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Title of Thesis: Blue Light

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Degree: Bachelor of Fine Arts in Graphic Design [BFA]

Faculty: Maroun Semaan Faculty of Engineering and Architecture [MSFEA]

Date of Submission: May 28, 2020

**Appendix 1: Project Release Form**

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UNDERGRADUATE SENIOR PROJECT  
IN  
GRAPHIC DESIGN

SUBMITTAL FORM

[BLUE LIGHT]

by  
[MOHAMAD ALAA FLEIFEL]

FINAL YEAR THESIS PROJECT – 407 GD 2020  
[FALL/SPRING 2019-2020]

ADVISOR: [FOUAD MEZHER]

Approved by Thesis Advisor:

*FOUAD R. MEZHER*

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Fouad Mezher, Part-Time Instructor  
[Department of Architecture and Design]  
(as listed in AUB Catalogue of current year)

Date of Thesis final presentation: [May 14, 2020]

# Acknowledgment

Thank you to Professor Fouad Mezher for being my helpful advisor.

# Abstract

Blue Light is a short, animated Virtual Reality film on digital addiction. The film is experienced in 1st person and is a series of simulations run by an AI called Adnis: a virtual assistant programmed to make sure you never get bored. You watch the film from the perspective of a regular, 30-year-old office worker going through each of the AI's simulations, each simulation taking advantage of the user's personal data. The is animated for Virtual Reality and is experienced inside a VR headset.

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# RESEARCH

Research was by far the most extensive part of the entire project, taking up over 4 months of the 7-month production period. I began my research under the umbrella of “digital addiction”: the uncontrollable urge to use digital devices. It can be smartphones, computers, or even game consoles, but different devices affect the user differently.



**NOMOPHOBIA** webislove.com

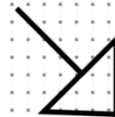
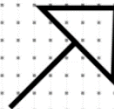
The term “Nomophobia” was coined in 2008 during a research done by The UK Post Office to evaluate anxieties suffered by mobile phone users, and it was used to describe a psychological condition when people have a fear of being detached from their mobile phone: “No-mobile-phobia”. It took 2 books, an introduction to Psychology, and my trusty research consultant Rayan to understand how anxiety around smartphones works. It is not the smartphone by itself, but its online ecosystem that is addictive by design, and we can break it down to 3 factors:

1 - Sensory Overload is the easiest to understand; it occurs when our senses are overstimulated by something in our environment, like a loud crowded party with flashing lights. A digital screen suffers the same fate: it is overly-saturated in color, loud in alert, and is designed to give you as much information it can in a single

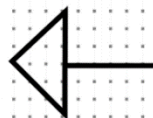
interface as efficiently as possible: Search bar, main feed, personal profile, advertisement, friend suggestions, registrations, new events etc.

2 - User Experience. From the visual interface stems the online user experience, and that is dependent on the motive of the developer. A free online platform functions as follows: developer provides and hosts content for user in exchange for user engagement > user consumes ad and provides personal

