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Virtual Vortex

By

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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of
Fine Art in Visual Communication Design.

School/Department of Design
College of Art and Design

Rochester Institute of Technology
Rochester, NY
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Committee Approval:

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ABSTRACT

This project examines the pervasive negative impacts of social media through the lens of 3D abstract motion in *Virtual Vortex*. While social media offers unparalleled convenience and connectivity, it also brings significant, often hidden, adverse effects on psychosocial health, personal privacy, and relationships. These consequences, although intangible, have profound implications that necessitate deeper scrutiny.

In *Virtual Vortex*, I translate these abstract issues into concrete visuals, using 3D animation to make the invisible visible. By employing Cinema 4D (C4D) dynamics and moograph, I create a narrative where a yellow ball represents individuals, and various forms of social media icons symbolize the platforms. The interaction between these elements visually illustrates the influence of social media, highlighting six distinct negative impacts such as privacy erosion, dependency, and self-image distortion.

The project explores how visual communication design principles, combined with animation techniques, can effectively depict these complex issues, prompting viewers to engage in a more critical reflection on the role of social media in their lives. The aim is not merely to present a visual experience but to spark awareness and dialogue about the hidden dimensions of our digital interactions.

By critically analyzing the visual metaphors and their underlying messages, this project serves as both a creative exploration and a social commentary on the true costs of our digital connectivity. *Virtual Vortex* challenges the audience to confront the often-overlooked consequences of social media, fostering a more mindful and informed engagement with these pervasive platforms.

Keywords

Abstract 3D animation

Social media

Visual Metaphor

Problem and Solution Statement:

In today's digital age, social media provides unparalleled convenience and connectivity, transforming how we communicate and interact. However, beneath this surface of connectivity lies a range of detrimental effects that often go unnoticed. The project Virtual Vortex is designed to bring these hidden negative impacts into the spotlight through the medium of abstract 3D animation. By visualizing issues that are typically intangible, this project seeks to bridge the gap between abstract problems and concrete understanding.

Social media platforms, despite their immense popularity and widespread use, are associated with several adverse effects. These include significant impacts on psychosocial health, such as increased levels of depression, anxiety, and loneliness. Additionally, concerns regarding personal privacy are growing as users often unknowingly disclose sensitive information. Relationships are also strained as social media can exacerbate issues of jealousy and trust. Time management becomes challenging as users find themselves spending excessive amounts of time online, often to the detriment of other important activities. Moreover, the credibility of information can be compromised as social media platforms sometimes spread misinformation or create echo chambers.

These issues necessitate urgent and thoughtful attention from society. Virtual Vortex addresses this need by translating these abstract concerns into tangible, visual forms. Through its innovative use of 3D animation, the project allows viewers to confront and engage with the less visible dimensions of our online interactions. By turning these abstract problems into vivid, concrete visuals, Virtual Vortex aims to enhance awareness and foster a deeper understanding of the complex consequences of social media usage. This approach not only makes the intangible effects more accessible but also encourages viewers to reflect critically on their own digital behaviors and the broader implications for society.

Key Data:

Studies by Lin et al. and Twenge et al. highlight that excessive social media use is linked to negative outcomes such as depression, anxiety, and loneliness. Additionally, Muise et al. provide empirical evidence that jealousy and trust issues exacerbated by social media can adversely affect relationships, while Andreassen et al. contend that social media addiction complicates effective time management. These significant issues are the focus of the animation.

To effectively convey these findings, the thesis elaborates on the application of animation principles such as timing, spacing, and exaggeration. For instance, retaining color on the yellow sphere can illustrate the lasting impact of cyber violence, while the imagery of constant surveillance and confinement can represent the feeling of entrapment. These techniques are designed to not only depict the psychological effects but also to engage viewers on an emotional level, making the abstract consequences of social media more tangible and relatable.

Intentions and Goals:

Virtual Vortex strives to make the hidden negative effects of social media visible through 3D animation. By transforming abstract concepts into visual narratives, the project aims to provoke reflection and raise awareness about the pervasive effects of digital platforms. Each segment—Closed, Infinity,

Cyberbullying, Information Leakage, Occupy Time, and Repetitive—addresses specific negative aspects, designed to resonate emotionally and make the consequences of social media more relatable.

