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Committee Approval

**MDD**, What and How: A Motion Graphics Short Film

by Yi Zhou

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Fine Arts in Visual Communication Design

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Abstract

*MDD, What and How*

By Yi Zhou

Major Depressive Disorder (MDD) is a growing mental health problem these days as it creates more social issues and creates problems for families and individuals. However, people still do not know enough about this mental disorder. The purpose of this short motion film is to provide people with a quick and effective introduction to MDD.

This film explores a way to deliver essential information in a short amount of time and in a clear way for the audience to understand. It tells a story through the point-of-view of those who have friends or family members suffering from MDD. This story gives the audience key information viewers should know. The film also gives an empathy effect so information can be transferred quickly and efficiently to the audience.

Design-wise, the short motion film merges information design with motion graphics while combining 2D and 3D visual elements. In addition, the video gives a quick and efficient way to deliver information through a combination of video, animation, graphic design, and voiceover explanation.

Keywords: Motion Design, Infographics, MDD
Introduction

More people suffer from Major Depressive Disorder (MDD) than it seems. According to a 2010 report, 4.39% of the world's population (298 million people) were affected by MDD. In North America alone, the amount of people who suffer from MDD for one year or more is 3-5% for males and 8-10% for females.¹

Therefore, the short film, MDD, What and How, is to raise people’s awareness about this mental disorder.

The design inquiries include:

1. What is the best way to spread information in a fast-paced society.
2. How to effectively deliver the information in a short time.
3. How to combine 2D and 3D graphics in the same film and make them work visually fit together.
4. How to use infographics charts in a time-based media and let it achieve its advantage, to show numerical data visually.

Introduction

Nowadays, the internet is the best way to spread information. Online videos provide people with information anywhere at anytime via mobile devices. This motion graphics film is mobile friendly due to its limited color palate and the story's simplicity. The audience of this short film is the general public, thus the best way to spread this film's influence is to show it online.

The time span and content of the video had to be condensed and controlled, as internet users do not spend much time focusing on just one piece of content when browsing the web. The film is around two minutes in length, without an opening title so internet users do not need to invest too much of their time time into watching the film. The time span of this short film, the simplified visual style, and the voiceover dominated audio makes it easier for people to watch online and take down key information quickly. This format meets people's information reading behavior in today's fast-paced society.

2D and 3D graphics work in different ways. 2D graphics maintains an object's line and shape, while 3D graphics provide a sense of realistic
shading and lighting. Thus, putting them together without much thought would result in a non-cohesive visual style. To work together, the 3D objects were rendered with a solid color and ambient occlusion, resulting in no particular light or shadow. Meanwhile the 2D graphics share the same color palette with its 3D counterparts, with simple gradient, which is how the ambient occlusion works. By sharing the same visual feature the 3D and 2D part work together in the final film.

Charts and diagrams work great to give a visual idea on abstract data. In a time based media, people don't have as long as they want to read a chart. It is necessary to make the charts and diagrams easy enough to be understood within seconds during the film. Simple icons and well designed information shown on the timeline on the timeline allows for clearly displayed information.
Review of Literature

2.01 Design

Books:

- Steven Heller, Infographics Designers’ Sketchbooks, Rick Landers Princeton Architectural Press (October 14, 2014)
  This book contains sketches made by infographics designers. It contains little relating to design theory but provides information on how info-graphic designers develop their ideas. There is a clear connection be shown between the sketches and the final graphics. An efficient workflow can be shown from these sketches. Which helped me to decide how complete the sketches should be and from which point the sketches are ready to be developed in vector softwares for final product

- Weinschenk, Susan. 100 Things Every Designer Needs to Know about People. Berkeley, CA: New Riders, 2011. This book explains the gestalt psychology of how people see and absorb information. It is crucial to know how information is read and apply these rules to this project. Ignoring these rules may result poor design choices, which would cause confusion.
Review of Literature

- Lidwell, William, and Kritina Holden. Universal Principles of Design. Gloucester, Mass.: Rockport, 2003. This book introduces design principles that can be used in the general design field. Each principle is divided up per page within the book and serve as useful references for this project.

- Lupton, Ellen. Thinking with Type: A Critical Guide for Designers, Writers, Editors, & Students. New York: Princeton Architectural Press, 2004. A general introduction is given from this reference of every aspect of type. That includes type's history, type's development, type family's concept, type classification, and typeface terms such as kerning, tracking, serif and sans-serif, ascender and descender, etc.

- Nathan Yau. Visualize This: The FlowingData Guide to Design, Visualization, and Statistics. Wiley, 1 edition. 2011 This book explains how to visualize data in a fundamental way. It shows what should be considered when transferring numbers and statistics to an image. It also provides ways on how to visualize complicated data and images. Some charts do not have the best design for the eyes of a normal audience due to their complexity. It is not a book for
Review of Literature

general visual communication design but is useful on how to visualize data. It applies color coding, shapes and other visual design element with a very simple method, which can help me to rethink which visual element is crucial for the data itself which is not.

- Jason Lankow. Infographics: The Power of Visual Storytelling. Wiley, 1 edition. 2012 This book provides a brief history and insight of the future development of infographics, thus giving the idea and concept of where infographics comes from and the core sense of it. There is also a general workflow for infographics and a reliable guide for what kind of chart should be paired with what kind of data.

