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2D Motion Graphics Enhancement of the User Experience on Web Applications

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2D MOTION GRAPHICS ENHANCEMENT OF THE USER EXPERIENCE ON WEB APPLICATIONS
by

Lora Paro

Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Arts in Digital and Web Design
at
Lindenwood University

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2D MOTION GRAPHICS ENHANCEMENT OF THE USER EXPERIENCE ON WEB APPLICATIONS

A Thesis Submitted to the Faculty of the Art and Design Department
in Partial Fulfillment of the Requirements for the
Degree of Master of Arts in Digital and Web Design
at
Lindenwood University

By

Lora Paro

Saint Charles, Missouri

December 2021

ABSTRACT

Title of Thesis: 2D motion graphics enhancement of the user experience on web applications

Lora Paro, Master of Arts/Digital and Web Design, 2021

Thesis Directed by: Justin Kussman, Instructor, Interactive Media and Web Design

This project focuses on the creation and use of 2D motion graphics to enhance the user experience of applications on the web including but not limited to social media, educational and entertaining digital videos. The aim of this project is to enhance skills in the creation of 2D motion graphics using Adobe After Effects, Adobe Character Animator, and Adobe Illustrator while benefitting the user experience of visually delivered moving graphics to capture more of the audience's attention rather than the traditional use of static imagery. Experience gained with research on 2D motions graphics and Adobe After Effects with then be transferred and utilized to enhance business applications using 2D motion graphics for marketing promotion and entertainment.

The research conducted used the qualitative methodology to explore 2D motion graphics, user experience, and design methods. Research was exploratory in nature and covered trends, best practices, and how motion enhances the user experience in the use of digital video for web applications. Research materials consisted of peer-reviewed sources, such as journals and publications, from such databases as EBSCO and Gale and published within the last 3 years. Some of the supplementary research came from industry respected websites that specialize in motion graphics, design, and the web.

Research obtained on 2D motions graphics and user experience will be put into practical application by creating a four-part video series, which will collectively be 10-20 minutes in length and hosted on YouTube. The video series will briefly highlight the use of color theory, kinetic typography, best practices for social media platforms, and advice on efficiencies and things to know when using Adobe After Effects for motion graphics creation to streamline the creation process.

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INTRODUCTION/ BACKGROUND INFORMATION

The project covers the use of 2D motion graphics in digital video on the web and how 2D motion graphics enhance the user experience (UX). The final project for this semester will be a four-part digital video series containing my research on 2D motion graphics as well as some constructed examples displaying the possibilities of 2D motion graphics for the web. The content covered in the videos includes background what motion graphics are, what types there are, how they are used, motion graphics color theory, kinetic typography, best practices for use on social media platforms, tips on efficiency in Adobe After Effects, and examples created and used in social media.

The project will allow me to grow my skills in graphic production using Adobe Illustrator, motion graphic movement and production in Adobe After Effects, and character creation and movement in Adobe Character Animator. This will lay the groundwork in allowing me to produce motion graphics for client and personal websites. This project has given me a better understanding of what color theory is and how to best utilize color palettes for websites and motion graphics. Research into kinetic typography for motion graphics provided a better understanding of proper visual aesthetics for websites and videos. Researching the best practices for social media asset creation and output lays the groundwork for easier video creation when client needs arise.

The four-part video series on 2D motion graphics will be created using Adobe After Effects for motion graphics, Adobe Illustrator for graphics creation, Adobe Photoshop for graphics creation and manipulation, Adobe Character Animator for character creation, movement, and voiceover, Adobe Audition for voiceover, and Adobe Media Encoder for file export. The video series will be hosted on YouTube.

LITERATURE REVIEW

Barnes (2019) talks about motion graphics for the use of entertaining or educating audiences. Some websites like *The New York Times* include a motion graphics piece to accompany their written content only emphasizing the point that the article is trying to make, known as expository motion graphics. One thing that unites motion graphics is their ability to communicate a message effectively. Motion graphics should quickly, easily, and effectively convey a message to the user without confusion.

Betancourt (2019) talks about kinetic typography and how it has made its way into the mainstream. Kinetic typography must be organized, precise, and particularly arranged for ideal interpretation from the viewer. With the advancement of software used to produce kinetic typography, the designer can now create shape-changing letters, words, or even sentences, even applying different effects and pairing them with other video footage.

The work of Carra, Santoni, and Pellacini (2019) covers the use of shapes in motion graphics composed together with effects that move together to produce a pattern in motion. They indicate that motion graphics follow three different methodologies: keyframing, use of simulation engines, and procedural scripts. Keyframing allows a beginning and end for the graphic to do something whether it me move, change, color, or change form. Simulation engines replicate a natural force that happens to the motion graphics, such as weather. Procedural scripts allow the designer to programmatically code what happens to the graphics. Their research produced complicated and captivating motion graphics.

