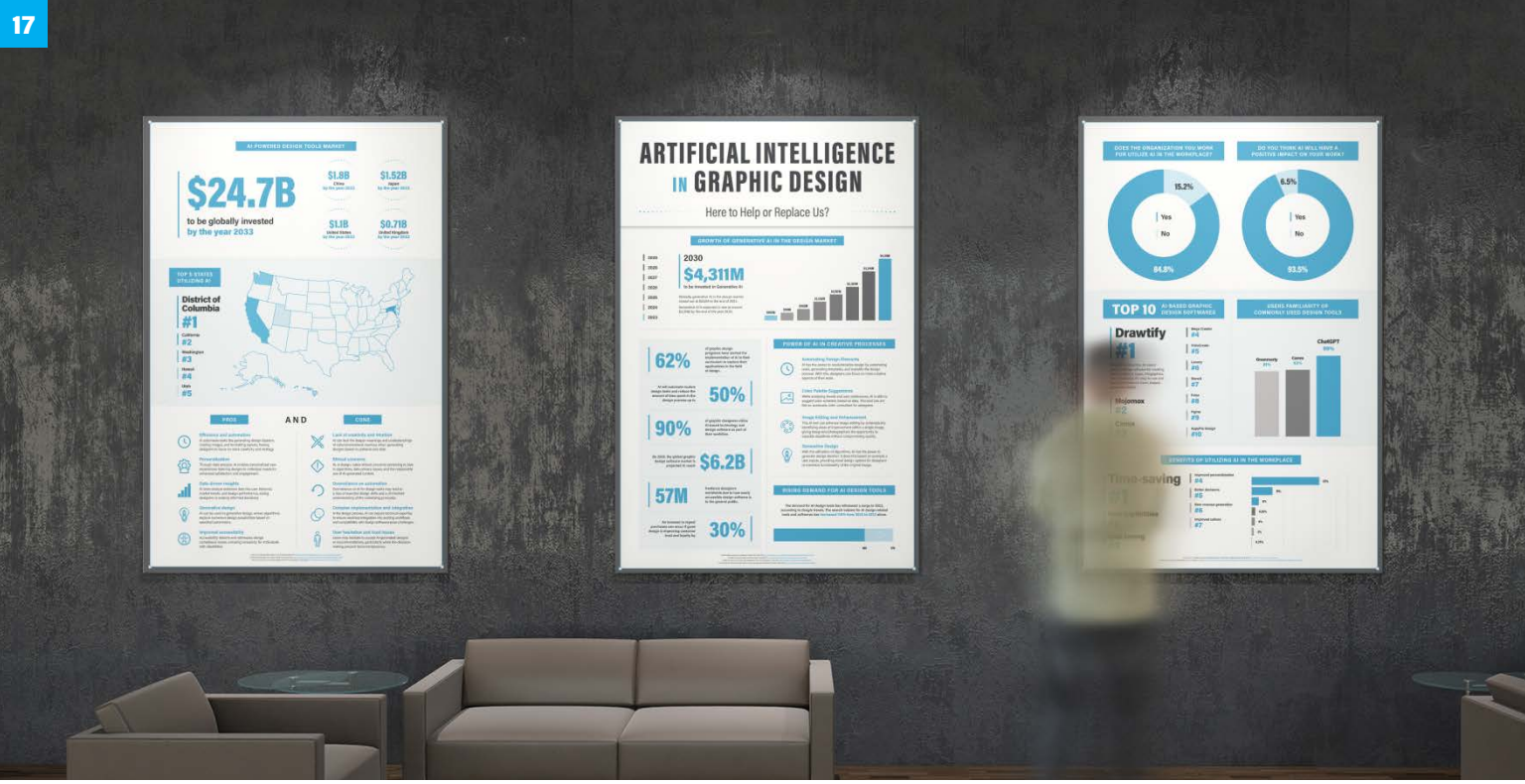
Utilizing negative space can improve readability and create a focal point. When designing, think of negative space as a design element; the content doesn't need to cover the entirety of your design by adding more text, images, colors, and other design elements. Letting your design breathe is important as it helps maintain focus on what is being communicated.

Figure 20

Alignment is crucial.

Aligning elements within your design is important because a lack of alignment can cause your design to appear disorganized and remain unprofessional.

Your design should maintain symmetry and cohesion throughout. Without having a structure, it can become difficult for a viewer to understand and follow your brand's messaging.