- Randy Krum. Cool Infographics: Effective Communication with Data Visualization and Design. Wiley, 1 edition. 2013 This piece provided me with a library of infographic references. It also explains promotion strategies using those infographics. The idea of using good visual design in the promotion is what I needed for this project for part of my project's purpose is how to use defined design to promote a certain idea.
Review of Literature


This is the only paper based book for software and technique problems I was using for this project. It fits with the project as it explains how to combine both Cinema 4D and After Effects programs into an effective workflow. Some project examples were given which taught me a lot about After Effects, Cinema 4D, and more importantly, the basic rules to designing motion graphics. The principles of animation and techniques for transition are all very useful in this project. Not all of the techniques introduced can be used in my project due to the special render style that I followed, but they widened my experience of After Effects and Cinema 4D. The author was available to provide help with his project himself.

Websites:

Digital tutors is a great tutorial website that provides project based courses
to learn from. There are two types of tutorials: software, and workshop. Both kinds of tutorials explain the software in a very complete way and provides design examples at the same time. All projects are downloadable which allowed me to dig into the project files and see how the scene was built. Some tutorials also provided an effective method in naming and organizing files and footages clearly.

- Lynda, accessed 2015-2016, http://www.lynda.com/member.aspx. While this software tutorial website is not project based, lynda.com contains every function of the the latest edition of software it teaches. This website is useful as it is hard to find information of a new feature on the latest edition.

- Infographixdirectory, accessed September, 2015, http://infographixdirectory.com. 2015 Infographixdirectory is a online database containing a huge amount of infographics. This website allows one to search for infographics based on a category which lets people see how designers treat certain types of information.
2.02 **MDD Information**

**Books:**

- Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5
  When it comes to the topic of mental disorder, this book is the field's standard. It was a crucial resource for finding information on mental disorders and was important for researching certain concepts and terms for this project. The main purpose of this motion graphics was to deliver information. This book helped me confirm that the terms and information I used was accurate.

- Kanner, Andres M. Depression in Neurologic Disorders Diagnosis and Management. Chichester, West Sussex: John Wiley & Sons, 2012
  This book gives an overview on depression, including the general diagnose. It explains depression in distinct condition as well. The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5 works like a dictionary and tool book and is a reliable information source for this thesis topic.

This book provides a six-step practical cure for depression, all of which were used in the third part of this thesis project. The six steps in the book are as follows:

1. Dietary omega-3 fatty acids
2. Engaging activity
3. Physical activity
4. Sunlight exposure
5. Social support
6. Sleep.
Process

3.01 Thesis Parameters

Presentation: A short motion graphics

Length: Motion graphics: 2'00"
        Full film: 2'29"

Film Rating: G

Format

Video
Frame Size: 1920 x 1280 pixel
Aspect Ratio: 16:9
Frame Rate: 24 fps

Audio
Channels: Stereo
Sample Rate: 44kHz

Technology

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware (Mac)</th>
<th>Hardware (PC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autodesk Maya 2016</td>
<td>Apple iMac 24&quot;</td>
<td>Thinkpad W530</td>
</tr>
<tr>
<td>Maxon Cinema 4D R17</td>
<td>Mac OS X (10.8)</td>
<td>Microsoft Windows 10</td>
</tr>
</tbody>
</table>
## Process

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware (Mac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adobe CC After Effects</td>
<td>Intel Core 2 Due 3.06 GHz</td>
</tr>
<tr>
<td>Adobe CC Photoshop</td>
<td>4GB DDR3 SDRAM (1066 MHz)</td>
</tr>
<tr>
<td>Adobe CC Illustrator</td>
<td>1 TB SATA 3.0 Gb/s</td>
</tr>
<tr>
<td>Adobe CC Premiere</td>
<td>512 MB ATI Radeon HD 4850</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hardware (PC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel Core i7 950 3.06 GHz</td>
</tr>
<tr>
<td>6GB DDR3 SDRAM (1333 MHz)</td>
</tr>
<tr>
<td>750 GB SATA 3.0 Gb/s</td>
</tr>
<tr>
<td>1GB NVIDIA GeForce GTX 285</td>
</tr>
</tbody>
</table>
A well designed pipeline is crucial for Computer Graphics. Shown on Fig. 3.02.1, is the layout of the pipeline used for this project.

The dark brown sections represent the pre-production phase, the light brown parts shows the production phase, while the orange areas represents the postproduction phase.

By following this pipeline, the timing can be reasonably planned and avoids any unnecessary work.
Process

3.03 Storyline

The purpose of this short film is to tell 'what is Major Depressive Disorder?', and 'how to treat people who are suffering from Major Depressive Disorder'. Therefore, the structure of the film takes root from this purpose during the second and third parts of the film.

This film uses a third person point-of-view to narrate the story, which raises the audience's empathy and is a faster way to explain the data and ideals. There are two main characters in this film: Emily and Eric. Eric is suffering from Major Depressive Disorder and Emily is there to help. Emily represents the target audience of this film and this film is told in her voice.