**DEVELOPER  
HOSTS CONTENT**

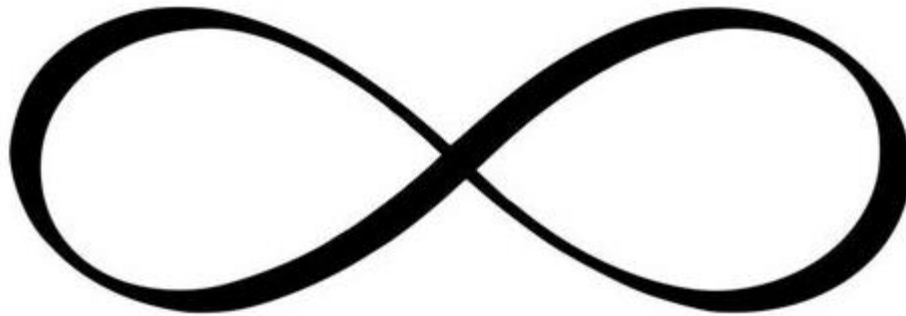


**DEVELOPER  
RECIEVES REVENUE**



**USER CONSUMES  
CONTENT**

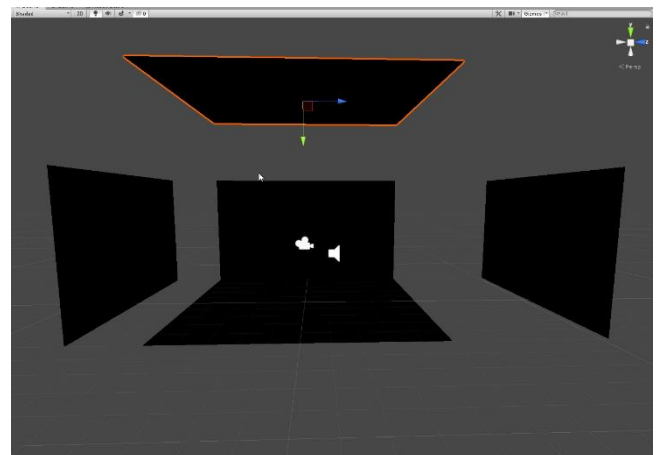
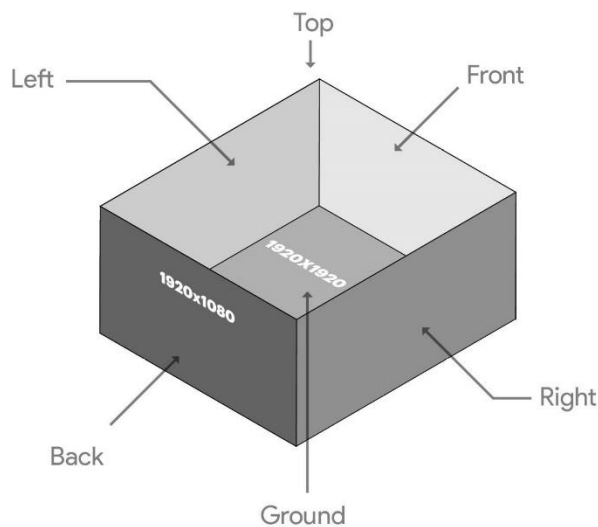
information > developer receives data and monetary revenue. It sounds good on paper, but the fundamental flaw in this business model is its motivation for the company eventually conflicts with the user's wellbeing. Every time the user receives a notification, dopamine is released in the brain. Push him out of this system, and the user develops a fear of missing out: FOMO. The developer can and will use the design tools at his disposal and tweak the user's digital experience to nag for constant engagement, because an addicted user will always be more profitable. And more anxious.



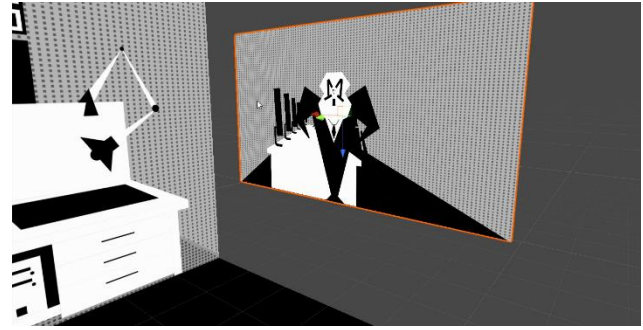
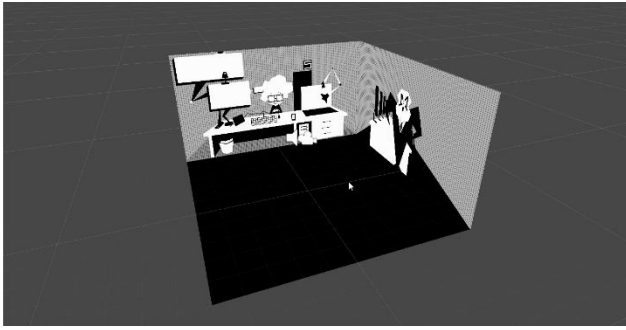
3 - Infinite Stream of Content. And the final factor, an Infinite stream of content. The human brain fears boredom by nature, and we know that from a study conducted in 2014 by 8 psychologists in which a sample of undergraduate students individually sat in isolation for 20, preferring to endure electrical shock pain than remain silent for the entire duration. The largest shock count by a single student was 190. Place the internet next to a user, and the infinite slot-machine swipe will infinitely reward the user with new content, making sure he never gets bored.