Infographics: A Series of Three

The series of infographics consists of three different 24”x36” posters delivering data surrounding the impact of AI in the creative space. The data consists of bar graphs, pie charts, and numerical statistics in helping understand the implementation of AI in a graphic designer’s daily workflow, as well as provide a sense of comfort and help digest the implementation of AI in the design industry.

The statistical data in this series of infographics were collected by a variety of sources like academic journals, articles, features, even by online AI-driven graphic design platforms themselves demonstrating how their design tools are being used.

The data collected on the infographics consist of the invested amount-to-date in AI-powered design tools, which states utilize AI more than others, the pros and cons, numerical statistics, top AI-based graphic design platforms, benefits of AI in the workplace, and much more.

Currently, artificial intelligence has made its way into the creative space, including the design industry. Surrounding the implementation of AI, it raises questions of concern whether AI will take over design industry jobs. One of the many reasons designers are frustrated by this implementation is because AI has created a convenient way to prioritize speed over craftsmanship. Designers also fear their clients can soon opt to AI’s creative solutions over original work, potentially undermining the value and expertise designers bring to the table.

AI-POWERED DESIGN TOOLS MARKET

$24.7B

to be globally invested
by the year 2033

$1.8B
China
by the year 2033

$1.52B
Japan
by the year 2033

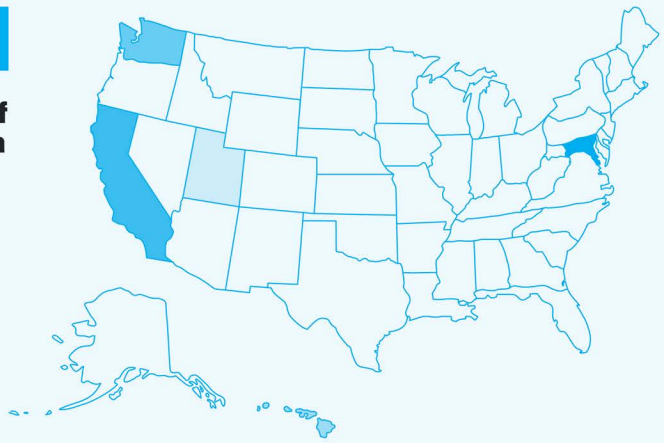
$1.1B
United States
by the year 2033

$0.71B
United Kingdom
by the year 2033

TOP 5 STATES UTILIZING AI

District of Columbia
#1

- California **#2**
- Washington **#3**
- Hawaii **#4**
- Utah **#5**



PROS AND CONS

PROS

Efficiency and automation
AI automates tasks like generating design ideation, resizing images, and formatting layouts, freeing designers to focus on more creativity and strategy.

Personalization
Through data analysis, AI enables personalized user experiences tailoring designs to individual needs for enhanced satisfaction and engagement.

Data-driven insights
AI tools analyze extensive data like user behavior, market trends, and design performance, aiding designers in making informed decisions.

Generative design
AI can be used in generative design, where algorithms explore numerous design possibilities based on specified parameters.

Improved accessibility
Accessibility detects and addresses design compliance issues, ensuring inclusivity for individuals with disabilities.

CONS

Lack of creativity and intuition
AI can lack the deeper meanings and understandings of cultural/emotional nuances when generating designs based on patterns and data.

Ethical concerns
AI, in design, raises ethical concerns pertaining to bias in algorithms, data privacy issues, and the responsible use of AI-generated content.

Overreliance on automation
Overreliance on AI for design tasks may lead to a loss of essential design skills and a diminished understanding of the underlying principles.

Complex implementation and integration
In the design process, AI can require technical expertise to ensure seamless integration into existing workflows and compatibility with design softwares pose challenges.

User hesitation and trust issues
Users may hesitate to accept AI-generated designs or recommendations, particularly when the decision-making process lacks transparency.

"AI-powered Design Tools Market Outlook," *Future Market Insights*, May 2023, https://www.futuremarketinsights.com/reports/ai-powered-design-tools-market.
"Artificial Intelligence Design Tools Statistics & Trends in 2023," Mercy, 2023, https://www.mercy.com/blog/artificial-intelligence-design-tool-statistics-trends-in-2023.
Ojeniku, Tobi "How AI Can Actually Help Designers, Not Harm Them" *Voxpopme Inc.*, 9 Dec. 2023, https://voxpopme.com/blog/how-ai-can-help-designers/.

ARTIFICIAL INTELLIGENCE IN GRAPHIC DESIGN

Here to Help or Replace Us?