The first twenty seconds of the film provides a general background story of Eric's condition. Given the idea that this film is meant to deliver the information of 'What is Major Depressive Disorder and how to treat people' (as reflected in the title: MDD, what and how), it is necessary to keep the story simple.
Process

The second part of the film spans from 21 seconds to 1 minute 5 seconds and states what Major Depressive Disorder is, its symptoms, and other data relating to this mental disorder. Based on research done before the proposal, the key points people need to know relating to MDD are:

1. The symptom of Major Depressive disorder.
2. It is a very commonly happened mental disorder in US.
3. It is very important to separate Major Depressive disorder from sadness.

Therefore the script was written to follow these three key points.

The final section of this film suggests ways to help those suffering from Major Depressive Disorder. From 1 minute 16 seconds to 2 minutes, the key points are summarized as:

1. Encouraging the patient get a diagnosis and have the physician recommend a course of treatment. (and stick with the treatment).
2. As a friend, be supportive. Provide understanding, patience and affection. Don’t give up on the patient if he resists. Talk and listen carefully to them.
3. Gently invite the patient to participate in outside activities without sounding pushy.
4. Learn more about MDD to provide better support. As is shown in the table
below, a lot of information is needed to be delivered in 45 seconds. The feedback from screenings suggest the animation and the narration of the main character helps the audience understand and digest the information. Therefore, the storyline of this film is designed as:

<table>
<thead>
<tr>
<th>Emily tells how Eric gets stuck in his condition</th>
<th>The symptom of Major Depressive Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key information about Major Depressive Disorder</td>
<td>It is a very commonly happened mental disorder in US</td>
</tr>
<tr>
<td>How to help people who are suffering from this disorder</td>
<td>How to separate Major Depressive Disorder from sadness</td>
</tr>
<tr>
<td>Encouraging the patient get a diagnosis and take a course of treatment recommended by the physician</td>
<td></td>
</tr>
<tr>
<td>As a friend, be supportive. Provide understanding, patience and affection. Don't give up on the patient if he resists.</td>
<td></td>
</tr>
<tr>
<td>Inviting the patient for outside activities but don't be pushy.</td>
<td></td>
</tr>
<tr>
<td>Learn more about Major Depressive Disorder to provide better support.</td>
<td></td>
</tr>
</tbody>
</table>
Process

The script needed to be re-written several times due to factors such as the animation speed, the length of the film, etc. The script provides a skeletal structure for the entire film.

3.04 Script

“I’ve known my friend Eric since kindergarten. He is a nice and fun guy. Six months ago, Eric’s girlfriend broke up with him. Initially he only seemed to lose his normal energy and didn’t hang out with me as often. But it has continued for months and even caused him to perform poorly at work and lose his job. I worried about him, and wondered what was happening and how I could help. I did some research and it shows Eric’s behavior may suggest Major Depressive Disorder, known as MDD. It is the 2nd most common mental illness in the U.S. Affecting about 6.7 percent of the population over the age of 18, MDD is different from sadness. In most people sadness will pass over time. For those with MDD the emotional state lingers for months or recurs in future years. A person with MDD can lose interest in
things they used to enjoy for 2 weeks or longer. They usually feel depressed, lose pleasure in daily activities and feel worthless. Other symptoms may include significant appetite changes, sleeping disorders, fatigue, difficulty concentrating or focusing and suicidal thoughts. How can I help Eric? Here are some suggestions. First of all, encourage Eric to get a diagnosis and take a course of treatment recommended by his physician. Encourage him to stay with the treatment for an appropriate period of time. Secondly, be supportive. Let him know I care about him and I will always be there for him. Gently invite him for outside activities but don’t be pushy. Learn as much as I can about MDD so that I can provide better support. I believe Eric will get better if he gets the right treatment. I also will keep assuring Eric that he will get better. We are friends, and I know Eric will feel more like himself again.”

3.05 Storyboard

The storyboard shows the first attempt at visual design and gives the impression of what every shot should look like. The transition hasn’t been
Process

taken into consideration very much at this stage, but provides the basic idea of how every shot will be connected together. The initial design is to keep the characters’ design simplified so they can work with the graphic charts shown. The background is kept as simple as possible to keep the audience’s focus on the characters. Line drawing that shares the same color with the characters is introduced when the environment is needed in context. (Fig. 3.05.1; Fig.3.05.2)
3.06 **Character Design**

To develop the storyboard into a style frame, the characters needed to be fully
Process

developed. It is better to complete the character design in this stage before moving onto the next step of production to avoid further complications.

The character design starts from sketches to decide the proportion and structure of the characters, which need to be rigging and animating friendly. (Fig.3.06.1, Fig.3.06.2)
Process

3.07 Character Development

The characters in a 3D layout work differently than in 2D. What looks correct in 2D may not work well in 3D. The workflow of this project was to model 3D characters based on 2D concepts and develop the characters' looks further.

The main change to the characters' design was the size of Eric. The original proportion seemed slightly off when modeled in 3D. The final version has been adjusted to work well with the shots that he is in. (Fig.3.07.1)
Process

3.08 Style frame

After the basic storyboard and character design was approved by the committee members, the final visual design concept needed to be settled. Timing and animation can be done after the visual design has been completed. (Fig.3.08.1-Fig.3.08.4)

For this stage, designs were rendered from 3D software, and Illustrator for the 2D parts, and composed in Photoshop. The timing was not a focal point at this stage. This is the blueprint for the later animation work though how a model was to be animated had taken into consideration.
Process

Fig. 3.08.1
Process

Fig. 3.08.2
Process

Fig. 3.08.3
Process

Fig. 3.08.4
Process

3.09 Animatic

Building an animatic is the first step to working steady visual frames into the timeline. It helps by showing what do those shots look like on the timeline. With the evaluation of the animatic, decisions like which shots need to be adjusted or even deleted were made.