## ANIMATION

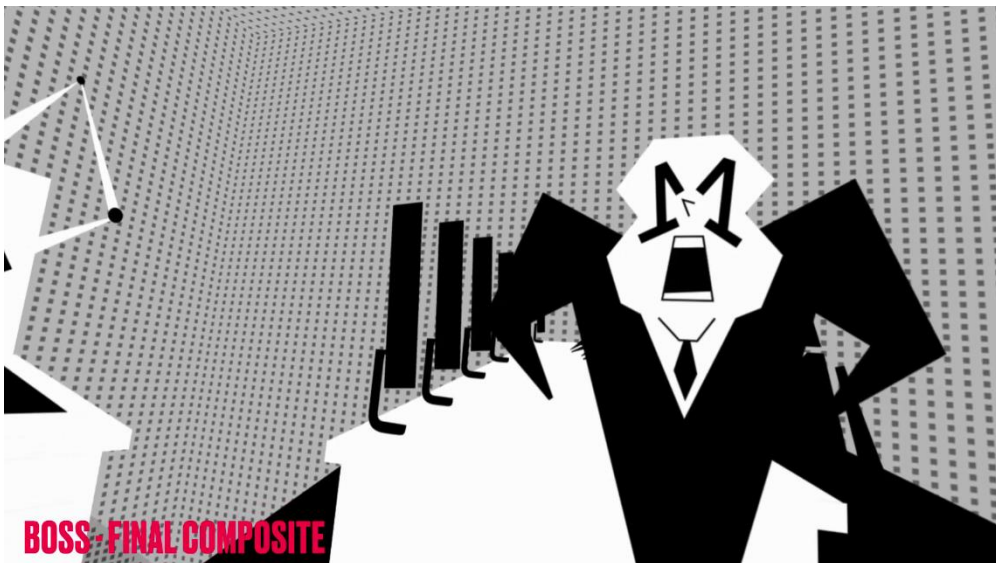
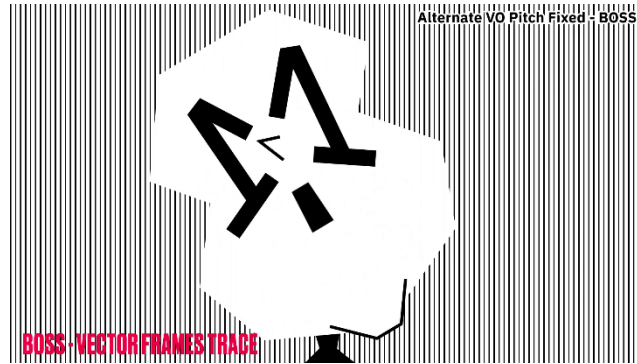
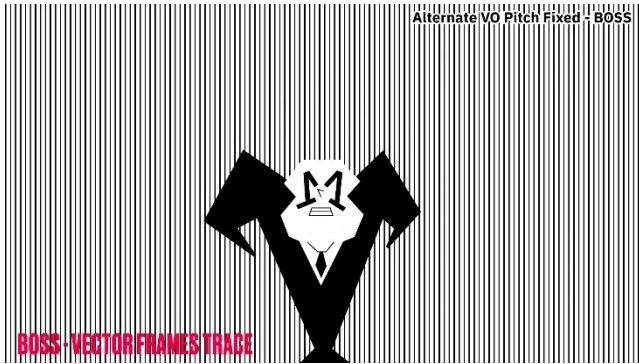
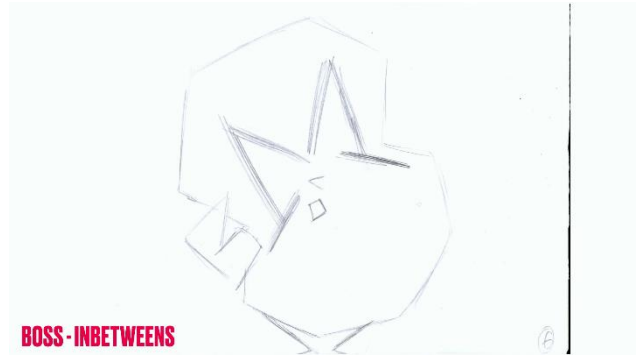
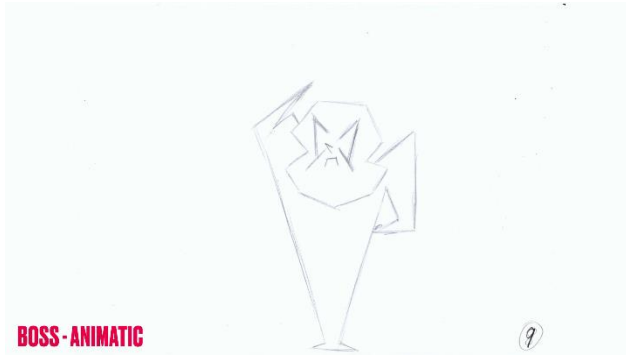
The biggest obstacle in the entire project was figuring out how to create a 3D experience for a Virtual Reality headset, without spending months creating 3D models, rigging characters, lighting, shading. So instead, I used a 3D game engine to build a 6-sided virtual room, like a cube, and each side has a separate video mapped on it. I place the virtual camera inside the cube, so when you wear the headset, you are watching from the inside of a room with videos for walls.



