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PARTNERS

- Benemérita Universidad Autónoma de Puebla

BUAP

- Tokyo University of Technology, School of Media Science

東京工科大学 TOKYO UNIVERSITY OF TECHNOLOGY

- LUCA School

LUCA SCHOOL OF ARTS

- University of Ostrava

UNIVERSITY OF OSTRAVA

- School of Art at Northern Illinois University

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- Harz University of Applied Sciences

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Northern Illinois University
USA

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Aleksandra Giza

Amanda VanValkenburg

STUDENTS TEAM

Pascal Janssen, Germany
Ina Murphy, USA
Olimpia Ropek, Poland
Agata Samborska, Poland
Ola Szwagulinska, USA
Danielle Gross, USA

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Ciphers and Language in Game Design

A Unity based narrative game focusing on ciphers and de-coding language utilizing 2D and 3D game design elements.

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Initial Premise

The goal of our project is to translate the idea of communicating
through ciphers and codes into a video game
that makes an attempt to decipher an unknown language.

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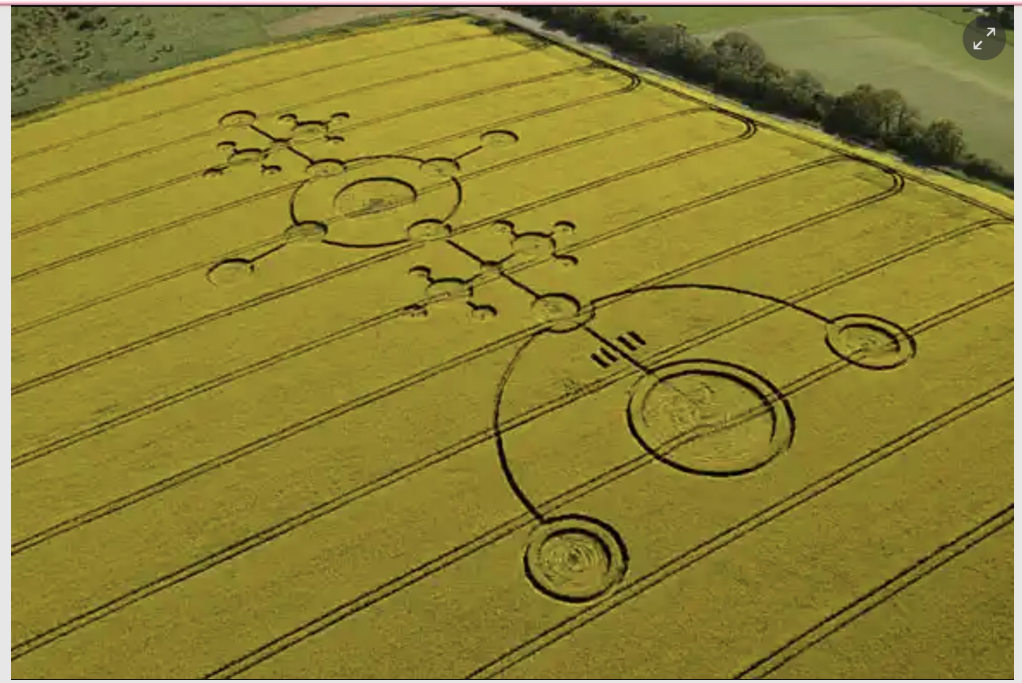
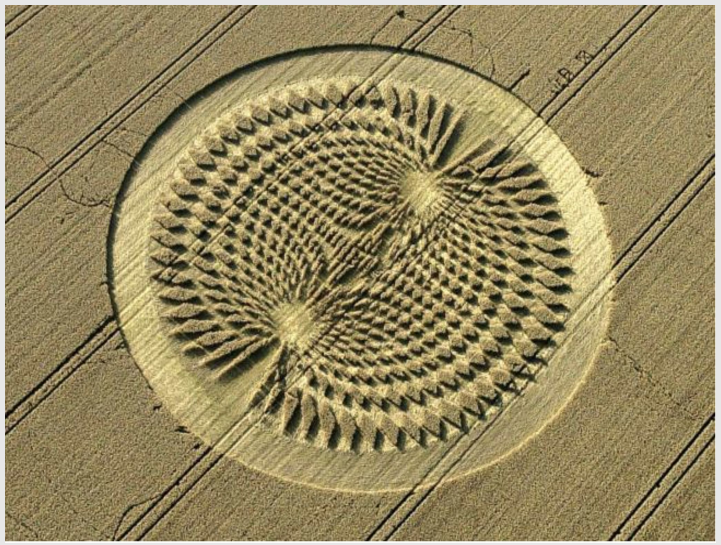
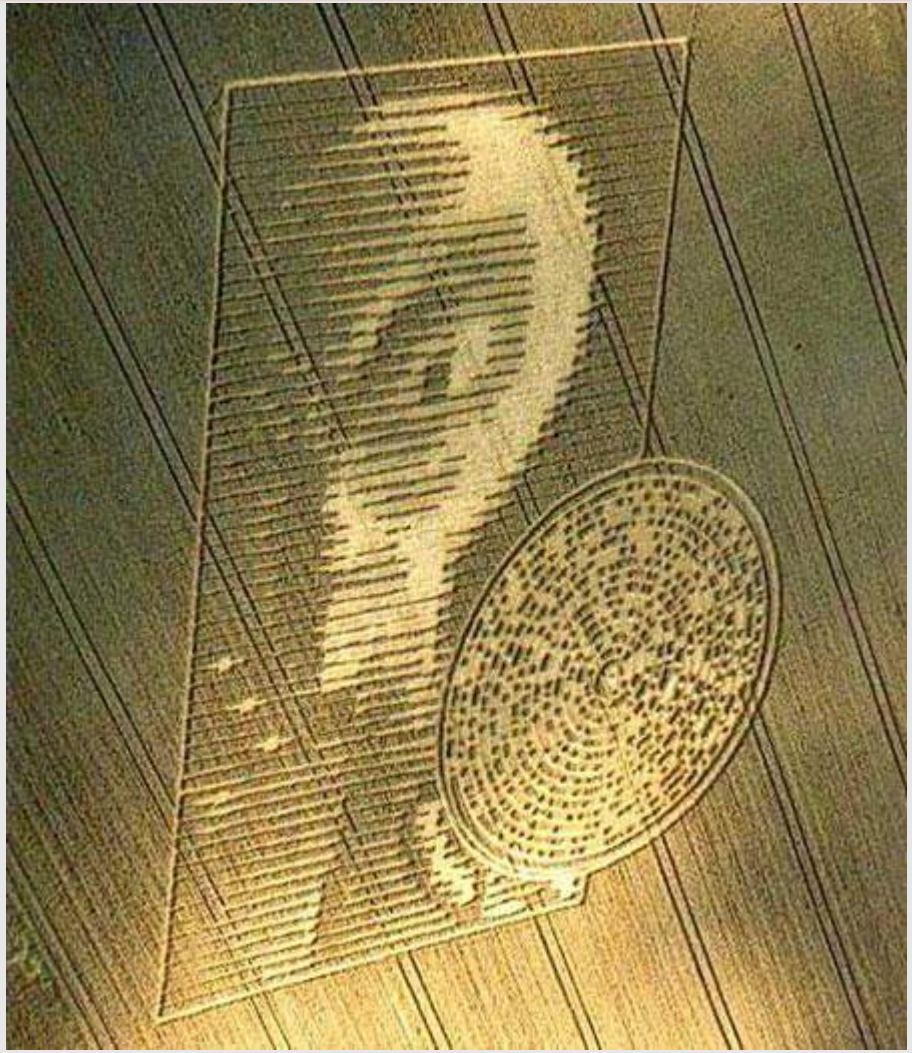
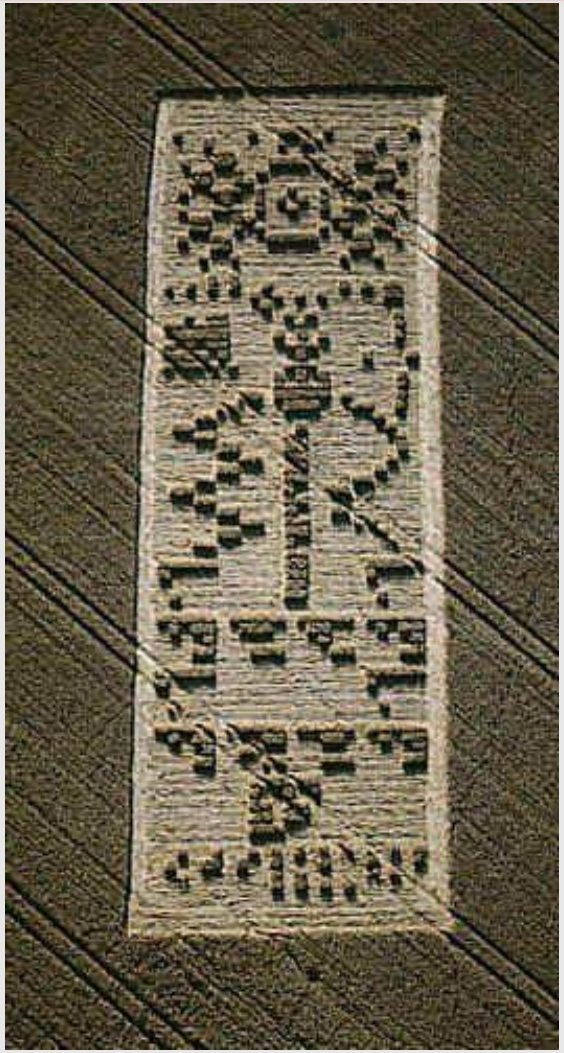




We looked at various crop circles as alleged attempts of communication with human kind...