The first take of audio recording was made at this stage. A temporary, low quality audio “scratch track” file was created as well to base the actual animation timing.

The animatic can be found in appendix disk.
Process

3.10 Modeling

Modeling is the first stage of the 3D portion of the project. The topology of each character has to be animatable. Therefore each model has a low poly count but contain essential edge loops at the joints. (Fig.3.10.1, Fig.3.10.2)

Fig.3.10.1
Process

Fig. 3.10.2
Process

3.11 UVs Sets

The characters need to maintain a sense of simplicity. They are iconically color coded so the audience can tell each of them apart easily. Only Emily needed a UV set to give her a belt around the waist. (Fig. 3.11.1)
Process

3.12 Rigging

Rigging helps models move freely. Well crafted rigging can save time during the animation phase so it is wise to analyze what poses and movement the characters will perform in this film, and rig them accordingly. In this case, there's no need to set up a rig for the characters' facial expression and five fingers. A palm and thumb is enough for the hands. Finally, an inverted foot rig is needed due to the amount of walk cycle animation. (Fig.3.12.1, Fig.3.12.2)
Process
Process

Emily's skirt needed additional rigs due to how skirts move. Four sets of joints are enough for the skirt. (Fig.3.12.3)
The inverted foot rig can save time for animating the walking cycle. There are two sets of rigging chains per foot, which makes it possible to have three pivot points for animation: the toe, the ball, and the ankle. (Fig.3.12.4)
Process

3.13 Animating and Rendering

The animating phase is when the models move and are brought to life. The 12 animation principles were applied during this stage. The principles that were applied the most are: anticipation, follow though and overlapping animation, ease-in and ease-out, and finally, arcs, and secondary action. For the 3D models, the characters were animated in Maya (Fig.3.13.1) while the other models were animated in Cinema 4D (Fig.3.13.2). For the 2D graphics, the assets were made in Illustrator and the animated in After Effects (Fig.3.13.3). The animation results can be found in the appendix disk.

Rendering is the step that composes the previous stages into pixel-based pictures on screen. To accomplish the design style that has been made in preproduction stage, 3D rendered images were set up with similar settings both in Maya and Cinema 4D. In Maya, surface shader with ambient occlusion was used while in Cinema 4D, luminance with ambient occlusion was used. For the 2D parts, solid color and similar graphic styles were used throughout the film.
Process

Main render layers in Maya

Fig. 3.13.1
Main render layers in Cinema 4D

Fig. 3.13.2
Process

2D animation rendering

Fig. 3.13.3
Process

3.14 Compositing

Compositing combines both the 2D and 3D rendered images, alone with color corrections together. In this project, every layer was composed together using a certain blending mode in After Effects. (Fig.3.14.1)

3.15 Tracking, Rotoscopying, Masking and Clone & Brush

Additional graphic elements were combined afterwards to the 3D rendered images such as tracking and rotoscoping. The Clone and Brush tools in After Effects were used to clean up certain shots.

The tracking was from the After Effects tracking tool with no camera tracking needed. To compose the number '65' on the board which Eric holds, movement tracking and perspective pin tool were used to accomplish the perspective changing. (Fig.3.15.1- Fig.3.15.4)
Process

Fig. 3.14.1
Process

Fig. 3.15.1

Fig. 3.15.2
Process

Fig. 3.15.3

Fig. 3.15.4
Process

3.16 Color Correction

Because the rendered image sequences came from different software, the colors came out differently. The best way is to adjust them all together in After Effects so they match in post-production. It is easier to control color in separate layers to make sure the characters have the same color throughout the entire film.

The main color correction tools that were used include: curves, hue and saturation, level, and color balance. (Fig.3.16.1)
Process

3.17 VO Adjustment and Music Remiking

The music was purchased on https://www.audionetwork.com/ and remixed in Adobe Audition.

The receipt is included in the appendix.

Before the final film was delivered, I got the opportunity to get the script voiced and recorded by professional voice actress, Sandra B. Sluberski at SBS Vocalworx. The final mix was done by Dave Sluberski at West Rush Productions. (Fig.3.17.1)
Summary

4.01 Refinements based on feedback

Some feedback was collected after the first test version was rendered. The feedback includes legibility, design harmony, and graphic clarity.

Color: The audience wants the film to be clear when it comes to the character’s emotional stage. Therefore, the color of the right character in the image below was changed to a warmer color, which shows that the character is emotionally better off and helps balance the color palette. (Fig.4.01.1)

Text: From the first screening, the audience did not have enough time to read the text on the phone (as is shown at the left). When shown in still image, the text is read fine, yet is hard to read when it is moving on screen. So the text was simplified a lot. (Fig.4.01.2)
Summary

Layout: The audience complained that they did not have time to watch both the character and the text. The layout for still images work differently for moving graphics. The text was then taken off in the final version. (Fig. 4.01.3)

Graphic Design: Some graphics were redesigned to be more compatible with the overall style. For instance, the icons in the project were all adjusted to have the same line weight. To keep the design consistent, icons and text that did not fit the overall style were changed to graphics to keep a consistent design. (Fig. 4.01.4)
Transition: Every word on screen should be read clearly, and the first screening demonstrated the difficulty the audience had in reading the text. Therefore, the transitions were redesigned according to the audience's reading speed. (Fig.4.01.5)

Content: The real web design survey cannot be used in this film due to the legibility of the amount of text. (Fig.4.01.6)
Summary

4.02 Usability Testing

A questionnaire was designed to see if the film provided the information successfully. The questions focused on these aspects:

Has the information delivered successfully? Are the text and graphs legible on screen? Does the audience find the film visually attractive? Was the audience's awareness on MDD raised by watching this film?