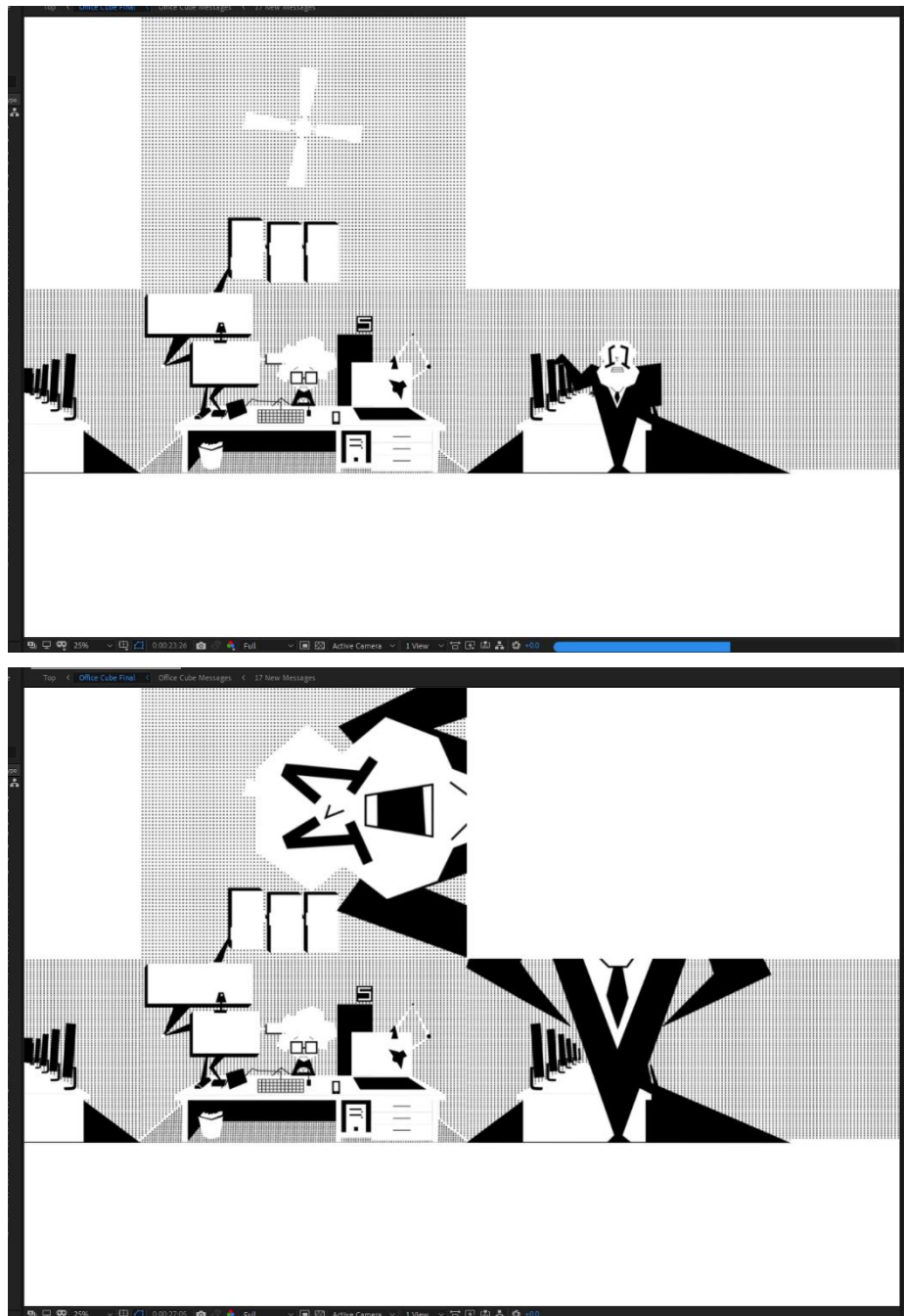




The characters are first animated separately.



They are then composited over the environment over a large composition divided into 6 panels, and then rendered in sync into separate videos. So, if a character were to move from your right to your front, he will move across 2 separate video panels in this virtual room.



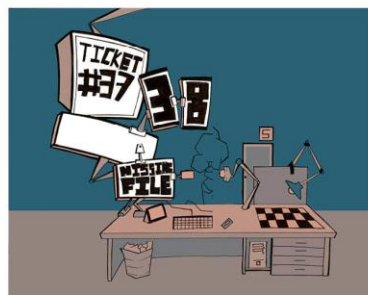
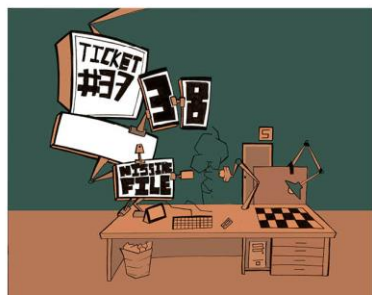
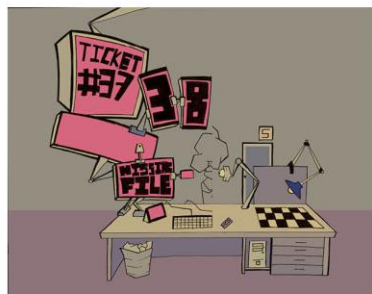
Now take the same concept and apply it to all 6 panels over several scenes, and you will get a convincing 360 environment in which I have complete control over.