... as well as some more elaborate examples of this theoretical communication.

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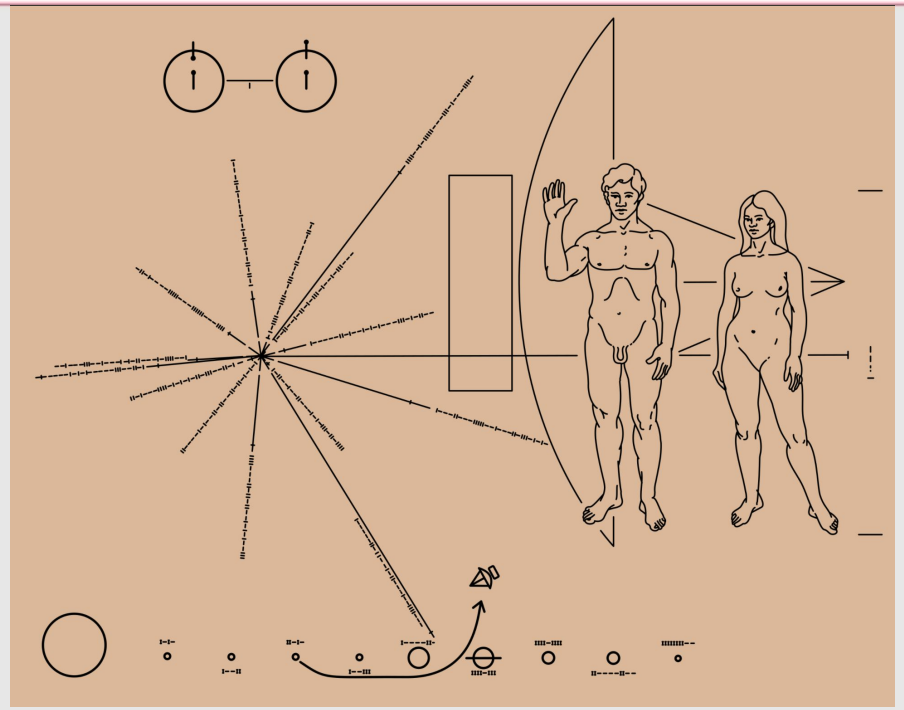

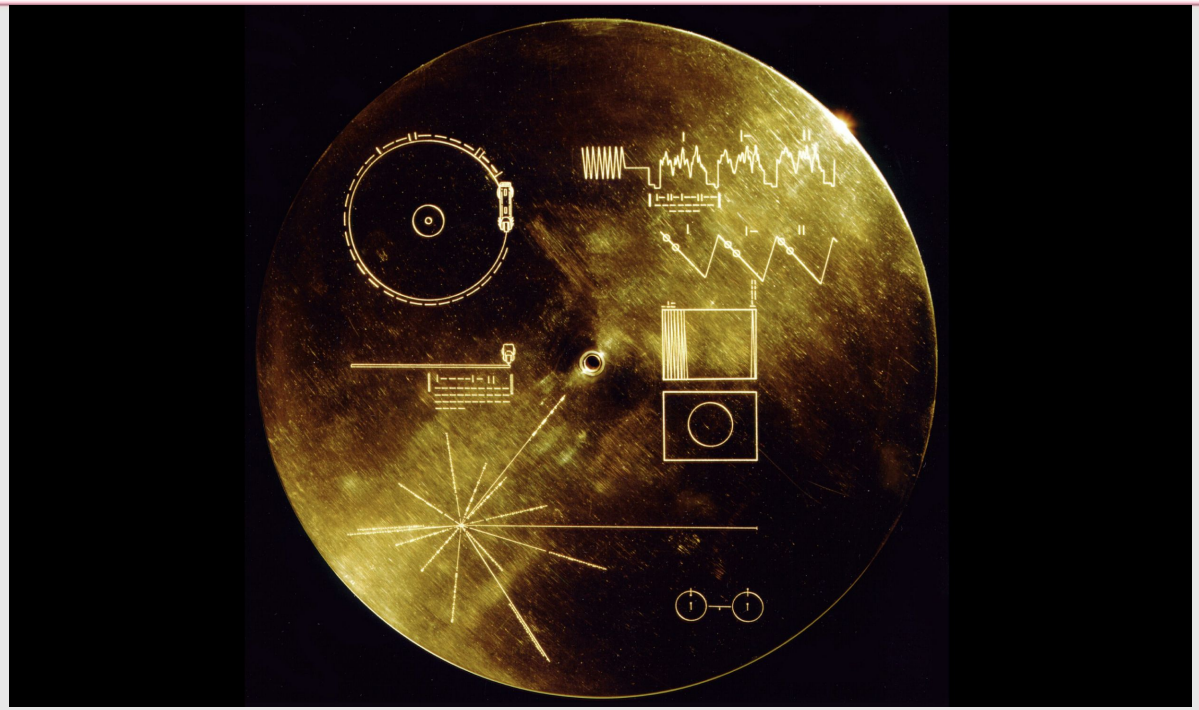

We analyzed the ideas of communication with potential “aliens” by humans...

… and texts of unknown origin like Voynich manuscript—an illustrated codex hand-written in unknown writing system.

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A
C	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B
D	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C
E	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D
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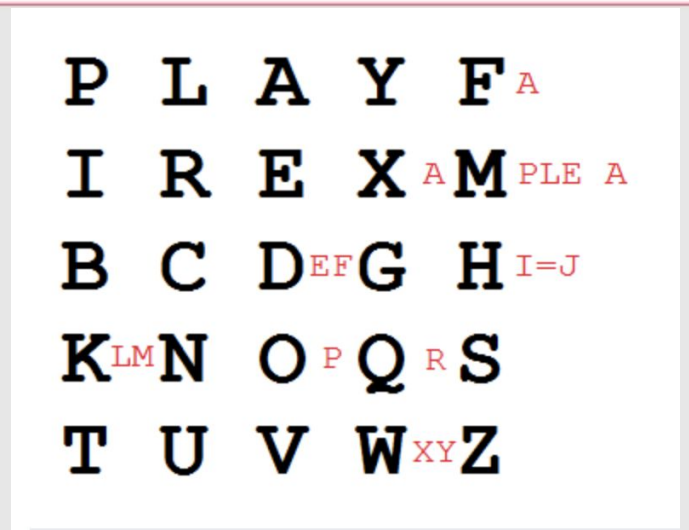
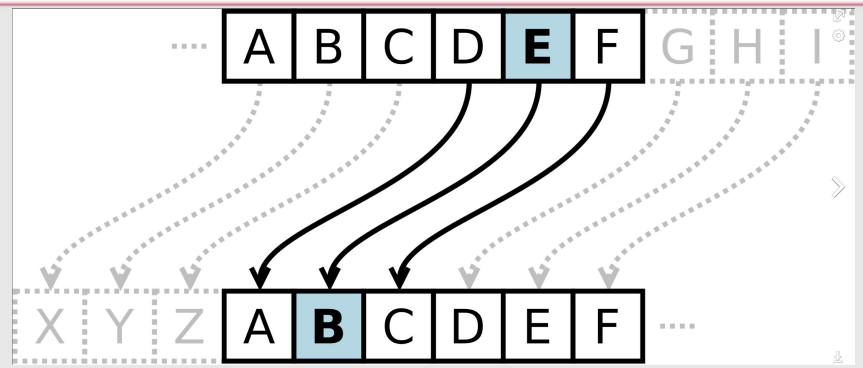
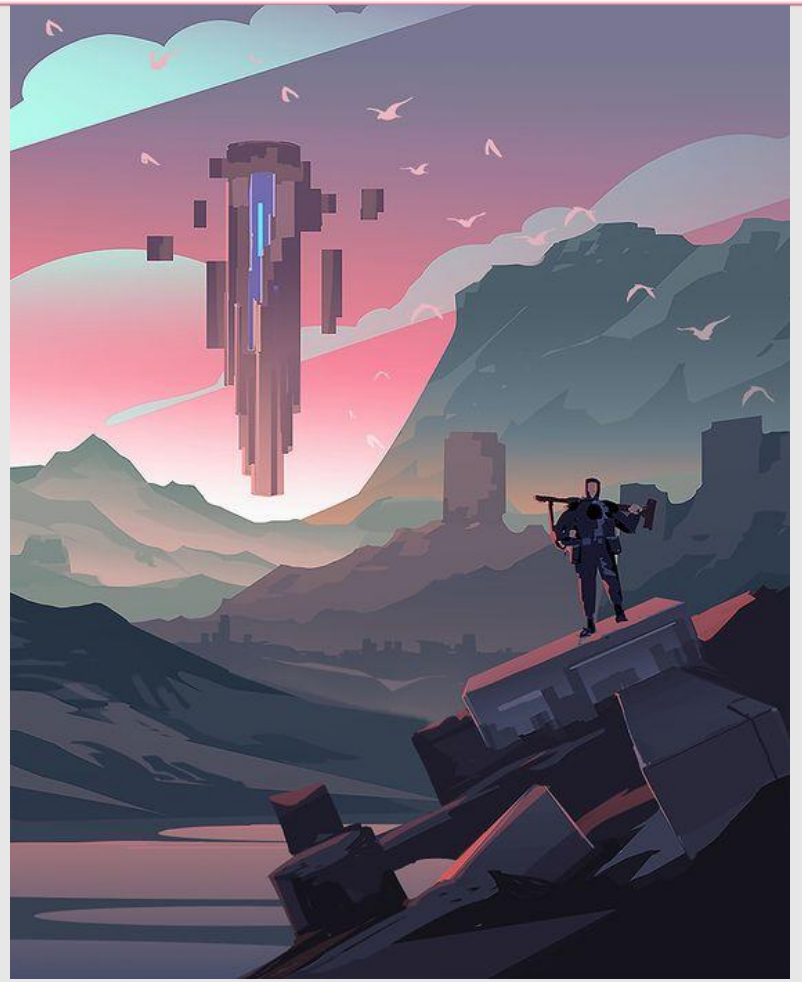