In the study conducted by dos Santos Lonsdale et al (2019), they discuss how the use of motion graphics can add to the comprehension and knowledge of users. Motion graphics can

often include text, graphics, and sound coupled with motion. This means that users have two inputs: audio and visual. As a result, the user is gaining maximized information provided from both areas providing more of a chance for the information to be retained better and for a longer period. Motion graphics have proved to be beneficial when delivering information to students. Their retention level is higher, and their scores increased. Motion graphics have the ability to engage visual and auditory learners thereby doubling the audience engagement.

The paper by King, Lazard, and White (2020) discusses the influence of the visual complexity of websites on the user. Visual design must enhance the website and the user experience without overwhelming or underwhelming the user. The designer must strike a careful balance between too much and too little in terms of design, content, and motion. In this study they studied visually dense websites and the use of feature complexity and design complexity and how that impacts how a user is informed and engaged. Too much information may overload the user while too much information may bore the user. Visual complexity adds to the overall user experience given that the initial impression of the site is gathered within the first few seconds of visiting the website.

The research conducted by Kuraitytė, Bessemans, and Nuyts (2020) on Kinetic Typography discusses how letter forms put in motion affect the attention of the reader. Key factors that impact the user include legibility, font selection, color selection, and type and length of motion. The two main types of kinetic typography are Global Motion and Local Kineticism. Global motion is when an entire word or sentence is modified. Within Global Motion there are also subcategories of Scrolling Typography and Dynamic Layout. Local Kineticism occurs for part of a word, sentence, or letter is changed. The Local Kineticism subcategories include Elastic Typography and Fluid Typography with Fluid Typography further subdivided into

Metamorphosis, Construction, and Revelation. Kinetic Typography adds extra processing time for the user's brain to grasp the additional stimulus that was produced thus required additional analyzation from the user.

Maher (2019) examines how the use of motion graphics can effectively tell a story whereby the user gets lost in the storyline and the art becomes overlooked. While on the flip side, motion graphics can be brash and in the users' face. Adobe has played a big role in the motion graphics world by providing creators the tools like After Effects, Animate, and Character Animator. Digital platforms like YouTube and Vimeo are great platforms for creators and brands to showcase their styles. Motion graphics use typography, audio, animation, illustration and effects to tell a story that should engage their audience.

This piece by Polianskaya (2019) on design focuses on what animation and motion graphics will look like in the next year. Trends indicate that more companies will look to motion graphics to enhance their social media and digital channels in order to engage their audience. They will create their own brand and style to set them apart from their competitors therefore solidifying their motion identity in the industry. More companies are going to incorporate more responsive typography and real-time type integrations into their videos by using AR and VR frameworks.

Wang and Sundar's (2018) study covers parallax scrolling on a website and how it enhances or degrades the user experience. They put parallax scrolling in the 3D graphics category because of its loose definition of something that has width, height, and depth. The study of parallax scrolling covers three types of interactivity that include modality interactivity, message interactivity, and source interactivity. The study postulates that the more a user

interacts, the more they will be engaged therefore increasing the users' sensory input and creating a positive experience. As a result, users will get lost in the web browsing experience, lose track of time, ignore their surroundings, and have fun perusing the site. Users perceived vividness and coolness of the parallax scrolling were measured to determine the overall influence that parallax scrolling plays in the user experience and engagement.

In the journal from Weingerl and Javorsek (2018), they look at color harmony and how color balance pleases the user. They take Albert Munsell's color system of value, chroma and hue along with his hues of red, yellow, green, blue and purple to test the proposed user preferred color harmony vs the trained designer color harmony. Adding into the mix Johannes Itten's seven forms of color contrasts that include "value, hue, saturation, extension, warm/cool, complements and simultaneous contrast" (p. 1). This study also looks at hue templates using a color wheel. The six basic hue templates include monochromatic, complementary, analogous, triadic, split-complementary, and tetradic. Based on the different combinations in the hue templates, there will need to be adjustments made to the lightness, saturation and extension for color harmony and balance. Color balance and harmony are essential for an aesthetically pleasing user experience on a website.

RESEARCH METHODOLOGY

The research methodology used for the exploration of 2D motion graphics in digital video on the web is the qualitative methodology. This methodology was selected because my research will be exploratory in nature to subjectively determine what the current trends, best practices, and how 2D motion graphics add to the user experience (UX) of a digital video on the web. Research will commence by finding peer-reviewed sources, such as journals and publications, from such databases as EBSCO and Gale and published within the last 3 years. Some of my supplementary research will come from industry respected websites that specialize in motion graphics, design, and the web.