These questions cover six design facts: Useful, desirable, usable, accessible, valuable, and credible. Around 30 copies of the questionnaire were given to members of the target audience during Imagine RIT 2016 with 19 of them being collected. Additionally, 20 copies of questionnaires were sent to RIT students in which all 20 were collected. Results from the questionnaires provided positive feedback; stating that they main idea for the film was conveyed clearly and that it made for an enjoyable experience.

Audiences gave a positive response through the questionnaire, agreeing that the film contributed to an enjoyable viewing experience with the main idea being portrayed clearly. The analysis of the result is on page 52.

The color coding below shows which question focuses on which fact.

(Fig. 4.02.1)
MDD, What and How

Thank you for watching the film MDD, What and How. Please take a few moments to complete this form.

<table>
<thead>
<tr>
<th>I am able to find the information I need from this film.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I found this film to be visually attractive.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I could read all of the text in screen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This film is easy to understand.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I'd like to keep tracking related topic from this film.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The information in this film is valuable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know more about MDD by watching this film.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know how to help people who have MDD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments

Useful Desirable Usable Accessible Valuable Credible
The analysed questionnaire shows that the audience was satisfied with this film. It successfully delivered the information. The weakest part falls in the film’s value. It could be due to the lack of interest in the topic. Some audience members who have had a similar experience, including those with other mental disorders, expressed more interest than others. They said they went through the problems that are mentioned and wish society can pay more attention to mental disorders, which is the purpose of this film. This film therefore, provided useful information. (Fig. 4.02.2)
Conclusion

This film completed the design inquiry when it was started.

To transfer efficient information in such a limited time, it required people’s attention and interest on the subject. To work the information into a story is a good and friendly method to transfer the information. The audience would understand the material better as they can understand the circumstances and have an empathy with the characters in the film. The audio and animation helped people understand more. Roughly 80% of the information is regularly collected by sight while 10% is collected by hearing. It is best to ignite both senses to make people get the most from the information. Working data and statistics into infographics also helped people understand the subject. This way, both abstract and concretize parts of the brain can work together to digest a certain information.

Combining 2D and 3D graphics together is always a challenge. For this project, the purpose is to get both types of graphics to interact with each other. The method applied in this project is making the 3D part looks 2D-ish but has maintains its shading quality. The flat color and a simple ambient
Conclusion

shading is used for 3D part in this project. The 2D and 3D part all share the same color palette. The result shows it works nicely with even iconic 2D graphics.

Infographics is a great tool for displaying information. How to work the information in a time-based project such as this film requires more consideration however as people do not usually have time to watch whatever they want. Timing is therefore required to show the necessary information.

The production process of this project was an exploration of the combination of information and animation, 2D and 3D graphics. The results from the feedback shows it did raise people's awareness and increased their overall knowledge concerning Major Depressive Disorder and gives a working example of how to merge information into film successfully.
MDD: What & How

An introduction to Major Depressive Disorder

Yi Zhou
A Thesis Proposal for MFA
Rochester Institute of Technology
College of Imaging Arts and Sciences
Visual Communication Design
Rochester, NY
Appendix

Thesis Committee Approval

Chief Advisor
Nancy Ciolek, Associate Professor, School of Design

Associate Advisor
Chris Jackson, Professor, School of Design

Associate Advisor
Shaun Foster, Assistant Professor, School of Design
Appendix

Proposal  MDD: What & How

Abstract

Major Depressive Disorder (MDD) is a growing mental disorder today, resulting in individual and social issues. A large number of people lack the basic knowledge about the disorder. There is a need to provide people with a quick and effective introduction to MDD.

This thesis aims to raise public awareness about MDD through a short motion graphics film. This will be disseminated online and on public screens. A short motion graphics film could effectively give a large audience access to useful information in a casual way, and it could be made accessible to a large audience based on the population of the Internet users.

The results obtained in the research for this project include how to merge infographics into motion graphics, how to combine 3D and 2D visual elements, and what the most important information about major depression disorder for the audience. The target audience is people who have friend(s) that is(are) suffering from major depression disorder and want to help. The final outcome is a short motion graphics film. Some characters will be animated in Cinema 4D and rendered out as an image sequence. The remaining animation will be designed in After Effects. The final film will be published for the Internet.
Problem Analysis

Major Depressive Disorder (MDD) has a high morbidity rate worldwide. It is believed to currently affect approximately 298 million people as of 2010 (4.3% of the global population). In North America, the probability of having a major depressive episode within a year-long period is 3–5% for males and 8–10% for females.¹

The relationship between stressful life events and social support has been a matter of some debate; the lack of social support may increase the likelihood that life stress will lead to depression, or the absence of social support may constitute stress that leads to depression directly.