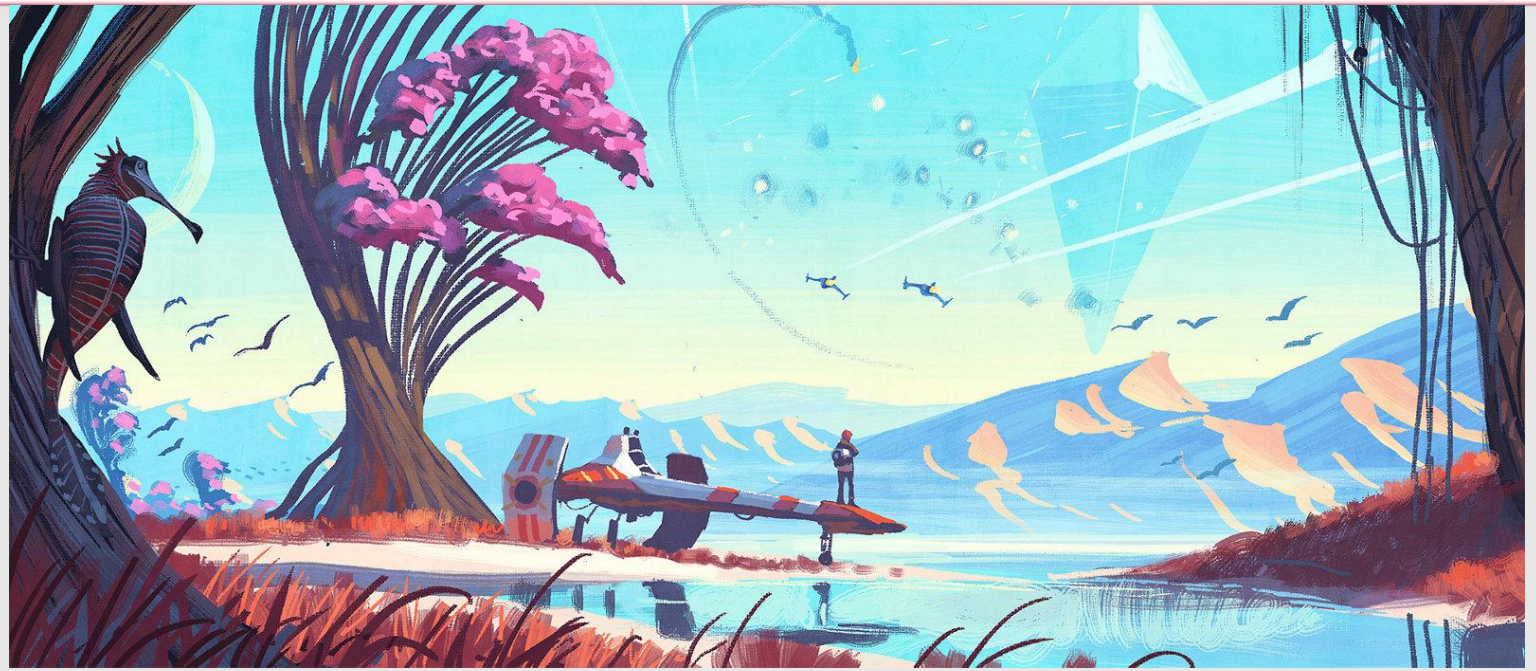


Students researched different types of ciphers: Vignere's square (tabula recta), Playfair cipher, Caesar cipher.

Mood Boards

To start brainstorming, developing conversations, and getting to know the team's interests, the starting point was to have a collaborative mood board. This starting point brought on discussions about how ciphers relate both to ancient cultures, current technological trends, as well as alien interactions.





