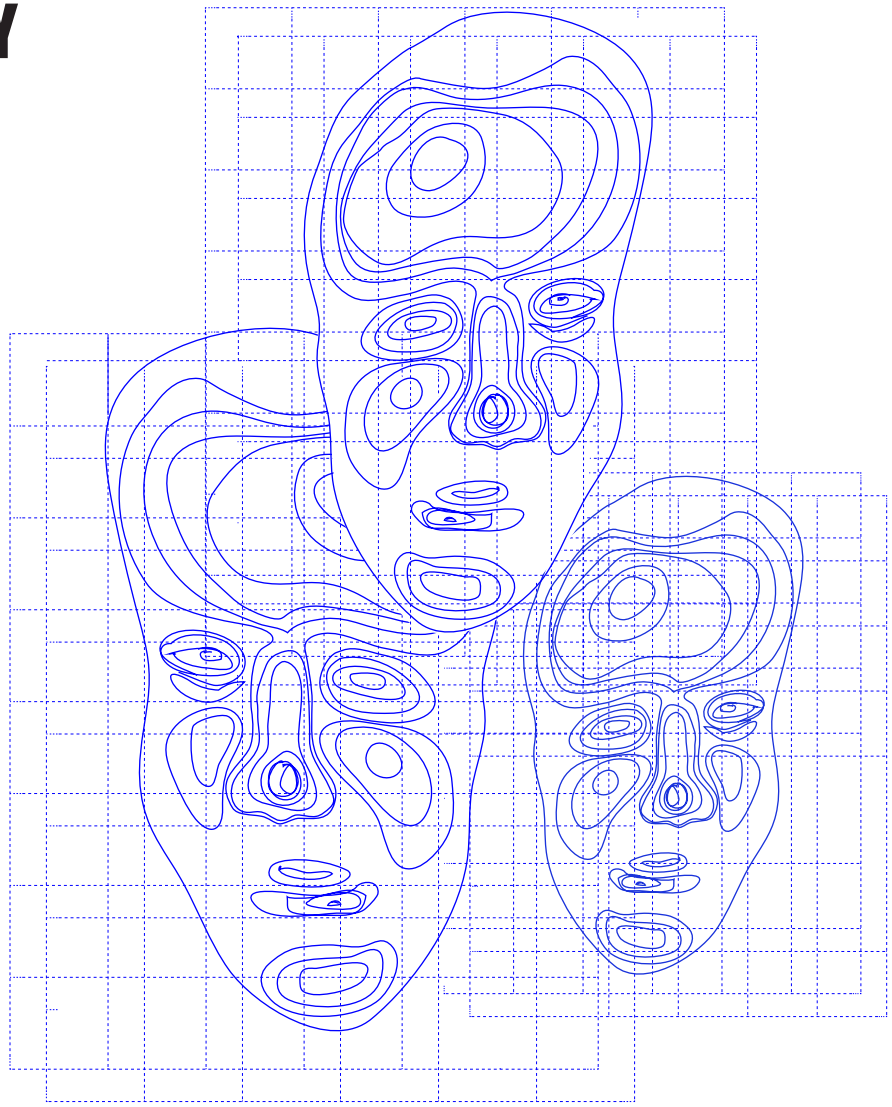
REIMAGINING VISUALS FOR CYBERSECURITY

Shortlist Catalog



openIDEO

WILLIAM + FLORA Hewlett Foundation

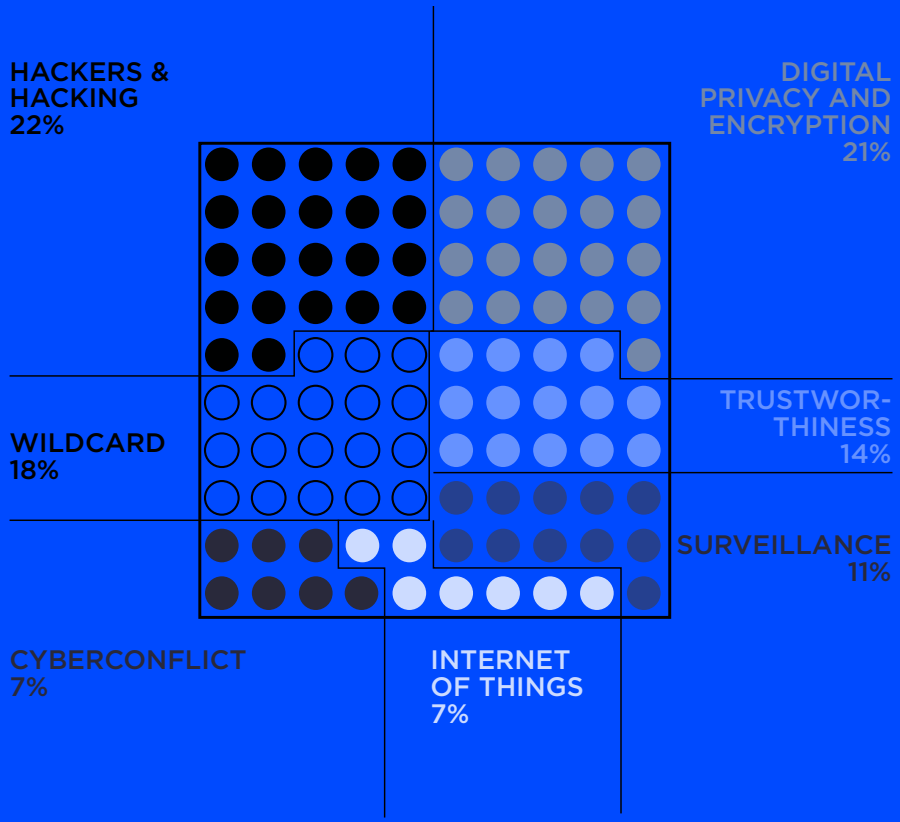
WELCOME

Welcome to The Cybersecurity Visuals Challenge Shortlist Catalog!