PRODUCTION AND ANALYSIS

Application of Methodology

This project has two main objectives: 1. Understand how 2D motion graphics enhance the user experience and 2. Learn how to create 2D motion graphics that engage and entertain the user. In researching motion graphics, there was a need to know the basics of design. The work begins with digging into what makes design aesthetically pleasing and appealing. Determining the specific needs of each project, the message that needs to be conveyed, how one wants the viewer to feel, and what the viewer will gain from it are all taken into consideration. Aesthetically, an overall theme for any project is the initial concern. Pre-existing company branding also fits into the overall design of the motion graphics project. Knowing color theory is a big part of any creative design process. Most companies have branding guidelines to follow that contain information on what their logos are, the colors that can be used, the typography rules, formatting styles, and how all their assets can be used. It is then up to the designer to create something that falls in line with the client's wants and needs. Motion graphics, no matter how great or small, enhance the user experience. Humans innately notice moving objects as a part of being aware of their surroundings. Their focus is then drawn in that direction waiting for what is to happen next. Motion graphics provide an avenue to attract attention and keep the viewer involved in what they are being shown and then waiting for the next thing to occur. Making things move is where Adobe After Effects shines. This tool will provide the gateway to combine design, color theory principles, kinetic typography guidelines, and shape movement into digital assets that can be uploaded to a wide array of social media platforms and websites. The content can easily be updated with the use of templates and repurposed into something new, if need be.

Process

Phase one of this project consists of getting the design concept fleshed out. This phase took one week. After brainstorming some ideas, it was then time to storyboard (Appendix A) out the concept for the four-part video series. Storyboarder by Wonder Unit is a great tool that lets one sketch out scene ideas. The learning curve is low on understanding how to use the software. It offers a variety of drawing tools such as pencils, colored pencils, pens, highlighters, brushes, and markers to create the feel that one is going for. This software has the capability to integrate with Adobe Photoshop if one is less skilled with hand drawing or wants to create cleaner sketches of scene flow. Printed storyboards can also be imported into a project in Storyboarder. Storyboarder has the capability to add dialogue, action, and notes. Once all the boards have been added it is easy to hit play and do a quick run through of how the scenes will play out. The export of a storyboard is just as easy as the creation allowing integration with Adobe Premiere, Final Cut, and Avid as well as PDF and GIF for other software use.

Phase two of this project required the composition of an atypical script (Appendix B) to plan the design and audio content incorporation. This phase took one week. Using Microsoft Excel, columns were added for visuals, text, voiceovers, audio, and notes. Rows were used for each scene. The scenes for each video in the four-part series were then grouped by color. Planning out the voiceover content allowed for an estimation of how long each clip would be, providing a basis roughly for how long each scene needed to be. This provided a starting point for the length of the motion graphics composition. Background music was selected for each video, as well as some accompanying audio sound effects to add to the feeling of the videos.

Phase three was graphics (Figures C1-C3) creation. This phase took one week. Using the storyboarded ideas, it was time to create the initial graphics in Adobe Illustrator, that will be

animated in Adobe After Effects. All graphic pieces that would have movement were created on separate layers in Illustrator. This would allow for each piece to be manipulated independently or grouped together and moved. Doing so will make them easier to animate in After Effects. The Illustrator file could then be imported into After Effects, or each graphic piece could be exported as a Portable Network Graphic (.png) file and imported into After Effects.

Phase four was video (Figures D1-D4) creation. Two weeks were allotted for each of the four videos. During that time, voiceovers were recorded, additional audio was acquired, a character was created and animated, and motion graphics for each video were created. The voiceover content from the script was used and voiceovers were recorded in Adobe Audition. A character was created in Adobe Character Animator which focuses as the narrator and voice behind the voiceovers. Her name is Lexi, and she appears throughout each video. The graphics created in Illustrator, the voiceovers created in Audition, the character created in Character Animator, and the songs acquired from YouTube's audio library were imported into After Effects to begin work on the composition of the motion graphics for each video. As each video was completed the process became more streamlined and efficient. The structural pattern for creating each video had developed. There was now a framework to follow adjusting what needed to be done for each video to have the same look and feel while introducing new content. Once a video was complete, it was then sent to Adobe Media Encoder to render the final file as a MP4 file with presets specifically geared to YouTube. After each file was rendered, they were uploaded to YouTube and ready for feedback from the committee. During the export process on the last video, some issues were encountered during the rendering process in Media Encoder. Auto updates had occurred for After Effects and Media Encoder. When the original files were opened in a new version of software and then sent to render in Media Encoder, they keep having

errors. When the old version of the software was reinstalled and used, there was no longer an error during the rendering process.

Results

The result of this project produced a four -part video series on 2D motion graphics giving an overview on motion graphics, color theory, kinetic typography, parallax, best practices for social media, efficiencies when using After Effects, and examples created for use on social media with enhancements based on knowledge gained throughout the project's lifespan. This project also put into practice the elements that were covered in the video series. The completion of the four-video series on 2D motion graphics resulted in a total length of about 20 minutes for the video series collectively. This was on task with what was outlined at the beginning of the project. The quality and pacing of each video developed positively over time. Through immersion in the process, it became easier to manipulate graphics and to strive for improvements on the original ideas.

Evaluation

With immersion into the creation of 2D motion graphics, more knowledge was obtained by being hands on with the creation. Skills were gained in storyboarding, scripting, graphics creation, the use of Illustrator, After Effects, Character Animator, Audition, and Media Encoder. This provided an avenue to think creatively and be able to problem solve as issues arose. The overall work that went into the creation of the video series was more than expected. With more time, more attention would be focused on fully developing Lexi's character both graphically and her personality. She was initially just supposed to pop in briefly for the first and third video but made appearances in all of them. Enhancements can and will be made to each of the four videos to make them uniform and cohesive with one another. The pacing and timing of the motion

graphics need to be adjusted some. The result of the project is a four-part video series that will enhance and round out a digital and web design portfolio.