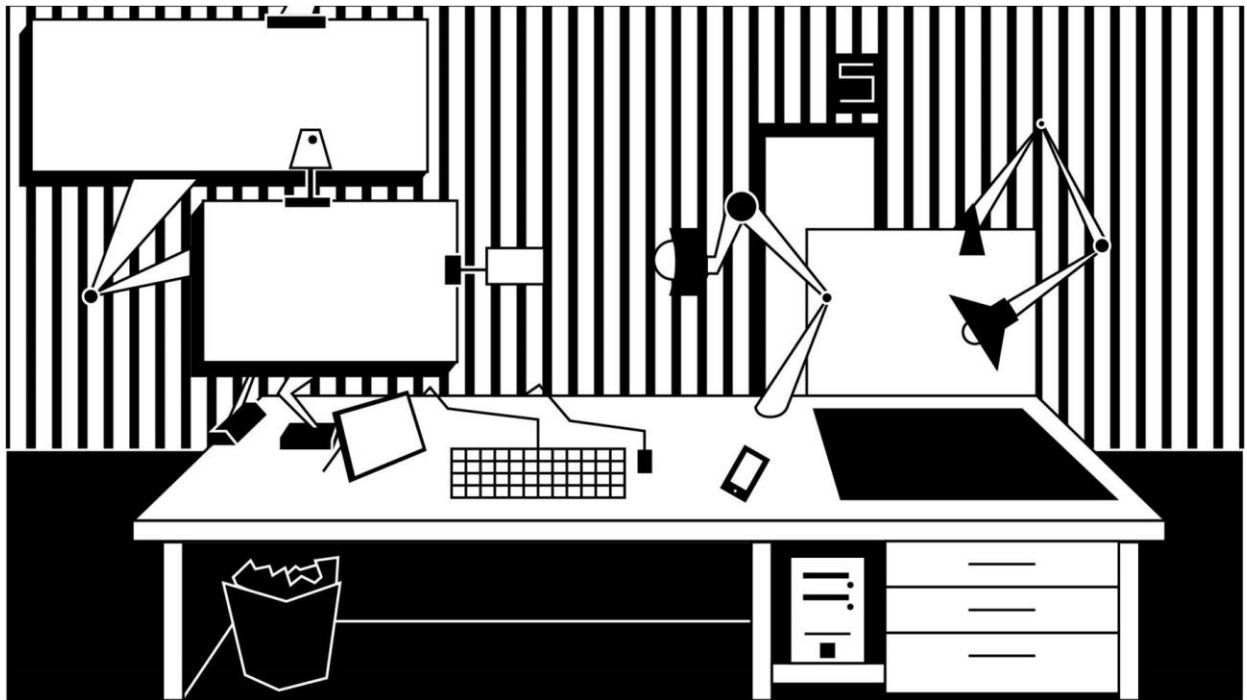
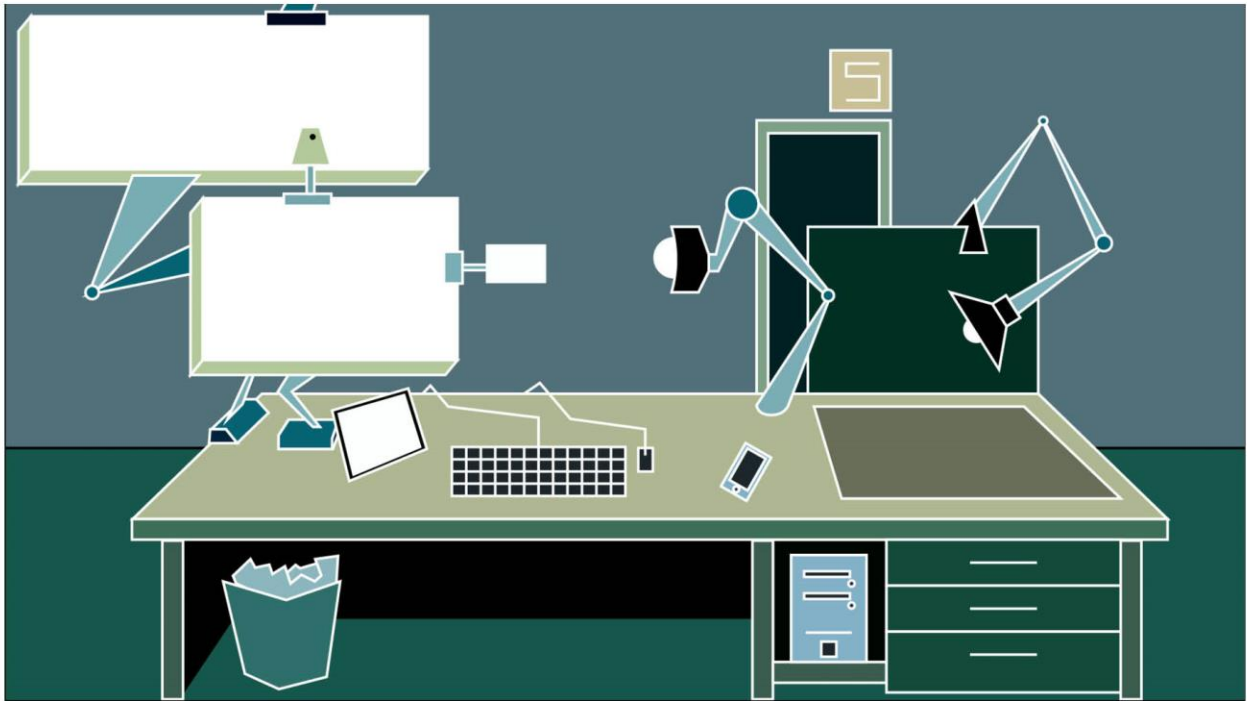
# STORY

This technique was perfect, because it allowed me to tell the story of an AI called Adnis, who has the ability to control simulations around its users, designed to shove content and advertisements into the user's view. The user must never get bored.