Process and Project Analysis:

The project employs animation principles like timing, spacing, and exaggeration to convey social media's adverse effects effectively:

Closed: Uses collision effects and magnetic attraction to symbolize the struggle to escape social media's grip.

Infinity: Depicts the endless cycle of browsing and addiction tendencies through a rotating, distorted infinity symbol and infinite movement of spheres.

Cyberbullying: Illustrates the impact of online harassment by showing a social media icon colliding with the yellow sphere, leaving a color imprint and causing the sphere to shake.

Information Leakage: Visualizes social media as a network of vigilant eyes scrutinizing the yellow sphere, highlighting privacy concerns.

Occupy Time: Represents excessive time spent online by showing expanding spheres bursting the yellow sphere.

Repetitive: Uses megaphones and emitter effects to demonstrate how repetitive content narrows perspectives.

These techniques are crafted to enhance emotional impact and clarity.

Evaluation Summary:

Virtual Vortex underwent evaluation through focus groups and surveys, which demonstrated that the animation successfully raised awareness about the negative impacts of social media. Participants noted that the project excelled in translating complex, abstract issues into visually relatable and impactful representations. This approach significantly enhanced their understanding of the subtle and often overlooked consequences of social media use. The feedback confirmed that the project not only clarified these abstract concepts but also engaged viewers on a deeper emotional level, making the intangible effects of social media more accessible and comprehensible.

Conclusion:

By transforming abstract dangers into visual formats, Virtual Vortex invites viewers to reassess their online behaviors and the associated hidden costs. The project not only raises awareness but also encourages meaningful discourse about social media's pervasive influence. It calls for a more balanced and mindful approach to social media engagement.

Future research could explore other digital behaviors or expand the animation into interactive or VR platforms for a more immersive experience. The implications extend to policy-making, educational

curricula, and mental health interventions, suggesting that visual tools can aid in addressing social media's impacts. The project sets a foundation for further exploration and application of visual communication to tackle digital challenges.

Appendix A:

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Appendix B:
One page PDF

Virtual Vortex

Negative impacts of social media

https://youtu.be/1J70Bm0_wew

PROJECT OVERVIEW

Prompt

Currently, we are embracing the convenience and advantages of social media, yet we frequently fail to recognize its **detrimental impacts on us**. The aim of this project is to delve into these negative effects and showcase them through an **abstract 3D animation**.

Problem Statement

The widespread popularity of today's social media platforms may have negative impacts on **psychosocial health, relationships, personal privacy, time management, information credibility, and identity**, necessitating attention and concern from society.

Solution Statement

By translating **intangible issues into tangible visuals**, viewers are invited to confront the obscured dimensions of our online interactions.



COMMERCIAL VIDEO

I've created a commercial video aimed at raising awareness about the detrimental impacts of social media. It's designed to be **displayed in public spaces like subway stations**.



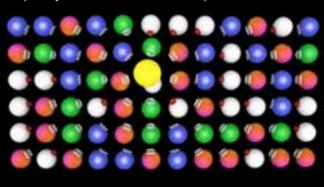
Closed
https://youtu.be/uL7cBVCa_q4



Infinity
<https://youtu.be/5hMMNgzD9hg>



Cyberbullying
https://youtu.be/uXlui-_7HvM



Information Leakage
<https://youtu.be/VjPO7aIVRKQ>



Occupy Time
<https://youtu.be/VjPO7aIVRKQ>



Repetitive
<https://youtu.be/pgF4dNFG9F0>

PART ONE

/Closed

- Research has shown a positive correlation between excessive social media use and loneliness.
- I use the effects of the **collision** to visualize our struggle to break free, and the grip of social media follows close behind which I use the effects of **magnetic attraction**.



https://youtu.be/uL7cBVCa_q4

PART TWO

/Infinity

- Social media's 24/7 availability and infinite scrolling capabilities can lead users into an endless browsing cycle that is difficult to control or stop on their own.
- Through a continuously rotating, **distorted infinity symbol**, with collisions between shades of black and white, As the background, **every little ball is doing infinite movement**.