Based on the statistics from NIH (National Institute of Mental Health), many people who suffer from mental depression never seek help, which includes those who have severe symptoms. People who have MDD patients friend(s) want to help patients to make them get better. There are MDD assessments for clinic physicians and some text-based websites to give general information about MDD online. But there is no quick way to explain to friends of MDD patients about the condition and how to be supportive and helpful.

Considering all the conditions given above, a quickly accessed, easily understood method for people who have one or more friends are suffering from MDD is needed.
Problem Statement

Could motion graphics successfully present enough essential information to the audience, offering an understanding of major depressive disorder and knowledge to treat potential symptoms of MDD? Could a 3D approach be used in a vector based motion information graphics?

Although motion graphics is an effective way to communicate information, how to apply it to express the meaningful and useful information still requires extensive thought and skill, both for the audience and designer. Understanding the method and theory of infographics and motion graphics is the critical point of this thesis. In addition, an understanding of the intended audience’s perception is another key point. Exploring how to make 3D techniques merge seamlessly into 2D vector design is another problem to study and experiment with.

In the content phase, the basic theory of information design and motion graphics needs to be explored and combined together. In the visual design phase, 3D techniques need to be combined with a 2D vector design style. To narrow the thesis project down to a manageable level, it will be a quick guide (what and how) to major depression disorder. All of the research and study aims to answer these questions:

1. How does information design in these motion graphics present information in a quick, clear and appealing way?
2. How does motion graphics work with a variety of information?
3. Will the audience’s pre-existing knowledge affect how much they can perceive from the motion graphics?
4. Would a person who has a friend suffering from major depressive disorder be willing to watch this motion graphics?
5. Does the present platform and environment affect the perception of the message?
6. How can a 3D rendered image sequence be grafted into a 2D design style?

This thesis project will be an example of how design can be used for social services as its first purpose.
Survey of Literature

Design Information

BOOKS:

- Steven Heller, Infographics Designers’ Sketchbooks, Rick Landers Princeton Architectural Press (October 14, 2014)

This is not a design theory book, but an enlightened book to show me how information graphics designers develop their mind. How do they sketch in a useful and efficient way? It will be a big help for my work flow.


This book explains what, why and how people see and absorb information. Which is a book explains gestalt psychology in a systematic way. It is not relates to how do audiences see this motion graphics film, but also relates to digital design compositing on screen. This book will help to express the information and data to audiences in a clear way.


This one page per topic book gives a whole list of design principles. They are not focus in a particular area but cover the most part of design majors and explain principles in a digestible way. A lot of principles are user interface principles which are related to psychology. Considering that motion graphics thesis is a product for target audience, it is beneficial to incorporate user interface theories into audiences watching experience.


This book gives a good overview on every main aspect of type. Which includes type history, typeface family, typeface terms such as kerning, tracking and line spacing, and grid system. It is a good handbook to check basic conceptions about type.

- Nathan Yau. Visualize This: The FlowingData Guide to Design, Visualization, and
Appendix

Proposal  MDD: What & How


This book explains how to visualize data in a fundamental way with some basic logic of visualization. It is a tool book rather than a design book. It covers the data visualization theory for web design and newspaper. Because this book takes out the information out of heavy visual design, It is a good starter reference book for my project.


This book breaks down the massive context of infographics into easy-to-follow steps, including choosing the right format, visual storytelling, content distribution tips, data visualization best practices, and creating utility. This book shows that infographics and data visualization can convey message in a concise and engaging way and shows how to use visual communication to attract and inform an audience. It also explains the history and future of infographics, which can help me understand the bigger picture of infographics better.


This book is not just about great infographics, but it shows the complete design and promotion process. It shows how to use good visual design as part of a broader promotion strategy. It helps because my project is not just about infographics, but my project is to use infographics to show the content to audiences. Cool Infographics explains the entire process for the whole ‘selling idea’ process. The tips and strategies in this book help to create engaging infographics that audiences will love and successfully communicate the message.


The combination of After Effects and Cinema 4D is the application of my project. Since there are a lot of basic issues when it comes to combine two software together, I need a reference book to systematically guide my work flow. This book goes through the whole process of making motion graphics with After Effects and Cinema 4D. It explains how to use After Effects and add some 3D graphics to the motion graphics.
work, which is exactly what my project is. Also, since the author is available on his office hour, it is advantageous for me to use this book and get help directly from the author.

WEBSITES:


Digital tutorials is a large tutorial website which provides the latest project based software techniques. Due to the fact that my project is highly software dependent, this website will be very helpful.


Lynda is another tutorial website. It is not focused on project so much but gives a general overview of every aspect of a wide range of software. Since it includes some basic systematic tutorials for the software I need, it is also in the list of my reference websites.


Infographixdirectory is an online database which includes many infographics. These graphics are carefully cataloged. It is convenient to search for the certain topic of graphic that I need. I can get useful references from this website.

BOOKS:

Kanner, Andres M. Depression in Neurologic Disorders Diagnosis and Management. Chichester, West Sussex: John Wiley & Sons, 2012

This book begins with an overview of depression. It includes how it’s diagnosed; and its relevance to neurology, in particular to suicide. And it explains depression
in distinct conditions. For my project, I need some overview summary about major depression disorder. This book should be an information source which will work for me.