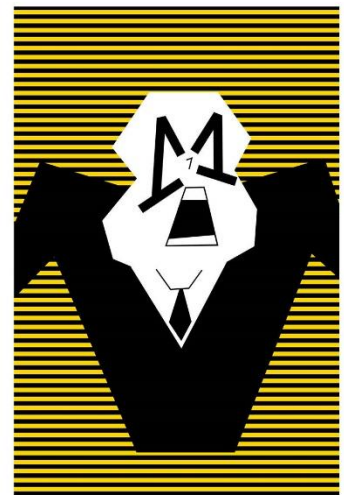
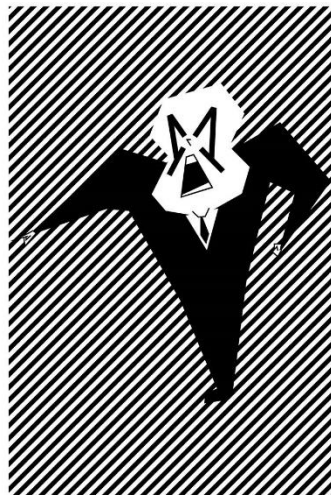
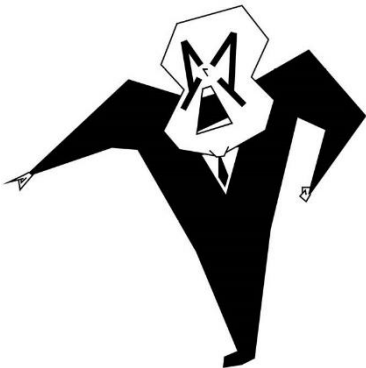
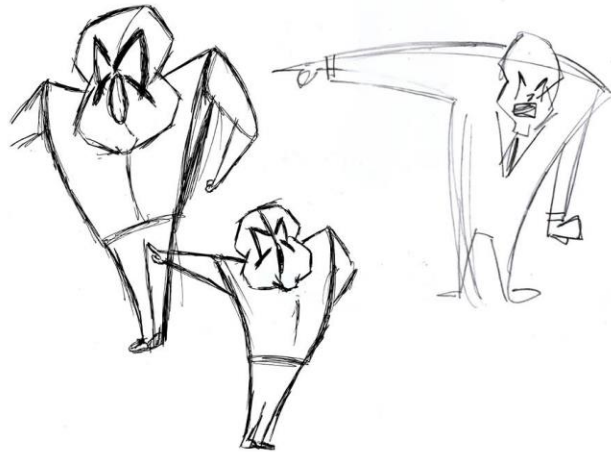
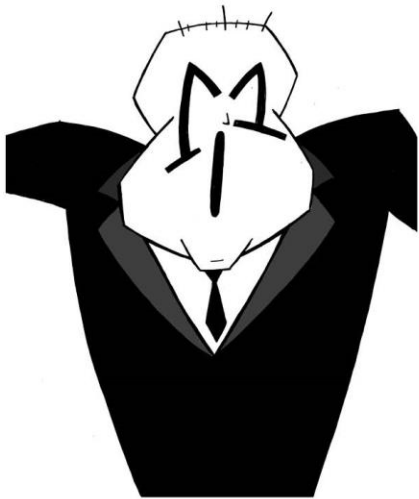
# VISUAL STYLE