Mood Boards—Alien

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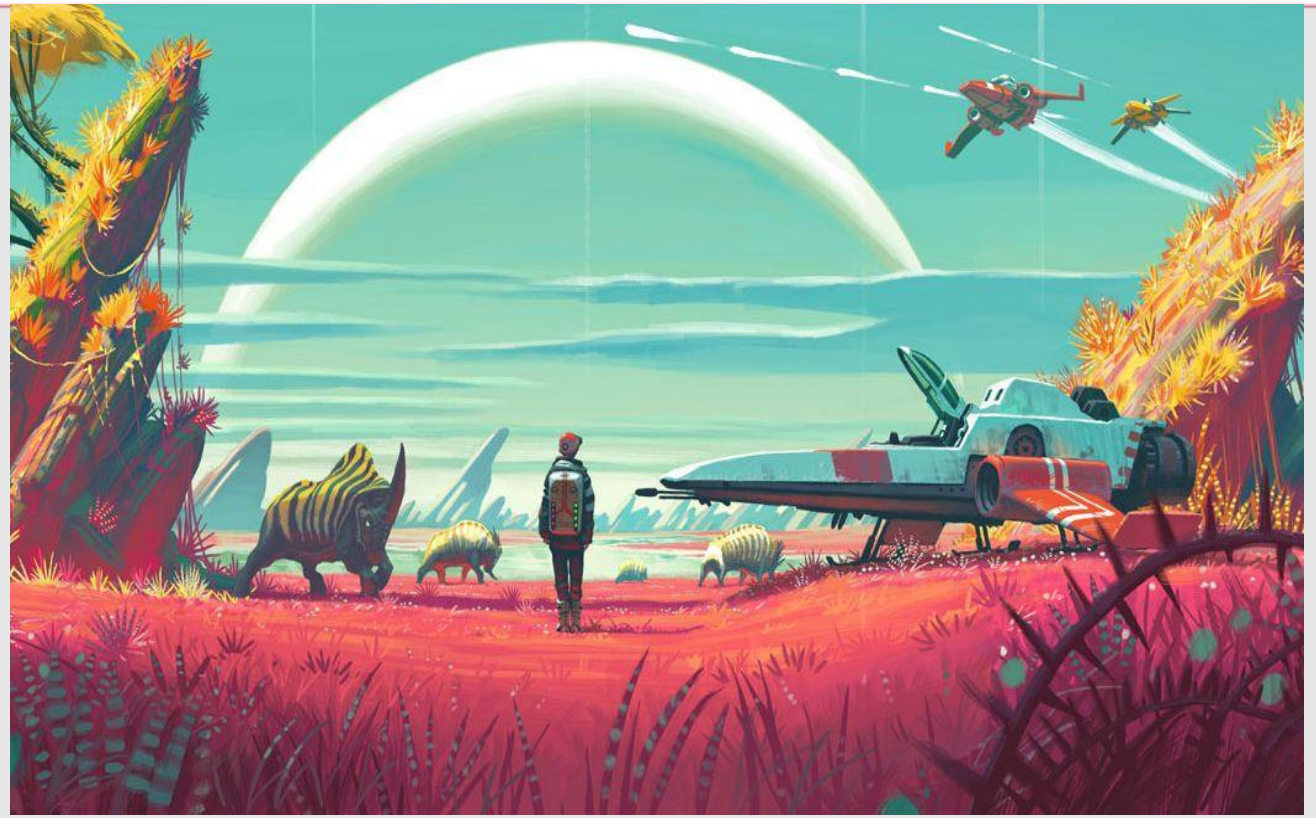
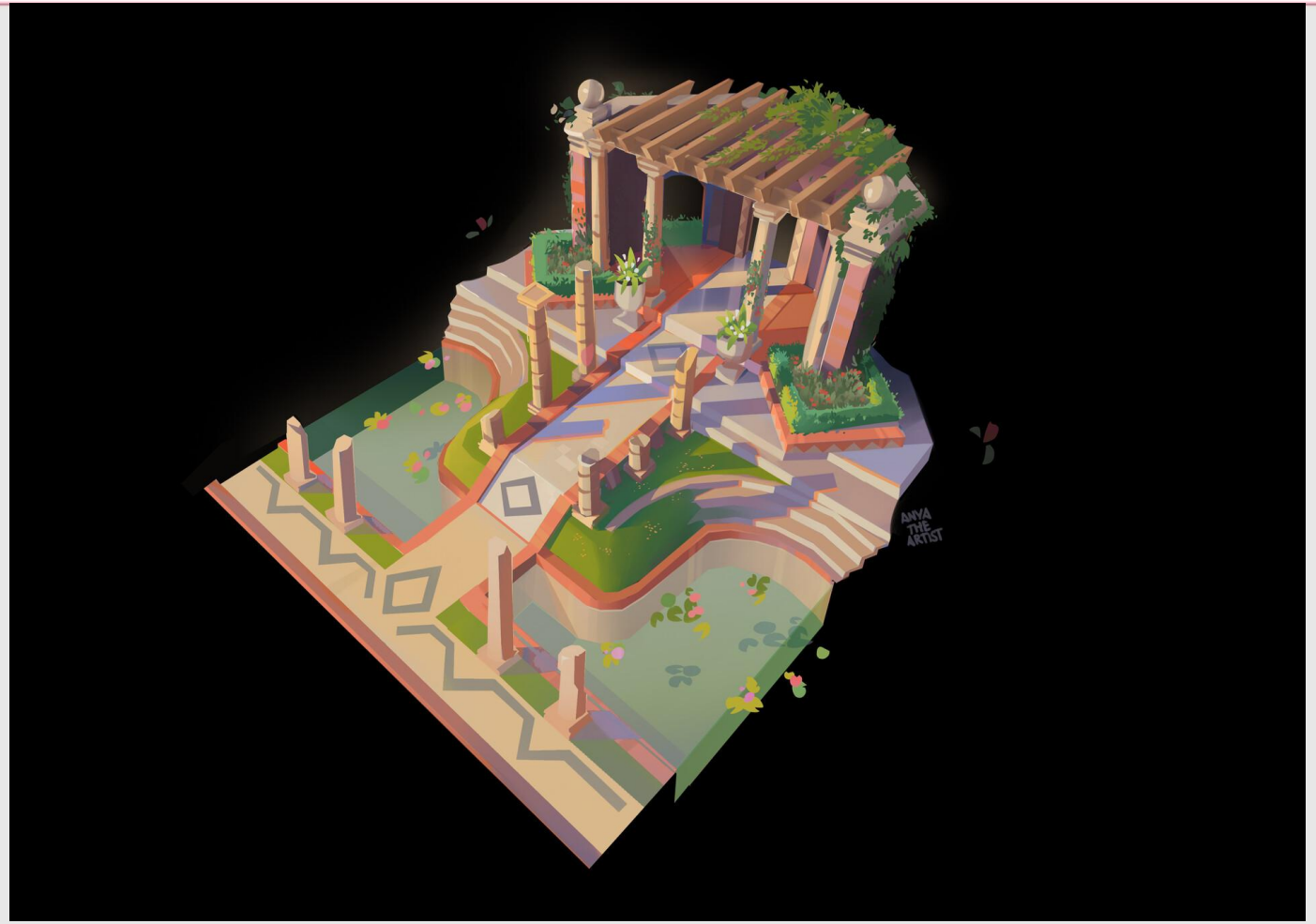


Mood Boards—Alien



Mood Boards—Ancient

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Mood Boards—Ancient

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Mood Boards—Ancient

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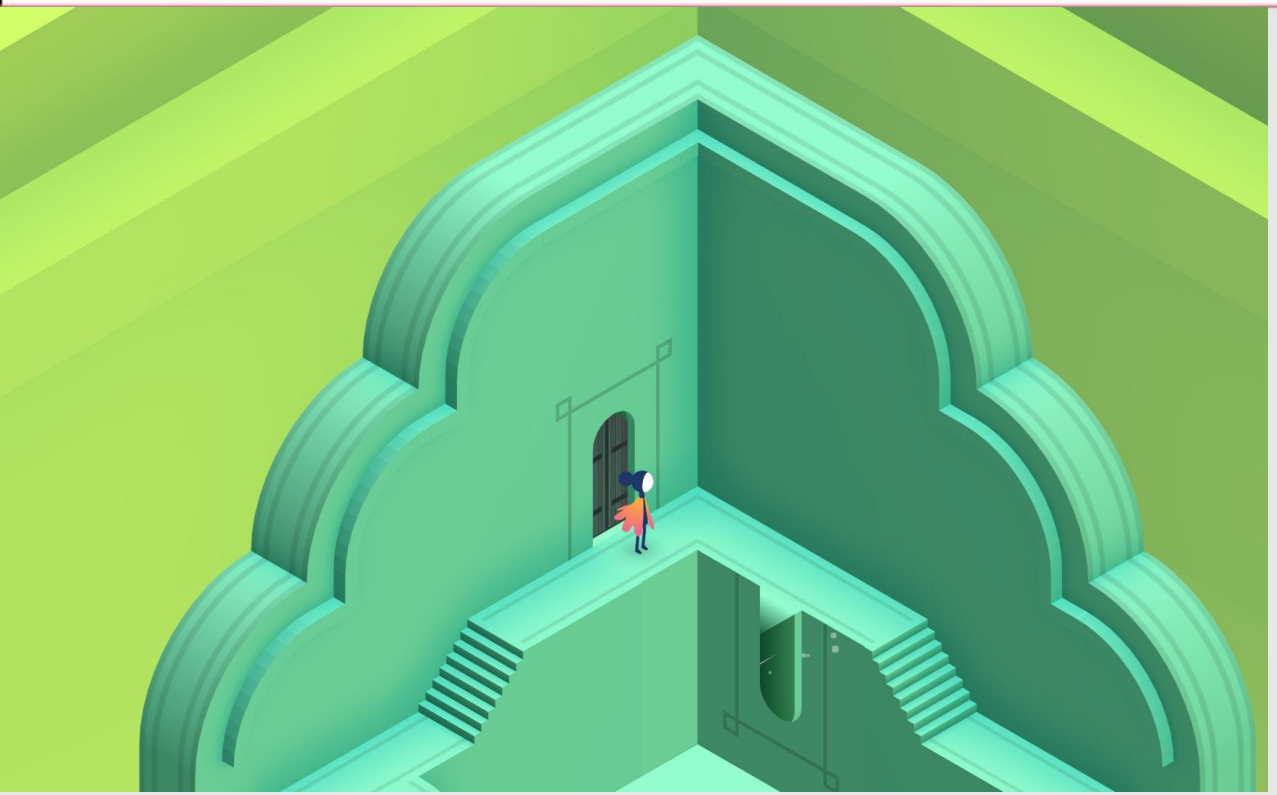

Mood Boards—Game Visuals

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Mood Boards—Game Visuals

Mood Boards—Environment Inspiration

Mood Boards—Environment Inspiration

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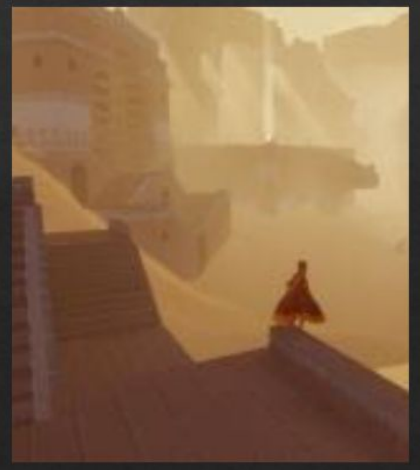

Mayan Cipher

- Maya script, also known as Maya glyphs, was the writing system of the Maya civilization of Mesoamerica and is the only Mesoamerican writing system that has been substantially deciphered. The earliest inscriptions found which are identifiably Maya date to the 3rd century BCE in San Bartolo, Guatemala.[1][2] Maya writing was in continuous use throughout Mesoamerica until the Spanish conquest of the Maya in the 16th and 17th centuries.