CONCLUSIONS

This project was a success from the overall standpoint of producing a project for final submission and from the perspective of broadening knowledge on storyboarding, scripting, graphics creation, color theory and use of color harmony, kinetic typography, parallax, motion graphics, practical applications, and varied use of Adobe software. This project proved to be a visual piece of the capabilities of the creator that can be used for future employment and/or gaining additional responsibilities. Motion graphics of any kind do enhance the user experience. Some people are visual learners and motion graphics aids in the education of viewers. Motion graphics can also quickly get the message across better that static images or infographics. Viewers tend to pay more attention to things that move than to plain, static graphics. Just like there are many applications where user experience can be applied, there are also many places where motion graphics can be applied to enhance the situation. Such applications include scoreboards at sporting events, exercise equipment, smartwatches, cellphones, tablets, computers, cable and satellite consoles, gaming consoles, and automotive dashboards. With motion graphics and design sometimes less is more as to not overwhelm the user with too much stimulus.

This project has allowed for the expansion and development of practical skills in design, motion graphics, and audio and video production that can be applied to web design, social media, graphic design, audio production and editing, and video production and editing. This project has provided a way for the creator to gain on-the-project training and to have the confidence to create videos using motion graphics. This project will allow the creator to use and expand on knowledge to further the marketing and outreach both personally and professionally. The project concept, content, themes, graphics creation, and motion graphics work was the sole responsibility of the creator. While

the topics and approach of the delivery of motion graphics are not new, the execution of information in this project was original to the field.

There were more strengths than limitations in this project. This project combines many aspects of production that can stand alone as separate jobs but can also combine to create a powerhouse product. Examples of this are jobs solely devoted to sound design and audio engineering, graphics production, and motion graphics. When these skills are combined into one person, a utility player, the value of that person increases exponentially. This project effectively uses motion to enhance the user experience, as well as entertain and educate the viewer. This project was limited by the time allotted for completion, length of each video, skill level of graphics creation, and skill level of some software. More content could be created if there was more time focused exclusively on video creation. The length of each video was kept to a minimum in order to meet the assigned deadline of completion. If graphics were already created by a designer and audio was already selected and recorded, this process would have been much easier and more efficient. Having used some software for only a few months or never at all definitely had an impact on this project. Learning new software is great, but not under a deadline.

Knowledge acquired during the research and creation of this project will be carried into future projects. Future projects consist of a portfolio site, personal website, and client websites. The portfolio site will showcase a varying body of work in digital and web design. The personal and client websites will utilize knowledge of color harmony, kinetic typography, and parallax. Adobe Color will be key in selecting initial color palettes for websites. It has already been used recently to provide color palettes for a client website and in the creation of social media content. In the future, more knowledge on expressions for keyframes in After Effects will be researched. Research on current trends will always be on the forefront of research since this is everchanging. The creation of motion graphics in 3D space is also fascinating. This sounds time intensive and will be explored at a

later date when a large amount of time can be properly dedicated and more knowledge about the creation of 3D graphics has been obtained. Cinema 4D and Blender will be investigated to determine which application will be suit the needs at hand for 3D motion graphics. Video effects will also be considered to aid in the creation of videos, commercial pieces, and social media posts. New knowledge obtained during the recent research will also be applied to personal social media to enhance posts on personal hobbies.

The use of 2D motion graphics enhances the user experience by drawing attention to an area of the design. Motion graphics engage the viewer and can promote education and entertainment value. Motion graphics provide an overall pleasurable experience for the viewer. One key thing to remember with motion graphics is that sometimes less is more in order not to overstimulate and overwhelm the user. The proper use of color harmony, kinetic typography, and motion allow the viewer to be immersed in the video experience. Motion graphics offers a way to improve the narrative of a story by going beyond the use of static graphics and text. The use of motion graphics allows companies to boost their brand presence on social media by establishing their identity in a different way by adding some personality in motion design. Motion graphics offers visual stimulation to the viewer and therefore causes the user to focus their attention on the visual. Augmented reality and virtual reality are big proponents of the use of motion graphics to entertain users. As a result, motion design will continue to grow in the gaming world.