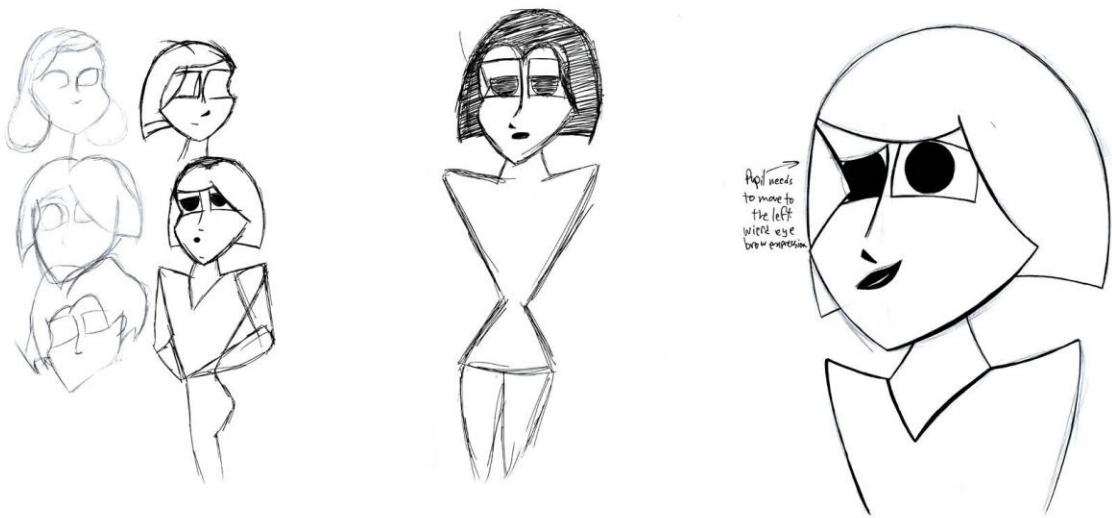
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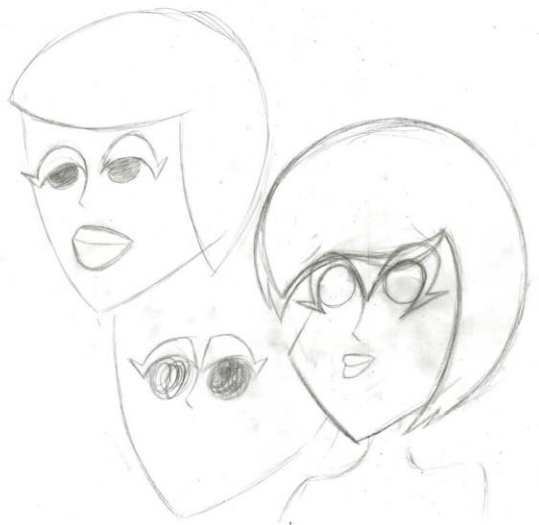
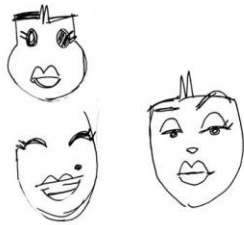
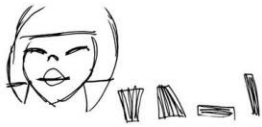


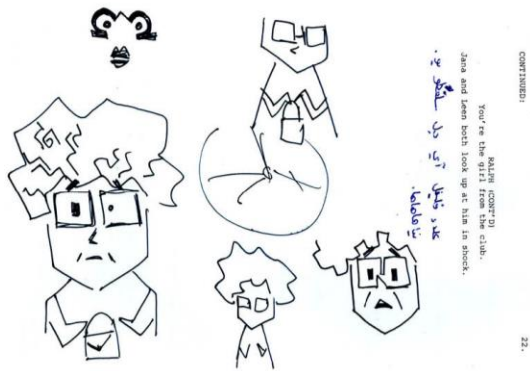
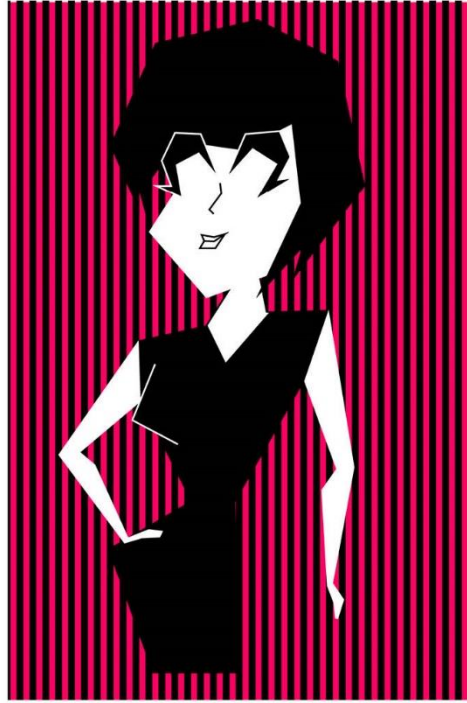


Characters











It took 3 weeks and 6 different VR builds to figure out and develop a technically functioning VR animation. It took a month and 3 script consultants to write a story that functions with the technique and the theme.

Thank you for using your screen.

## REFERENCES

-Carr, N. (2011). *The Shallows: What the Internet is Doing to Our Brains*.

- Alter, A. (2017). *Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked*. New York: Penguin Press.

- May, C. P., & Einstein, G. O. (2011). *Memory: A Five-Day Unit Lesson Plan for High School Psychology Teachers*, 1-30.

### Programs used:

-Adobe After Effects CC

-Adobe Audition CC

-Adobe Illustrator CC

-Unity 3D