Mood Boards—Student Research

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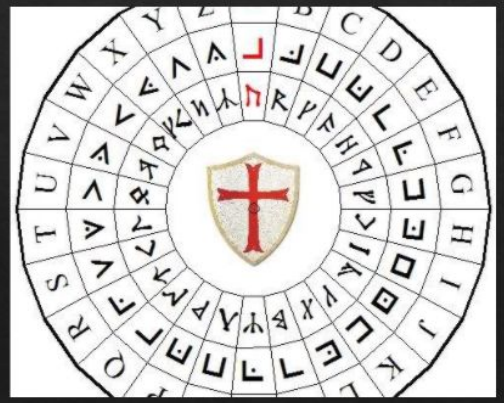
Alberti's Cipher

- The Alberti cipher disk, also called formula, is a cipher disc which was described by Leon Battista Alberti in his treatise De Cifris of 1467. The device embodies the first example of polyalphabetic substitution with mixed alphabets and variable period, and is made up of two concentric disks, attached by a common pin, which can rotate one with respect to the other.



Mood Boards—Student Research

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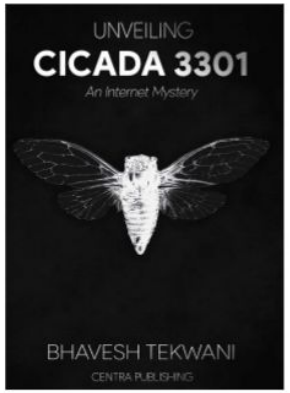
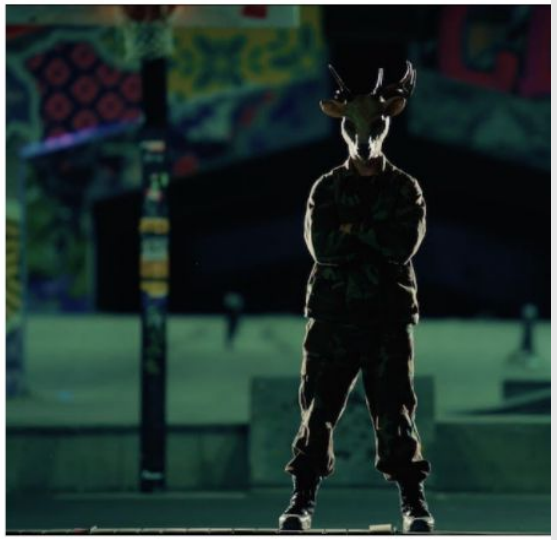
Cicada 3301

- Cicada 3301 is a nickname given to an organization that, on three occasions, has posted a set of puzzles to recruit codebreakers from the public.[1] The first internet puzzle started on January 4, 2012 on 4chan and ran for nearly a month. A second round began one year later on January 4, 2013, and then a third round following the confirmation of a fresh clue posted on Twitter on January 4, 2014
- The puzzles focused heavily on data security, cryptography, steganography, and internet anonymity
- https://www.youtube.com/watch?v=UEi9MNEP2BU
- Themes: Dark Web





Mood Boards—Student Research

References Students Posted

https://www.youtube.com/watch?v=e1L1qRmYgK4

https://ioling.org/problems/samples/?fbclid=IwAR1a_39H05JMj0T_g7Wmwp82sMoNJcjZREgNeAVs-QRrOcDRF2OftrBkQKY

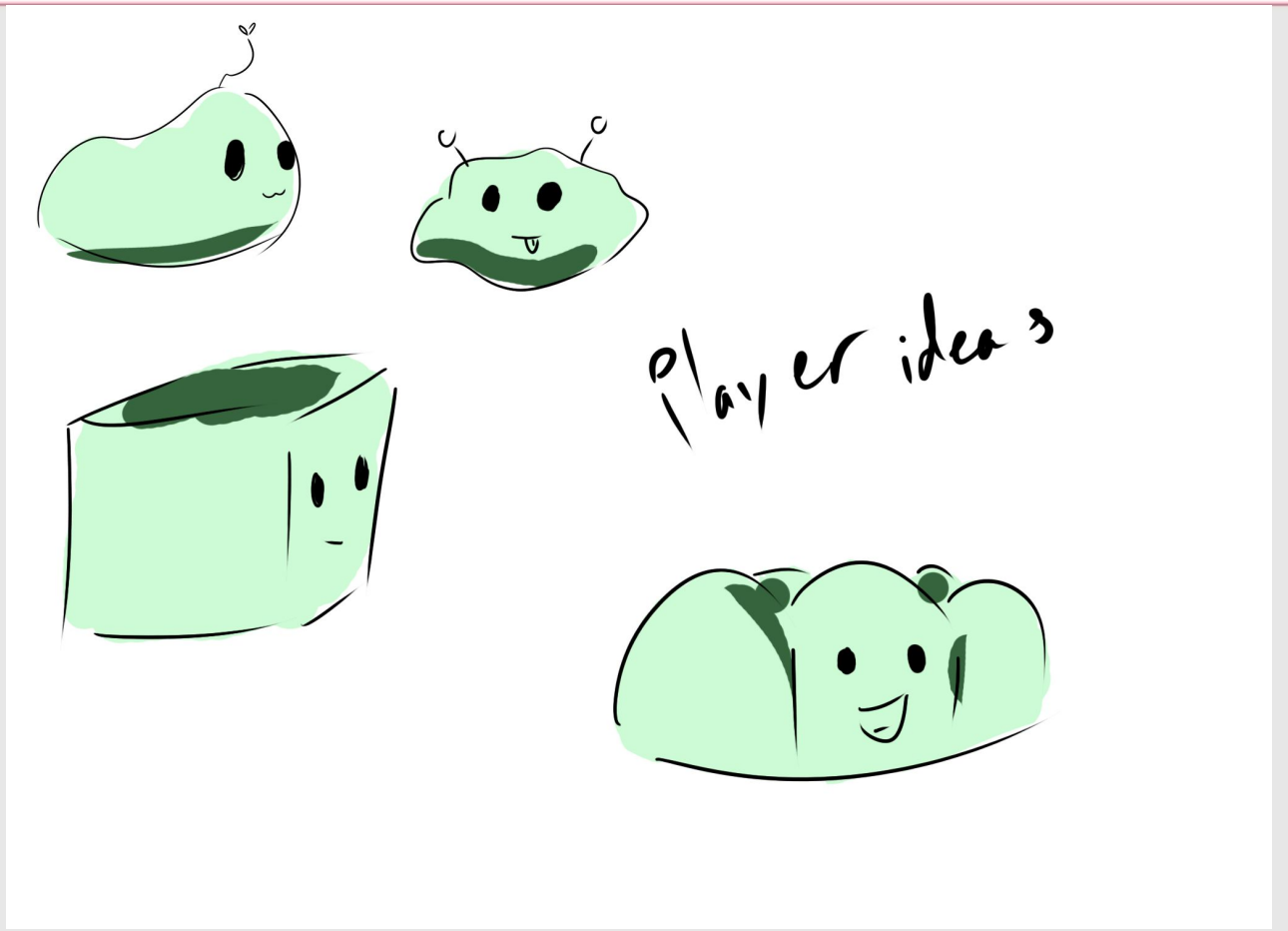
https://www.youtube.com/watch?v=LBmB7N6_cxk

https://www.khanacademy.org/computing/computer-science/cryptography/ciphers/a/ciphers-vs-codes

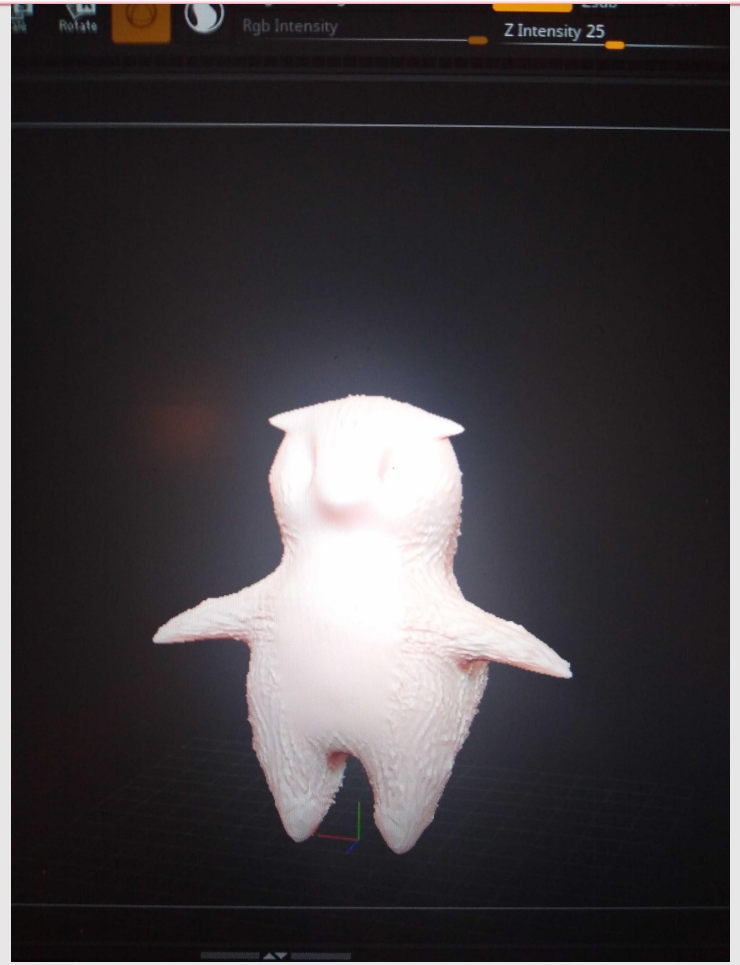
https://www.exploratorium.edu/ronh/secret/secret.html