<https://youtu.be/5hMMNgzD9hg>

PART THREE

/Cyberbullying

- More than 15 percent of adolescents have been exposed to cyberbullying, which negatively affects victims' mental health and social adjustment.
- Upon impact, **the sphere keeps the color from the icon**, symbolizing the transfer of digital aggression to real-life individuals. Additionally, the sphere **visibly shakes**, reflecting the impact of online harassment on its victims.

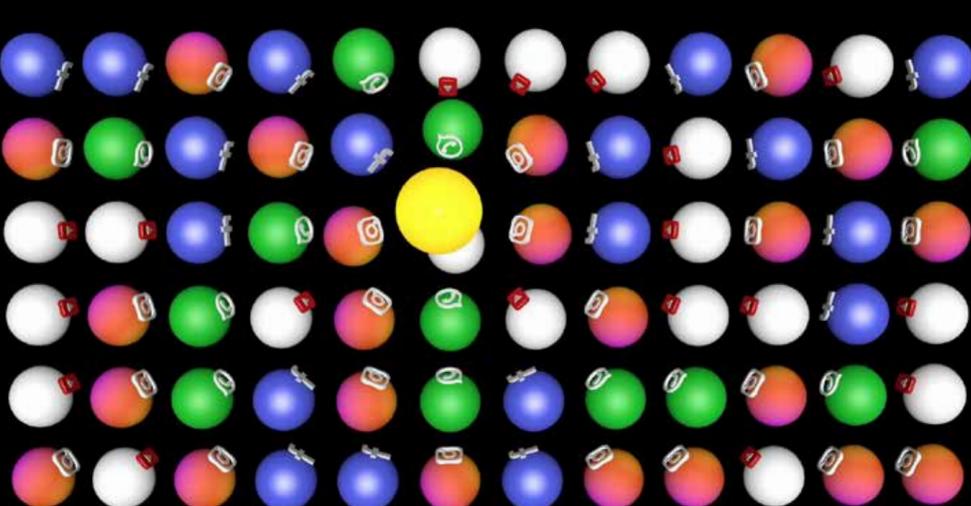


https://youtu.be/uXlui-_7HvM

PART FOUR

/Information Leakage

- According to the data, many users share a large amount of personal information on social media.
- I've designed the social media to resemble a network of **vigilant eyes**, all focused intently on the central yellow sphere.



<https://youtu.be/VjPO7aIVRKQ>

PART FIVE /Occupy Time

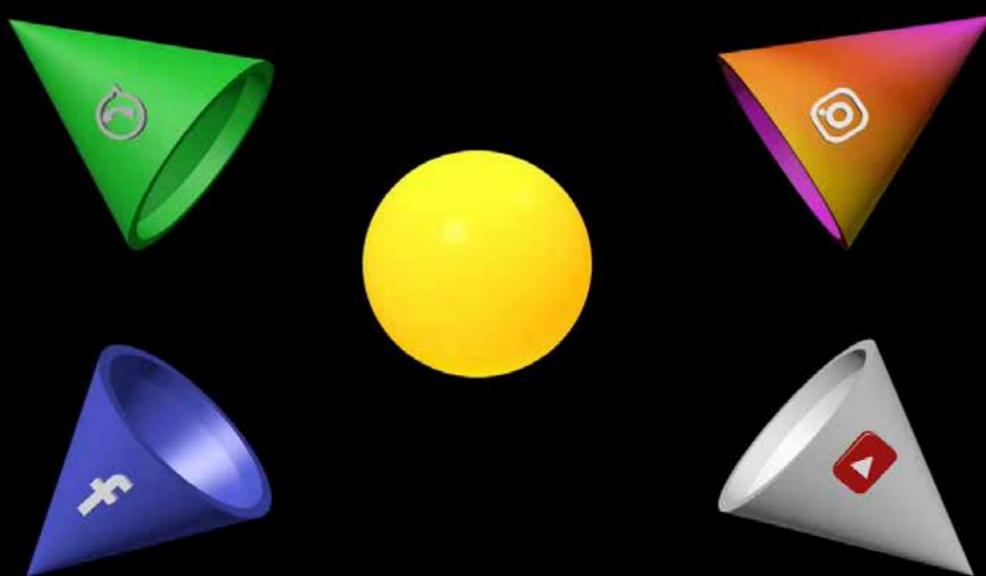
- According to surveys, many people spend a significant amount of time on social media each day.
- A **balloon effector** was used on social media to give it an inflated presentation. A **fabric effector** was used on the yellow ball to give it a tearing effect.