This book provides a practical 6 steps cure for depression. Which gives some actual practical content for my thesis project. For my audiences, some more practical cure could be more attractive than theory. These 6 steps are: 1. Dietary omega-3 fatty acids; 2. Engaging activity; 3. Physical activity; 4. Sunlight exposure; 5. Social support; 6. Sleep. I can pick some of these and use in the thesis.
Appendix

Proposal          MDD: What & How

Mood Board
Appendix

Design Ideation

Character Design
Appendix

Proposal        MDD: What & How
I've known my friend Eric since kindergarten. He is a nice and fun guy. Six months ago, Eric broke up with his girlfriend. Initially he only seemed to lose his normal energy, but it continued for months and even caused him to lose his job. I worry about him. I did some research and it shows Eric's behavior may suggest Major Depressive Disorder, known as MDD. It is the most common mental illness in the U.S. Affecting about 6.7 percent of the population above 18. MDD is different from sadness. In most people sadness will pass over time. For those with MDD the emotional state lingers for months or recurs in future years. A person with MDD can lose interest in things they used to enjoy for 2 weeks or longer. They usually feel depressed, lose pleasure in daily activities and feel worthless. Other symptoms may include significant appetite changes, sleeping disorders, fatigue, difficulty concentrating or focusing and suicidal thoughts. How can I help Eric? Here are some suggestions. First of all, encourage Eric to get a diagnosis and take a course of treatment recommended by his physician. Encourage him to stay with the treatment for an appropriate period of time. Secondly, be supportive. Let him know I care about him and I will always be there for him, provide understanding, patience and affection. Don't give up on him if he resists. Talk with him and listen to him carefully. Gently invite him for outside activities but don't be pushy. Learn as much as I can about MDD so that I can provide better support. I believe Eric will get better if he gets the right treatment. I also will keep assuring Eric that he will get better. We are friends, and I hope to see the nice and fun Eric return.
Appendix

Methodological Design

Problem Analysis
Overall society objectives: Give MDD patients’ friend(s) a quick intro to major depressive disorder; “What is MDD? How to treat people who have MDD?”
Design objectives: Combine 3D digital design and 2D vector design together.

Formular Strategies
Brainstorming possibilities: Quick sketches.
Defining design concept and scope: Storyboards
Identifying potential problems and problem solving: Find and research certain software and conceptual problems with the processing of the project.

Implementation
Design and development process by studying materials, documenting and reflecting upon meetings, and performing additional research as needed. Electronic mock-ups will be made, sketches and models will be produced. The ideas need to be kept close to the core of development process.

The final product will be a short motion graphics film in HD. It will combine 3D animation with 2D vector graphics design and compose in After Effects. The media selections are mobile device and online video.

The anticipated software components are After Effects, Photoshop, Illustrator, Audition, Premiere, Cinema 4D, Maya, Mudbox and Zbrush would be used if needed.
Target Audience

The audience of this short film is young adults (20-35) who have MDD friend(s). These people want to give some help and support but don't know how. This thesis project will explain to them the culture base of MDD and what they should do to give their friend(s) proper and useful support.

Audience persona below is based on audience research.

Tristan Liu
Student, 27, Rochester, NY

“My good friend is certified with depression disorder. I want to help but don’t know how.”

Josh Lopez
IT Developer, 32, Chicago, IL

“My old classmate almost killed himself because of depression disorder. We are close. I wonder how it started and what can I do for him.”

Stephanie Pak
HR, 26, L.A., CA

“My office mate experienced a tragedy 3 months ago, she lost her vitality since then. I don’t know what is going on in her mind and I want to help.”
Appendix

Proposal          MDD: What & How

Deliverables

The final product for this thesis project is a rendered 90 seconds (roughly) HD (1920*1080) QuickTime motion graphics film. It will be easy and fun to watch. This motion graphics can be watched online, on mobile devices, or on a public monitor. It is easy for people who need the information to watch in a casual and comfortable condition and receive the information they need in a quick and efficient way.

2D graphic design, 2D and 3D animation and motion graphics techniques will be used. 2D animation production will be in After Effects. The character animation will use 3D technique in C4D (or Maya if needed). FK and IK rigging techniques will be used to animate the characters. The 3D characters will be combined in 2D by a toon shader with AO layer. The composition will be produced in After effects.

The voice over will be recorded in RIT’s recording room and post-remix in Adobe Audition. The background music will be purchased on http://www.freeplaymusic.com/
A short motion graphics film is the final product of this project. Which focuses on giving the ‘what and how’ about major depressive disorder to MDD patients’ friends who want relevant information. Survey covers the symptoms, reasons and treatments of major depressive disorder, and how to combine motion graphics and infographics to provide an info-based motion project, and how to combine After Effects, Cinema 4D, Maya, Photoshop, Illustrator, Premiere and Audition effectively in the work flow. Research will help me to target and focus on the most important information that should be delivered.

The major part of motion graphics will be achieved by After Effects, Photoshop and Illustrator. For some 3D effect, Cinema 4D and Maya will be introduced to finish the character animation. The combination of several softwares gives the most flexibility to the working flow. The teamwork with a physiology student will help the content correction, the study of target audiences will help to target what information should be delivered in this motion graphics.