GROWTH OF GENERATIVE AI IN THE DESIGN MARKET

2029
2028
2027
2026
2025
2024
2023

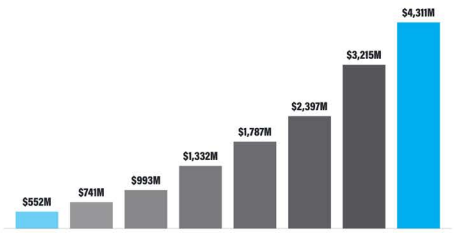
2030

$4,311M

to be invested in Generative AI

Globally, generative AI in the design market closed out at $552M at the end of 2023.

Generative AI is expected to rise at around $4,311M by the end of the year 2030.



62% of graphic design programs have started the implementation of AI in their curriculum to explore their applications in the field of design.

AI will automate routine design tasks and reduce the amount of time spent in the design process up to **50%**

90% of graphic designers utilize AI-based technology and design software as part of their workflow.

By 2026, the global graphic design software market is projected to reach **$6.2B**

57M freelance designers worldwide due to how easily accessible design software is to the general public.

An increase in repeat purchases can occur if good design is improving customer trust and loyalty by **30%**

POWER OF AI IN CREATIVE PROCESSES

Automating Design Elements
AI has the power to revolutionalize design by automating tasks, generating templates, and expedite the design process. With this, designers can focus on more creative aspects of their work.

Color Palette Suggestions
While analyzing trends and user preferences, AI is able to suggest color schemes based on data. This tool can act like an automatic color consultant for designers.

Image Editing and Enhancement
This AI tool can enhance image editing by automatically identifying areas of improvement within a single image, giving designers/photographers the opportunity to expedite deadlines without compromising quality.

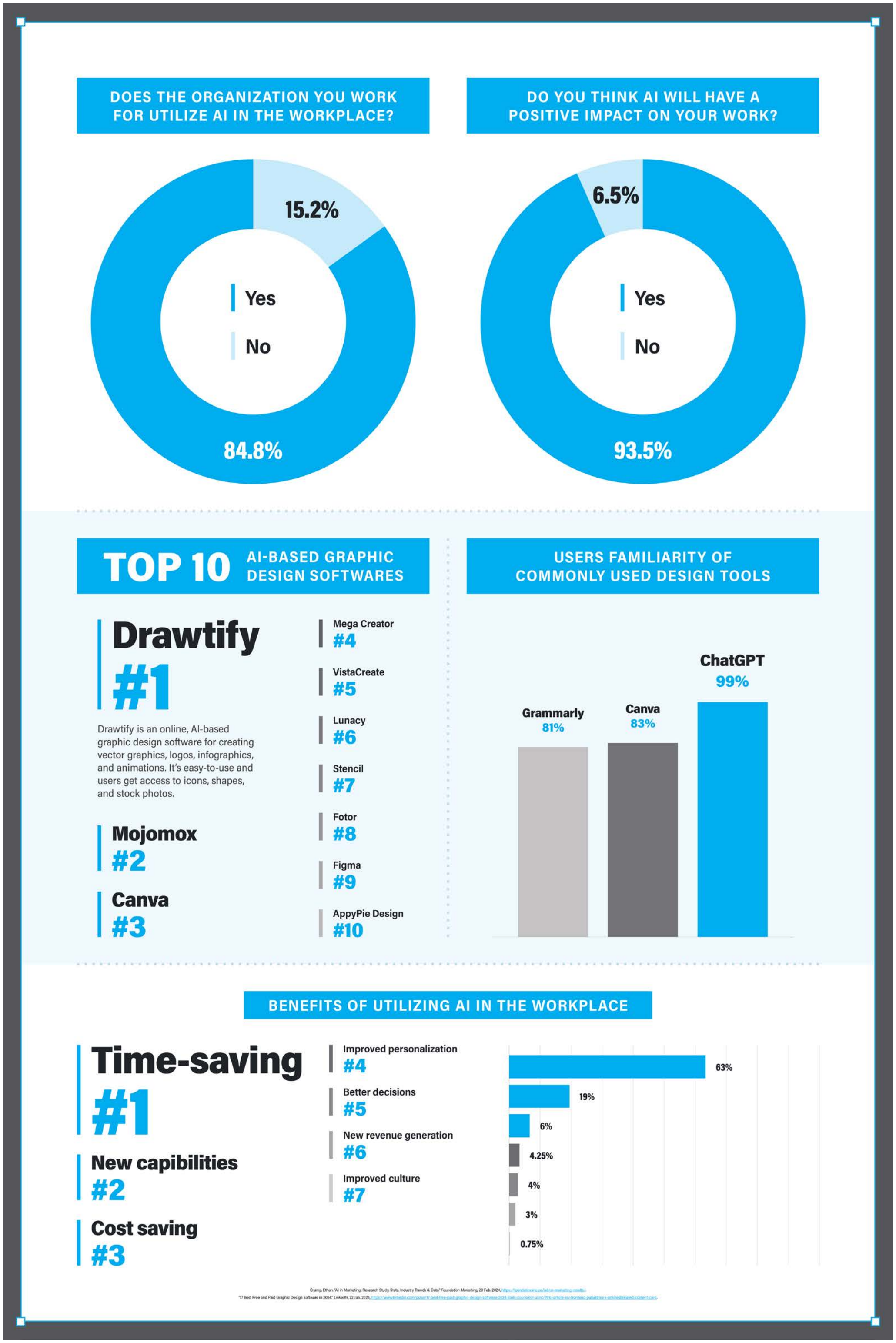
Generative Design
With the utilization of algorithms, AI has the power to generate design ideation. It does this based on prompts a user inputs, providing novel design options for designers to maximize functionality of the original image.