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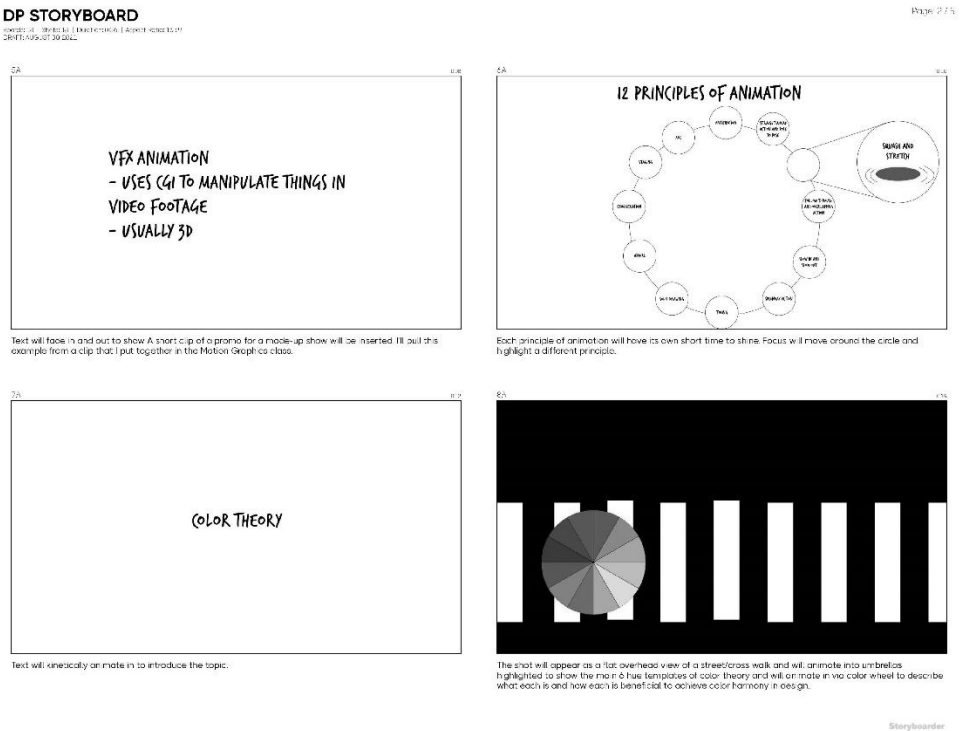
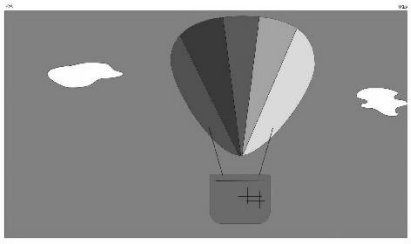
APPENDIX

Appendix A-Storyboard

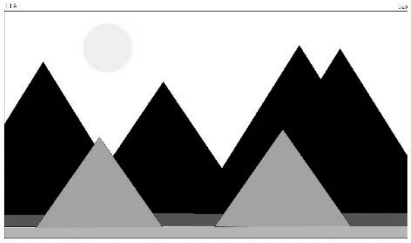


DP STORYBOARD

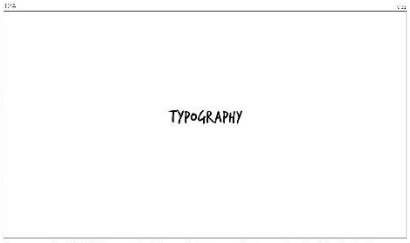


Flat overhead umbrellas will animate into a hot air balloon that will display 3 of the color hue templates of color theory

Title will animate in along with a definition of what parallax is.



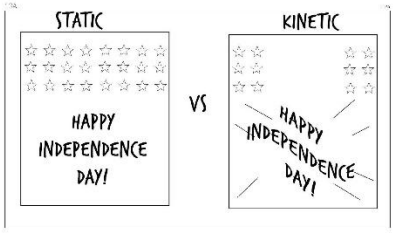
Hot air balloon will float over mountains. Foreground mountains will move in separately from mountains in background creating a 3D effect of parallax



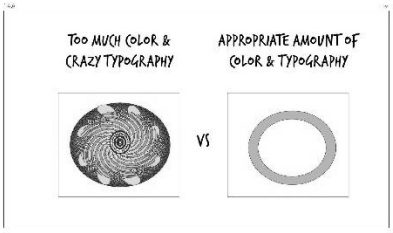
Some examples of kinetic typography will appear in this scene showing good and bad design choices.

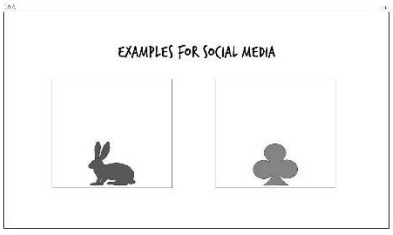
Storyboarder

DP STORYBOARD



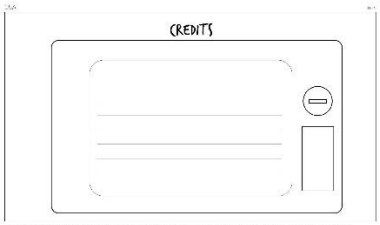
Stars will fall in and out
Type will drop in, shrink and grove.





Storyboarder

DP STORYBOARD



list of sources/credits roll up like on tv followed by noise like tv being turned off and picture closing out.