https://www.braingle.com/brainteasers/codes/

https://crypto.interactive-maths.com/codes-and-ciphers.html



Character Design



Character Design

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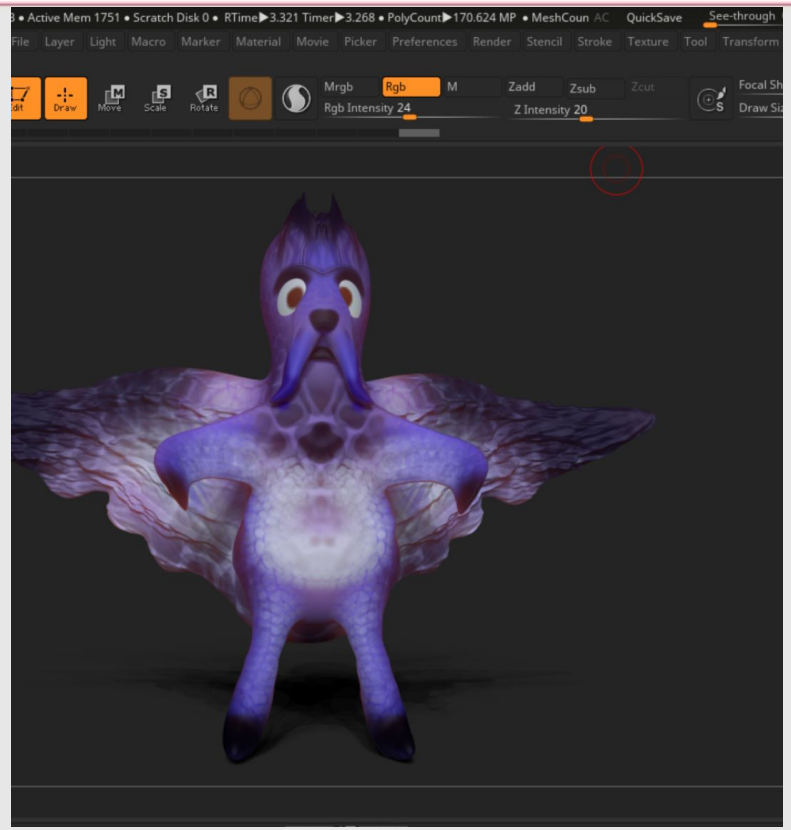

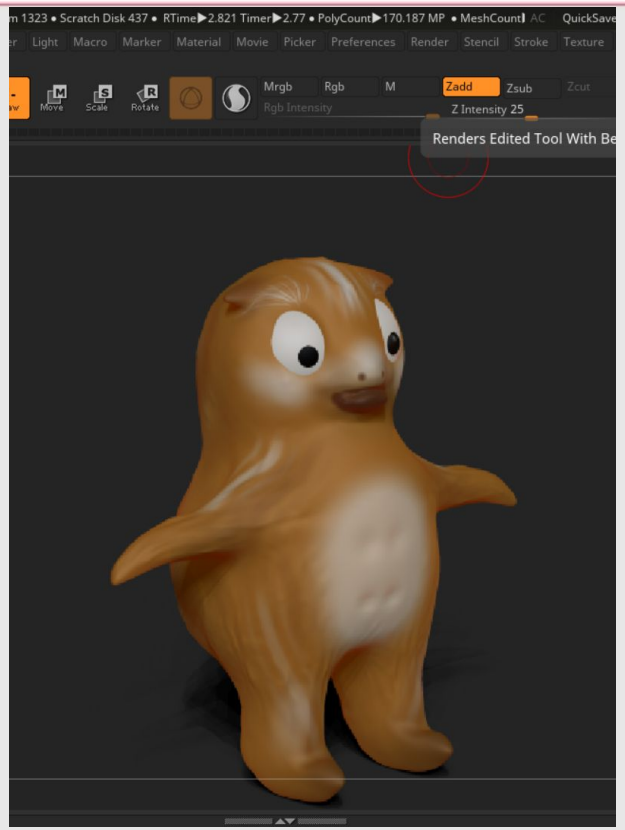

Character Design

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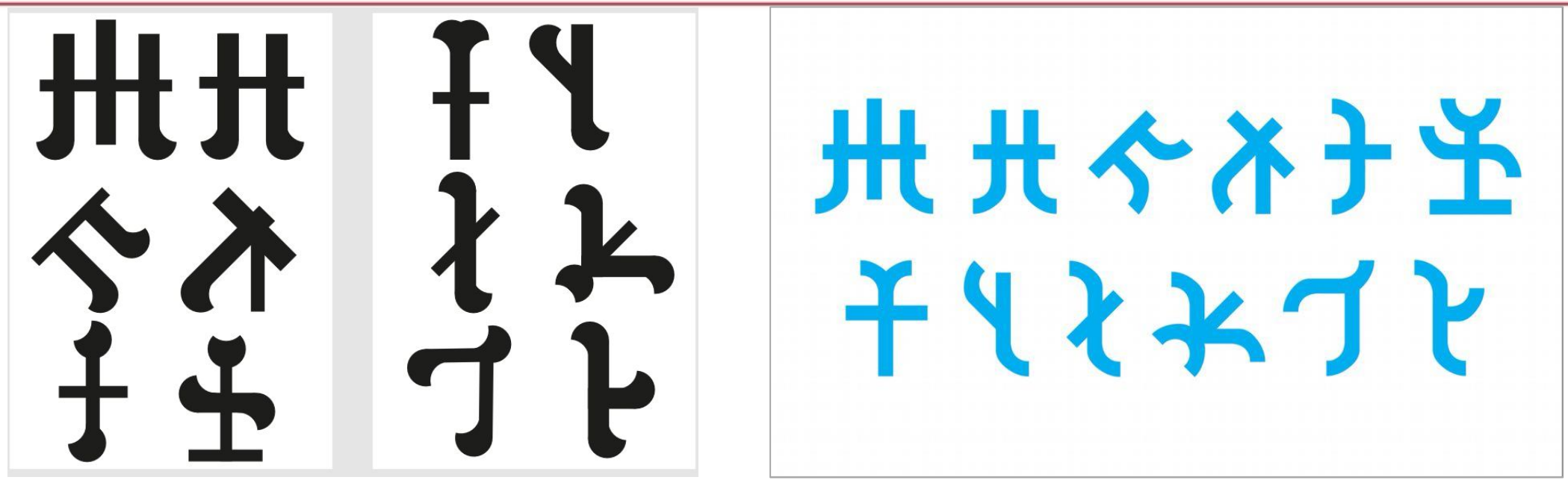
Narrative

https://docs.google.com/document/d/12JUHnNeReC2xmgIwjzKUdWSknavSrLXoma9L7vU5eoY/edit



Initial project by Pascal (left) and Ola's refinement of characters (right)

Language Design

Communication

- Slack, email, facebook
- Meeting weekly via Zoom chats
- Students self-select into sub-teams based on interest, currently focusing on developing concept and visual design
- Future discussions in having the students select the team leader, and self-select sub-team leaders as well.

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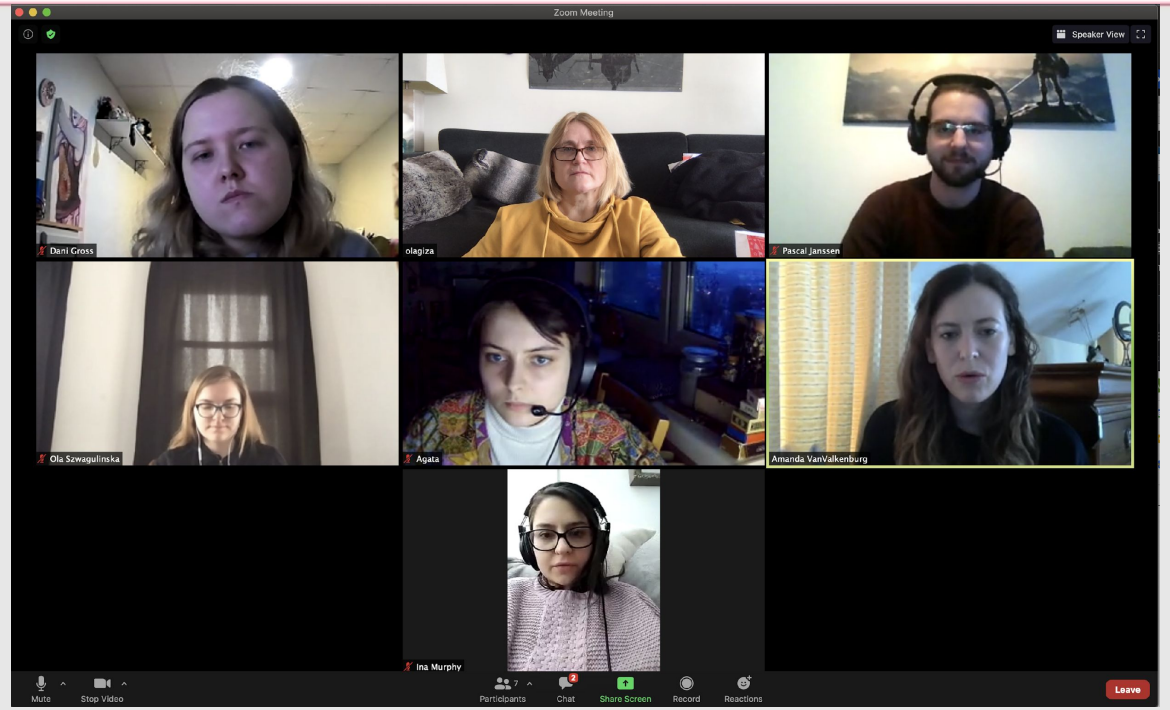