Most of these softwares mentioned above have been learned and practiced before, advisors and online resources are available for problems this thesis may concern. This thesis project can be built to its final stage on time if I manage my time reasonably. The weekly meeting with chief and committee members will ensure that I can make sure I can keep my project on track.

This thesis project covers the core information about MDD: What and How. It requires a solid ability to collect, build, and organize information in a clear way, and deliver the information consistently. The scope of this project, includes the research, length of the final motion graphics product, and software technique, which are all beyond a typical course assignment.
Dissemination

The final product will be a complete short film online. Everyone who can access the world wide web can find it by searching with key words using search engines. The most video results people can get online today with key words such as Major depressive disorder and mental illness are speeches, lectures or patients telling their own survival story. There are no motion graphics or animation results about how to help an MDD patient friend. With the keywords of * MDD, major depressive disorder, mental illness, depressive disorder, mental disorder, motion graphics, animation, short introduction, family member, etc. People can access this short film easily. This film’s HD version (with water mark) will be free to download and can be used for non-profit purposes.

Some animation film festivals accept short motion graphics, which can be found on filmfreeway.com. Design contest such as ADAA accept motion graphics as a main catalog. This short film will be submitted to ADAA 2016 or 2017 and animation festivals which accept motion graphics. Mental health conferences sometimes accept multi-media films. The thesis project will be submitted to related conferences for consideration.
Proposal          MDD: What & How

Evaluation Plan

Feedback from chief and committee members
During the process of thesis, the meetings with chief and committee members will be made regularly for evaluation. Improvement is done based on chief and committee members’ feedback.

Feedback from classmates and peers
The whole project’s process will be shown to classmates and peers to gather feedback as to typeface, color choice and motion design.

Feedback from interviews with target audiences
Some interviews with target audiences will be set during some certain work progression. Script, character design, animatic and final film will be sent to specific audiences to obtain feedback. They provide content feedbacks for this thesis project.

Feedback from psychologist
A psychology student at RIT will be in touch. The voice over, storyboards and animatic will be sent to her to obtain professional evaluation from a psychologist’s point of view.

Imagine RIT
Imagine RIT is a good chance to show this thesis project to a big group of people. If the time of production can be managed reasonably, the final project can be shown to people who come to imaging RIT and they can provide feedback.
Appendix

Pragmatic Consideration

Travel expenses:
Transportation fee to meet psychology students, doctors and target audiences. The expense will be about 100 dollars.

Conference/competition entry fees:
To be determined.

Cost for printouts, Software and Hardware:
This thesis project is a non-profit student work. In such case it is free to use school’s software in teaching version. Plug-ins will be purchased if needed. The expense is about 220 dollars.

Copyright licensing fees:
The music and sound effect will be purchased on freeplaymusic.com. One piece of music is about 50 dollars.
Appendix

Timeline

Fall semester

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Winter break

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<td>19-25</td>
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Appendix

Proposal          MDD: What & How

Timeline

Spring semester

- 29-04
- 05-11
- 12-18
- 19-25
- 26-01
- 02-08
- 09-15
- 16-22
- 23-01
- 02-08
- 09-15
- 16-22
- 23-01
- 02-08
- 09-15
- 16-22
- 23-29
Appendix

6.02 Receipt of the Music

Order 575520
Thank you for your order placed on 22 Apr 2016

License Type  Home & Student
Production Name  MOD, What and How

Title     Duration     Description                              Price  Download
Ticking Boxes  2:20     Simple piano & acoustic guitar opening builds to  $1.35  
                      inspiring indie chorus
                      
Subtotal: $1.35
Plus VAT 0% (US): $0.00
Order Total: $1.35

Stuffit Expander can unzop your downloads and is available free for both Macintosh and Windows platforms. Macintosh and Windows platforms.

Purchased music tracks are available to download in either 16-bit 48KHz Stereo WAV (.wav) format or 192kbps Stereo MP3 (.mp3) format. 16-bit 48KHz Stereo WAV format or 192kbps Stereo MP3 (.mp3).

If you require a hard copy license covering your music usage, please send a copy of your cue sheet listing the music used, to Audio Network together with details of your online purchase. We will send you a hard copy license by mail. There is no extra charge for this service. Please send requests to nycoffice@audionetwork.com, support@audionetwork.com.

Blank Music Cue Sheet

Cue sheets are the primary means by which Audio Network and our composers receive royalties for the performance of our music in audio-visual media. Without cue sheets, it would be nearly impossible for our composers to be compensated for their work.

Download Cue Sheet (PDF)
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Cullen, Kristin. Layout Workbook: A Real-world Guide to Building Pages in
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Kanner, Andres M. Depression in Neurologic Disorders Diagnosis and Management. Chichester, West Sussex: John Wiley & Sons, 2012
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Steven Heller, Infographics Designers’ Sketchbooks, Rick Landers Princeton Architectural Press (October 14, 2014)


7.02 Online Resource:

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“Envato Tuts Free Design & Illustration Tutorials.” Design & Illustration Envato

“Hotline Information.” Depression & Bipolar Support Alliance. Accessed

“NAMI: National Alliance on Mental Illness.” NAMI: National Alliance on

http://www.lynda.com/

http://www.typeisbeautiful.com/