RISING DEMAND FOR AI DESIGN TOOLS

The demand for AI design tools has witnessed a surge in 2023, according to *Google* trends. The search volume for AI design related tools and softwares has increased 170% from 2022 to 2023 alone.

"Artificial Intelligence Design Tools: Statistics & Trends in 2024" Monp, 2023, https://www.monp.com/blog/artificial-intelligence-design-tool-statistics-trends-in-2023.
"Generative AI in Design Market", Precedence Research, July 2023, https://www.precedenceresearch.com/generative-ai-in-design-market.
Djemba, Tobi. "How AI Can Actually Help Designers, Not Harm Them" Vinnipage Inc., 11 Dec. 2023, https://vinnipage.com/blog/how-ai-can-help-designers/
Solomons, Monique. "80 graphic design statistics: design technology and emerging trends." Linearity, 7 Aug. 2023, https://www.linearity.io/blog/graphic-design-statistics/

20


DOES THE ORGANIZATION YOU WORK FOR UTILIZE AI IN THE WORKPLACE?
15.2%
Yes
No
84.8%
DO YOU THINK AI WILL HAVE A POSITIVE IMPACT ON YOUR WORK?
6.5%
Yes
No
93.5%
TOP 10 AI-BASED GRAPHIC DESIGN SOFTWARES
Drawtify
#1
Drawtify is an online, AI-based graphic design software for creating vector graphics, logos, infographics, and animations. It's easy-to-use and users get access to icons, shapes, and stock photos.
Mojomox
#2
Canva
#3
Mega Creator
#4
VistaCreate
#5
Lunacy
#6
Stencil
#7
Fotor
#8
Figma
#9
AppyPie Design
#10
USERS FAMILIARITY OF COMMONLY USED DESIGN TOOLS
Grammarly
81%
Canva
83%
ChatGPT
99%
BENEFITS OF UTILIZING AI IN THE WORKPLACE
Time-saving
#1
New capibilities
#2
Cost saving
#3
Improved personalization
#4
Better decisions
#5
New revenue generation
#6
Improved culture
#7
63%
19%
6%
4.25%
4%
3%
0.75%
Crump, Ethan. "AI in Marketing: Research Study, Stats, Industry Trends & Data." Foundation Marketing, 29 Feb. 2024, https://foundationinc.co/lab/ai-marketing-results/.
"17 Best Free and Paid Graphic Design Software in 2024." LinkedIn, 22 Jan. 2024,

The purpose of the series of three infographics is to communicate to designers that AI will help designers and other design professionals become more productive as we allow machines to do the repetitive work that currently eats up our day. And, far from being replaced, designers will find themselves of even greater value.

I created the style guide to help express the importance of design principles to non-designers utilizing online AI-driven graphic design platforms and I created the series of three infographics to help reassure currently working design professionals that AI is not here to take over their careers, but to help ease their daily workflow to think of other creative solutions for future projects.

I am confident these solutions will not only elevate the effectiveness of AI-based work but will revolutionize the design landscape. Supported by data and research outlined in this thesis, the style guide and series of three infographics stand as a beacon of innovation. They serve not only as invaluable resources, but also as guiding lights, imparting essential knowledge, and nurturing a deeper understanding of the pivotal role design principles play in harnessing the transformative power of AI.