Storyboarder

Appendix B-Script

Scene	Title	Visual	Voice Over Audio	Voice Over Audio Time	Background Audio	Sound Effects	Notes	
1A	What are Motion Graphics?	Kinetic text of the title "What are Motion Graphics?" and the bullet points that indicate what motion graphics are will show in this scene. -movement or animation of graphics -can be a few seconds or minutes long -common uses: enhance social media or digital video platforms -catch user's attention	Just what are motion graphics? Well, motion graphics are graphics with movement or animation used to enhance the user experience by adding something extra to the work or story. This can be something short in length like 5 seconds or even longer like 20 minutes. Common uses for motion graphics are to enhance social media or digital video platforms and catch the user's attention.	00:26.4	Ammil - The Tides.mp3 00:02:52			Color in column 1 denotes which short video the content is in Video 1 is RED Video 2 is YELLOW Video 3 is BLUE Video 4 is GREEN
2A	What are the Types of Motion Graphics?	Kinetic text of the title "What are the types of motion graphics?" and the bullet points will show in this scene. -character animation -motion graphics animation -vfx animation	So, what are the types of motion graphics? We'll take a look at character animation, motion graphics animation, and vfx animation. We'll focus mainly on motion graphics animation throughout most of the series.	00:17.2			This will be the intro title for the 3 types of animation to follow.	
3A	Character Animation	Kinetic text will show the title "Character Animation". A character built in Character Animator will pop up and introduce herself. The following bullet points will also display: -frame by frame -2D "cut out" or rigging to show movement	Hi I'm Lexi! I was created in Adobe Illustrator and animated in Adobe Character Animator. I'm here to tell you about character animation. Character animation is moving a character frame by frame or using 2D "cut out" or rigging of the character to show movement. This usually displays personification. I'll be checking in with you from time-to -time.	00:23.8		Pop-up when Lexi enters		
4A	Motion Graphics Animation	Kinetic text will show the title "Motion Graphics Animation". An animation of squash and stretch from one of the 12 principles of animation will show here.	Motion graphics animation is moving shapes frame by frame or using 2D "cut out" to show movement. Here's an example of one of the 12 principles of animation. It's called squash and stretch. You can see how the image squashes on impact with the surface and stretches as it goes back up. We'll cover more about the 12 principles of animation shortly.	00:23.0				
5A	VFX Animation	Kinetic text will show the title "VFX Animation" and the following bullet point: -imagery or CGI -3D Text will fade in and out and a short clip of a promo for a made-up show (AHS) will be inserted. I'll pull this example from a clip that I put together in the Motion Graphics class for a past semester.	Visual effects animation uses imagery or CGI to enhance the video footage. This is usually in 3D. Here's an example of an intro for tv that includes VFX.	00:13.7				
6A	12 Principles of Animation	Kinetic text will show the title "12 Principles of Animation". Each one of the 12 principles of animation will have its own short time to shine. Focus will move around the circle and highlight a different principle and display the name of each animation.	The 12 principles of animation are Squash and Stretch, Anticipation, Staging, Straight ahead action and pose to pose, Follow through and overlapping action, Slow in and slow out, Arc, Secondary action, Timing, Exaggeration, Solid drawing, and appeal. Squash and stretch shows weight and flexibility. Anticipation prepares the audience for the action that will come. Staging directs the audience's attention to what is important. Straight ahead action scences are animted frame by frame. Pose to pose is when a few frames are drawn and the rest gets filled in. Follow through and overlapping action show more realistic movement and make the character appear to follow the laws of physics. Slow in and slow out shows acceleration and deseleration. Arc displays a natural trajectory of movement that an object would take. Secondary action gives more life to the scene and supports the main action. Timing is the number of frames that it takes for a given action to make it look realistic. Exaggeration is the embellishment of the character or action that makes it look semi-realistic. Solid drawing takes 3D space into account, therefore giving the character volume and weight. Appeal is when a character has likeability or is interesting. Here are the 12 principles of animation in action. Ok emohics show us what you've got!	01:49.2				