<https://youtu.be/PmJLURHRyaw>

PART SIX /Repetitive

- The impact of algorithms in social media: the design of platform algorithms may result in users only seeing information that matches their views and preferences, exacerbating the repetitive and limited nature of information.
- I visualize social media platforms as **megaphones**, using the **emitter effect** to emit the same elements



<https://youtu.be/pgF4dNFG9F0>

PROJECT DESIGN EVOLUTION

OLD

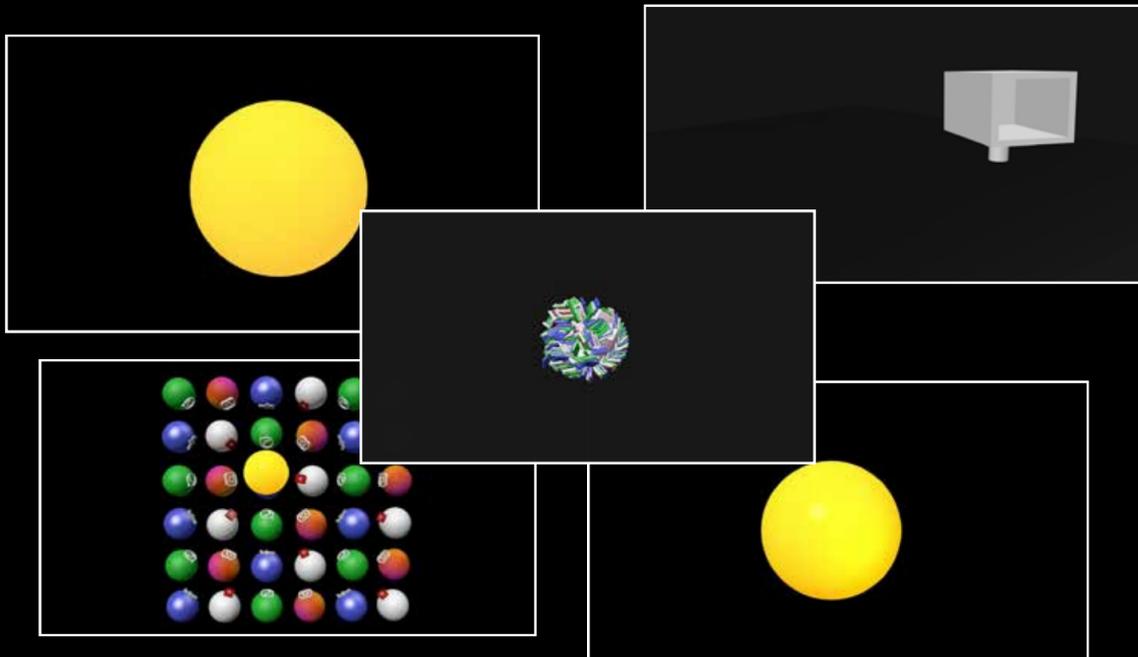
NEW



<https://youtu.be/xbnCZXcKc0Q>

- Modified materials
- Changed the background to solid black

TEST



IMAGINE RIT



SUMMARY

First and foremost, I extend my sincere gratitude to my supervising professors, Mike Strobert and Adam Smith, for their invaluable guidance throughout my graduation project. This project marked a departure from my comfort zone as I ventured into the realm of 3D modeling. Through this exploration, I acquired a wealth of knowledge and skills, culminating in a fulfilling conclusion to my graduate studies.

Designer: Yiling Jiang
Project: Virtual Vortex
Committee: Mike Strobert, Adam Smith
Year: Spring 2024

THANK YOU