Through education and advocacy, they pave the way for a future where AI and design seamlessly intertwine, unleashing boundless creativity, and ushering in an era of unparalleled excellence in the design industry.

CHAPTER 5:

Conclusion

FINAL SOLUTION

The style guide and series of three infographics were created to help visually solve the problem at hand by pointing back to the literature review and visual research. I accomplished my goal creating these two deliverables as they both communicate the importance of design principles, as well as the positive impact AI is creating in the design industry.

Online AI-driven design platforms deliver a variety of templates users can utilize with little to no design experience required. The pre-made design templates are specifically tailored towards non-designers since they can easily be updated with new content. If a non-designer decides to not utilize an already-made design template and decides to create a design from scratch, the *Style Guide: Design Resources for Beginning AI Users* is here to help create professional-looking assets while also teaching important design principles.

With the implementation of AI becoming more commonly used in the creative space, it has provided benefits to working design professionals making their daily workflow more efficient. Other than seeing AI's positive impacts in the design industry, there are many disadvantages like the loss and disconnect of human touch upon aspects of creativity and uniqueness, and the decline in the amount of job opportunities in art and design.

The style guide focuses on serving as a resource for beginning AI users on how to enhance their design work by teaching them common design principles while utilizing online AI-driven design platforms. The series of three infographics serve as a statistical piece to bring comfort and help digest the implementation of AI in a graphic designer's daily workflow.

1


STYLE GUIDE
Design Resources for Beginning AI Users

2


AI-POWERED DESIGN TOOLS MARKET
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to be globally invested by the year 2033
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$1.1B United States by the year 2033
$0.71B United Kingdom by the year 2033
TOP 5 STATES UTILIZING AI
District of Columbia #1
California #2
Washington #3
Hawaii #4
Utah #5
PROS
AND
CONS
Efficiency and automation
Personalization
Data-driven insights
Generative design
Improved accessibility
Lack of creativity and intuition
Ethical concerns
Overreliance on automation
Complex implementation and integration
User hesitation and trust issues
ARTIFICIAL INTELLIGENCE IN GRAPHIC DESIGN
Here to Help or Replace Us?
2030
$4,311M
62%
50%
90%
$6.2B
57M
30%
TOP 10
Creativity #1
Time-saving #1

While creating these two final deliverables, it refreshed my memory on the principles of design and gave me a better outlook on design in terms of how it is perceived today.

It's important that these two solutions target designers and non-designers as they are specifically tailored to the impact AI is implementing on the design industry. The research collected in this thesis and in the solutions will help working design professionals understand that AI is here to help enhance daily workflow and create efficiency.

Not only would I like my deliverables to serve their purpose, but I would also like them to serve as more historical pieces of work to talk about this moment in time where we are today in current design trends, data, and visual aesthetics.

Many years from now there are going to be new design trends, data, and visual aesthetics floating around areas of design. In that time, these deliverables will not serve as a resource anymore, but an example of how design was created during this time. Hopefully, these resources can still serve their purpose soon, only to better design for years to come.

With unlimited time, money, and resources, my commitment to enhancing the knowledge of AI's purpose in the creative space would be unwavering. I would continue to invest in my passion for design by collecting more research, studies, and staying active in the latest developments of AI technology. I would continuously update my two deliverables to best reflect current trends and emerging paradigms in design.

Lastly, I would seize the opportunity to engage with the design community to share my findings, exchange ideas, and foster dialogue around the intersection of AI and creativity. I would strive to push the boundaries of what is possible to shape a future where AI and human creativity come together to inspire new ideas and ways of thinking.

In conclusion, the style guide helps express the importance of design principles to non-designers utilizing AI-based platforms. The series of three infographics solve the issue of online AI-driven design platforms threatening the careers of graphic designers by reassuring AI is here to only help ease daily workflow to prioritize generating creative solutions for future projects.

By embracing AI technologies, designers can stay at the forefront of industry trends and remain competitive in an ever-evolving landscape.

Rather than fearing displacement in the fields of art and design, designers who embrace AI can position themselves as forward-thinking innovators who leverage technology to push the boundaries of design excellence.

AI isn't here to replace us designers, but to only help reshape the way we work. I view it more as like a collaboration with AI rather than a replacement. A tool designers can utilize to think of new creative solutions or to get through an ideation process. By embracing AI technologies, graphic designers can leverage their strengths and expertise to create more innovative and impactful design choices.

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