7A	Color Theory	Kinetic text will show the title "Color Theory". The following points will show: -Affects mood and feeling conveyed to user Color Harmony includes: - monochromatic colors -complementary colors -analogous colors -triadic colors -split-complimentary colors -tetradic colors.	Hey, do you know what color theory is? Let's find out together. Color theory plays a key role in graphic design as well as motion graphic design. Color can affect the mood and feeling of what is trying to be conveyed to the user. One of the main components of color theory is color harmony. Color harmony includes monochromatic, complementary, analogous, triadic, split-complimentary, and tetradic colors.	00:27.1	Enigmatic-bensound.mp3 00:02:27	Pop-up when Lexi enters	
8A		Overhead view of rainbow umbrella on the street/cross walk will show 3 hue templates of color theory.	Monochromatic colors are derived from a base hue. Complementary colors are two colors that are on the opposite side of the color wheel from eachother. Analogous colors are similar color groupings. Let's take a look at this next scene. Can you tell where the monochromatic, complimentary, and analogous colors are?	00:16.3		cars moving, people rushing, birds	
9A		Overhead view of rainbow umbrella will change into a rainbow hot air balloon showing 3 remaining color hue templates of color theory.	Triadic colors are three colors evenly spaced from each other on the color wheel. Split-complimentary colors start with one color and find the compliment and use the two colors on either side of it. Tetradic colors use four colors that are two sets of complementary colors.	00:21.8		wind blowing	
10A	Parallax	Kinetic typography will show the title "Parallax" and the following: -typically used in web design -background images move at different speeds than foreground images -3D effect with 2D images	Have you ever heard the word parallax before? Sounds like an alien species or something doesn't it? Parallax is when the background moves at a difference speed than the foreground, creating an optical illusion or 3D effect using only 2D graphics. It is typically used in web design but can also be used in digital design.	00:23.9			
11A		This will show mountains, water, land, birds, and a sun moving in toward the user at different speeds giving the appearance of 3D motion with 2D graphics.	Here's an example of parallax. Notice how the mountains in the background and foreground move at different speeds giving the illusion of 3D. That's all for today. In the next video we'll cover typography.	00:14.7		Running water, wind blowing, eagle	
12A	Typography	Kinetic typography showing the title "Typography" and the following: Motion can also be applied to: -parts of words or sentences -whole words or sentences	What's all the fuss about typography? It's just some text, right?! Typography...what and why? The font selected tells a story or conveys a message. The fonts that are selected should be clean and easy to read. Beginners should start by just using one font family. The font family should be low-key, clean, and simple. It should be sans serif. Be sure and select a font family that has many variants that will allow you to emphasize focus or contrast. There's a heirarchy when it comes to typography. It deals with size, color, font weight, location and motion. Common measurements are used to keep things orderly and proportionate. A good rule to stick to is to use the 2:1:1 ratio. This means that a header would be 100px, a subhead would be 50px and the space between the two would be 50px. Using grids makes is easier to layout your content and allow for even spacing. Motion can be applied to parts of the word or sentence or the whole word or sentence.		TipToes-Myuu.mp3 00:02:28	Pop-up when Lexi enters	This will be the intro title for kinetic and static typography

13A	Static vs Kinetic Typography	This will show a quote in a textboxstars ~~and text for the fourth of July~~displaying the use of static and kinetic typography.	There are 2 main types of typography: static and kinetic. The text on the left uses static typography. The text on the right uses kinetic typography. The text on the right is more eyecatching and grabs the attention of the user while the text on the left is just plain. Flat, static text lacks a certain spark. Kinetic text draws the user's attention. Well, that's all for this video. In the next video we'll cover best practices.	00:31.7			
14A	Examples of correct vs Incorrect color and typography	Kinetic typography will show the title "Examples of correct vs Incorrect color applications and typography". This will show motion graphics with too much motion, bad color selections, and crazy typography vs motion graphics that use the proper color theroy, have just the right amount of typography to not overwhelm the user, and enough movement to not make the user sick.	Here are two examples of correct versus Incorrect use of color and typography. What do you notice? This example is too overwhelming for the user and leaves them confused. This example uses the proper colors and typography and makes it easy for the user to view.	00:26.4			
15A	Best Practices	Kinetic typography shows the title "Best Practices". I will highlight some of the best practices to follow when working with motion graphics and different platforms.	Here are some of the best practices when working with motion graphics files for social media. This chart shows the different file sizes, frame rates, image sizes, and file output formats for some of the popular social media sites.	00:17.8	Sneaky Business - Biz Baz Studio.mp3 00:01:37		Best Practices for different platforms -file sizes -file frame rates -image size -file outputs
16A	Examples for Social Media	Kinetic typography will show the title "Examples for Social Media". This will include the 2 basic examples that I built for out social media accounts (Facebook and Twitter) at work. They were for Easter and St. Patrick's Day. St. Patrick's Day includes kinetic text and an animated four leaf clovers with a logo. Easter includes rolling eggs, a rabbit, kinetic text and a logo.	A company needed something simple that showcased the upcoming holiday, had a short message, and their logo. Both of these motion graphics were built to use on Twitter and Facebook. The motion graphic on the left was built for St. Patrick's day and the one on the right was built for Easter.	00:19.2			
17A	Summary of 2D Motion Graphics	Kinetic text will show the title "Summary of 2D Motion Graphics". Kintetic text will show bulleted points: -12 principles of animation -typography -color theroy -best practices	So, we have covered the 12 principles of animation, using typography effectively so that the user can easily read what's on the screen, color theory and the types of colors that work well together by using certain colors on the color wheel, and best practices for social media on how to output files for effectiveness. Remember, sometimes less is more. We don't want to overwhelm the user! Well, that's all from me! I hope you learned a few things from this series. Happy creating!	00:25.8		Pop-up when Lexi enters	12 Principles of Animation, Typography, Color Theory, Best Practices
18A	Credits	This will be an old tv set showing the Bibliography information/credits of the research for this project.	And now here are the sponsors for the video serie	00:02.6	Happy Haunts - Aaron Kenny.mp3 00:02:07	tv will zip/buzz out when all credits have run out.	