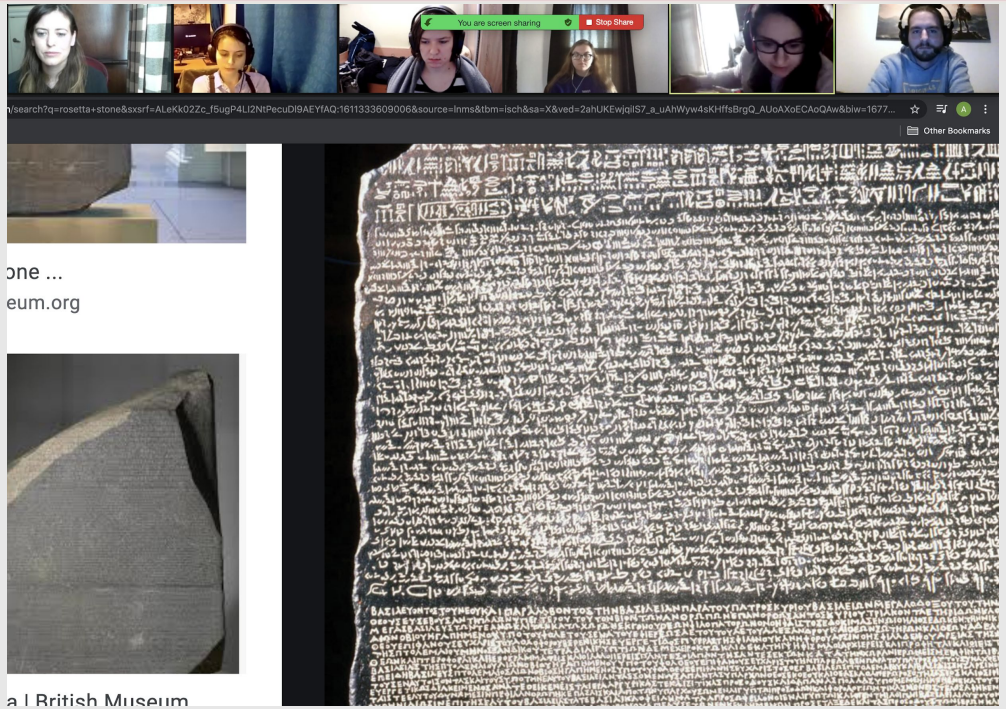

Meeting with the first discussion about written and verbal communication and language recording (alphabet).

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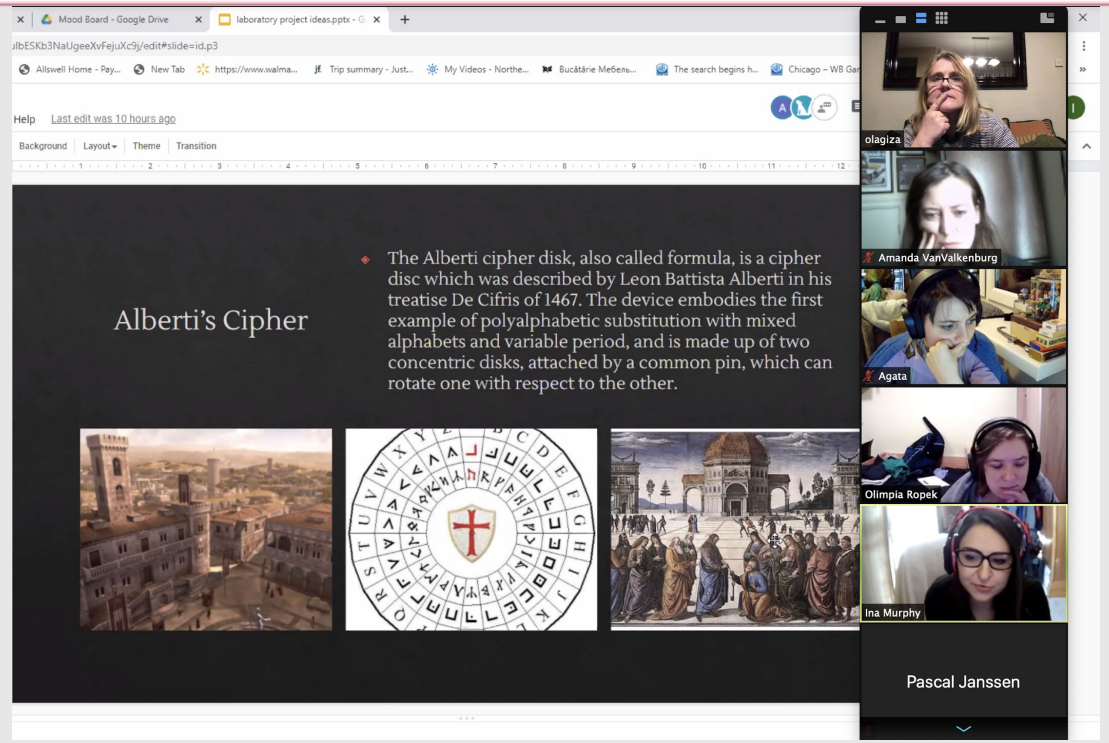

Meeting during which we discussed various types of ciphers.

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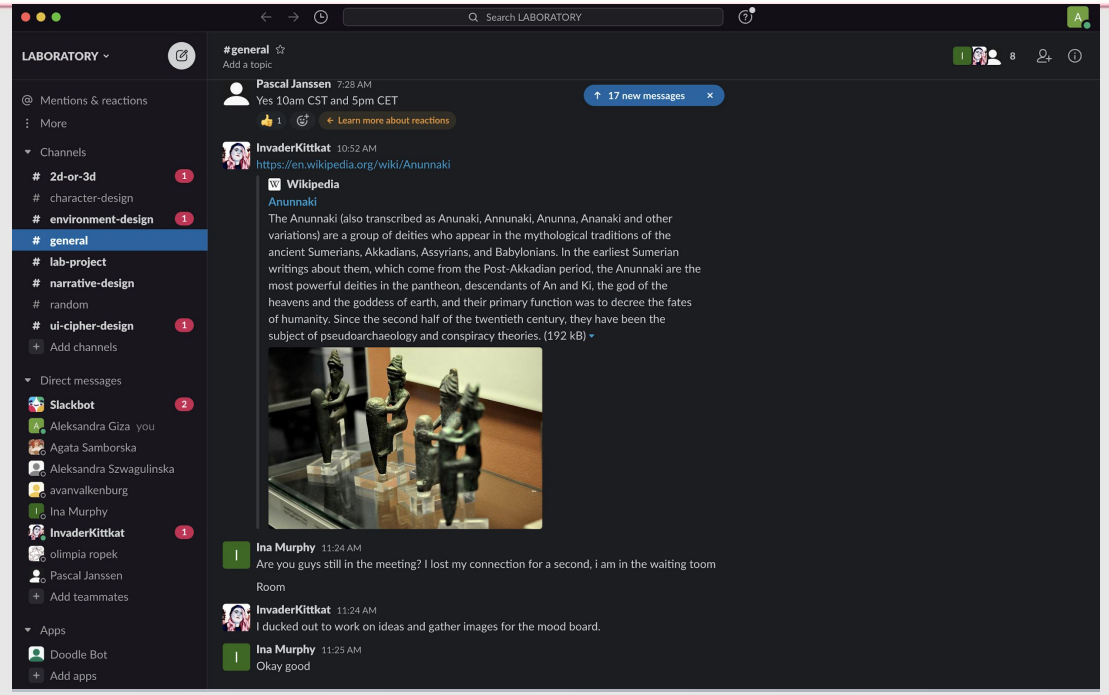