Appendix C-Graphics

Figure C1

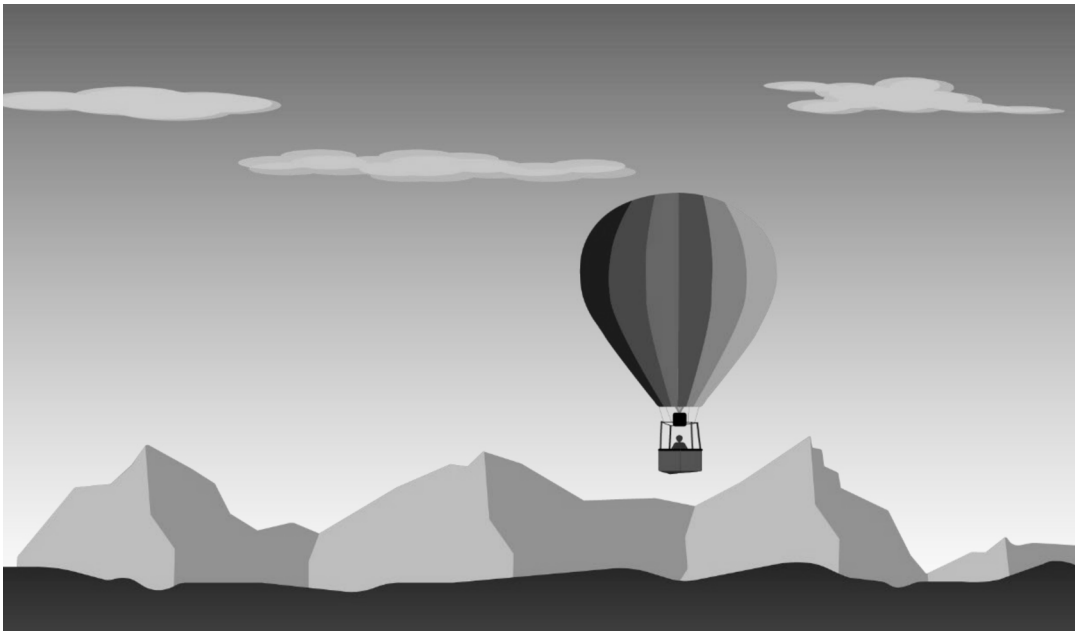


Figure C2

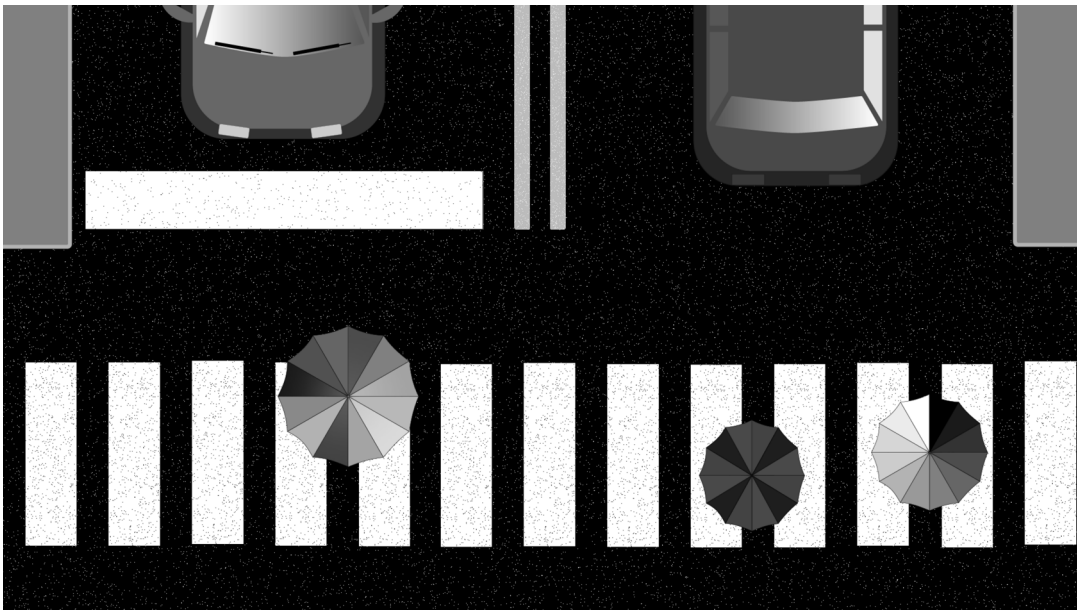


Figure C3

Appendix D

2D Motion Graphics Project Videos

Figure D1. Video 1-Definition of Motion Graphics and 12 Principles of Animation: https://youtu.be/_G6MdAl6PYU

Figure D2. Video 2-Color Theory and Parallax: https://youtu.be/AnAdRSlyu1Y

Figure D3. Video 3-Typography: https://youtu.be/bjdd18i5ruw

Figure D4. Video 4-Best Practices, Tips and Tricks, and Summary: https://youtu.be/or__zvh0fmc