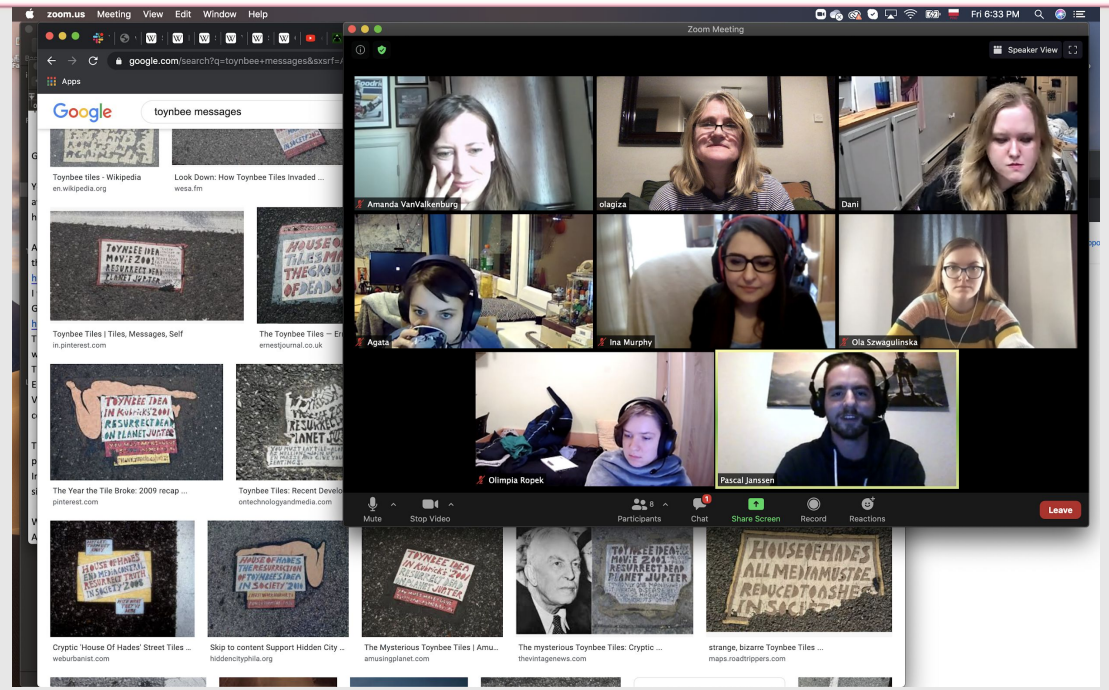

Presentation of various ancient civilizations and ways they communicated and how we understand their messages today.

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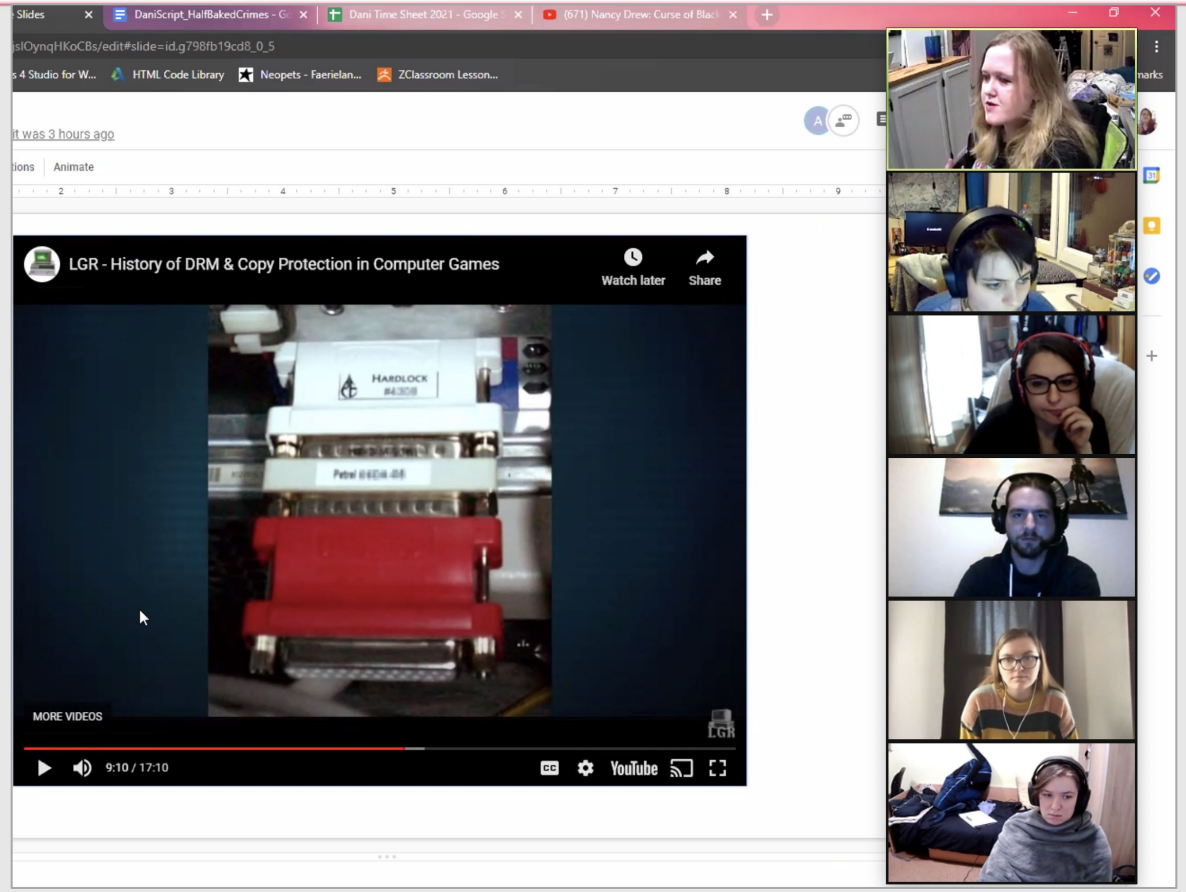

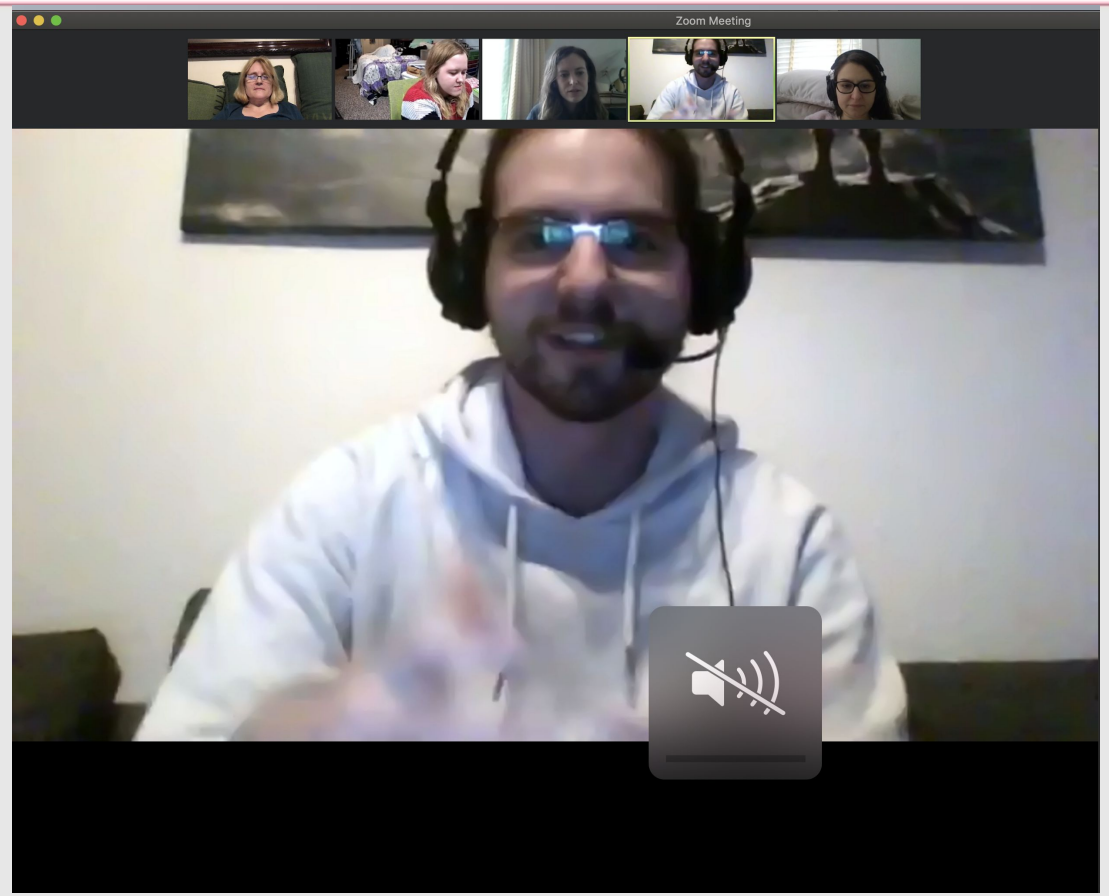

Conversations about technology and digital rights management.

Thank you.