As we launched this Challenge in July 2019, we asked a global community: **“How might we reimagine a more compelling and relatable visual language for cybersecurity?”** We were looking for visual creators from diverse backgrounds eager to apply their skill set to this important work.

In total, we had 165 unique visual creators submit 209 ideas from 14 countries across 6 continents. In addition to geographic diversity we were thrilled to see the contributors also represented a broad range of backgrounds including visual designers with minimal cybersecurity experience to cybersecurity professionals with an interest in graphic design. Submissions not only included graphic designs but also animations, short gifs, hand drawings, photography, 3D renders, and other forms of mixed media.

The contributions were split across the seven opportunity areas that we posed to the group:



We're excited to share with you this shortlist catalog which represents the 25 visual creators that the evaluation team has invited to further refine their concepts. Each of these visual creators will be provided the opportunity to receive feedback from a cybersecurity expert to help them ground their concepts in technical accuracy.

The evaluation team included:

Charlotte Stanton, Carnegie Endowment for International Peace
Eli Sugarman, Hewlett Foundation
Mike McNerny, Arbor Networks
Philip Reiner, Technology for Global Security
Stephanie Sizemore, OpenIDEO

Each visual creator is featured with their name, location, contact information, graphics and an abbreviated description of their work. A link to their full submission on the OpenIDEO platform is also available. Note that some contributors submitted more than one concept; we encourage you to navigate to their OpenIDEO profiles to see the full listing of their contributions. Please keep in mind that English is not a first language for all applicants.

We hope that you enjoy learning more about this community of creators. Thank you for your interest in this Challenge!

THE CYBERSECURITY VISUALS CHALLENGE TEAM

WILLIAM + FLORA Hewlett Foundation

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All shortlisted submissions are openly licensed under Creative Commons (CC BY 4.0), which means that while the creators retain copyright to their materials, they give others permission to distribute, remix, and build on the work, as long as the artist is credited for the original work.

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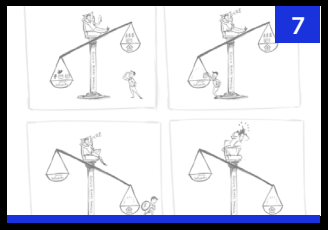
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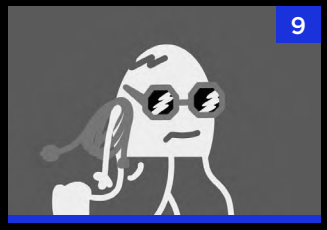
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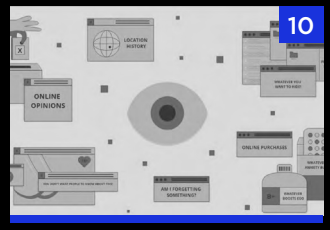

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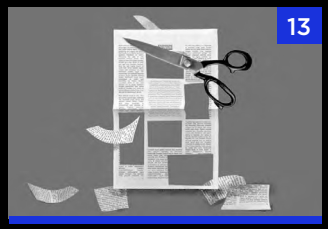
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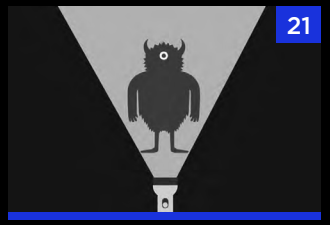
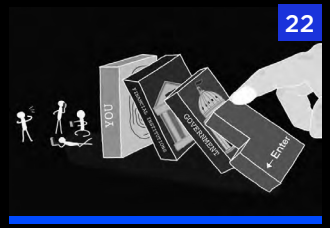
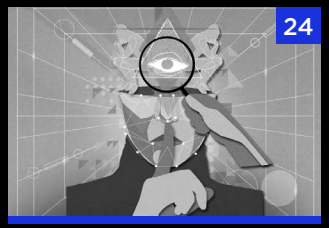


John Hurley



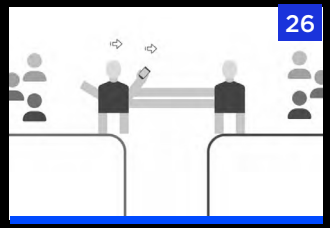
Khanh Tran

Linda Graf



Mai Arollado

Mariah Jochai



Nathaniel Anderson

Rebecca Wang

Terrell Shaw

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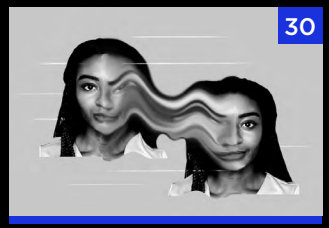

Tiffany Baker

ABRAHAM JOEL PENA PULEO

Web designer and brand strategist with more than 8 years of experience

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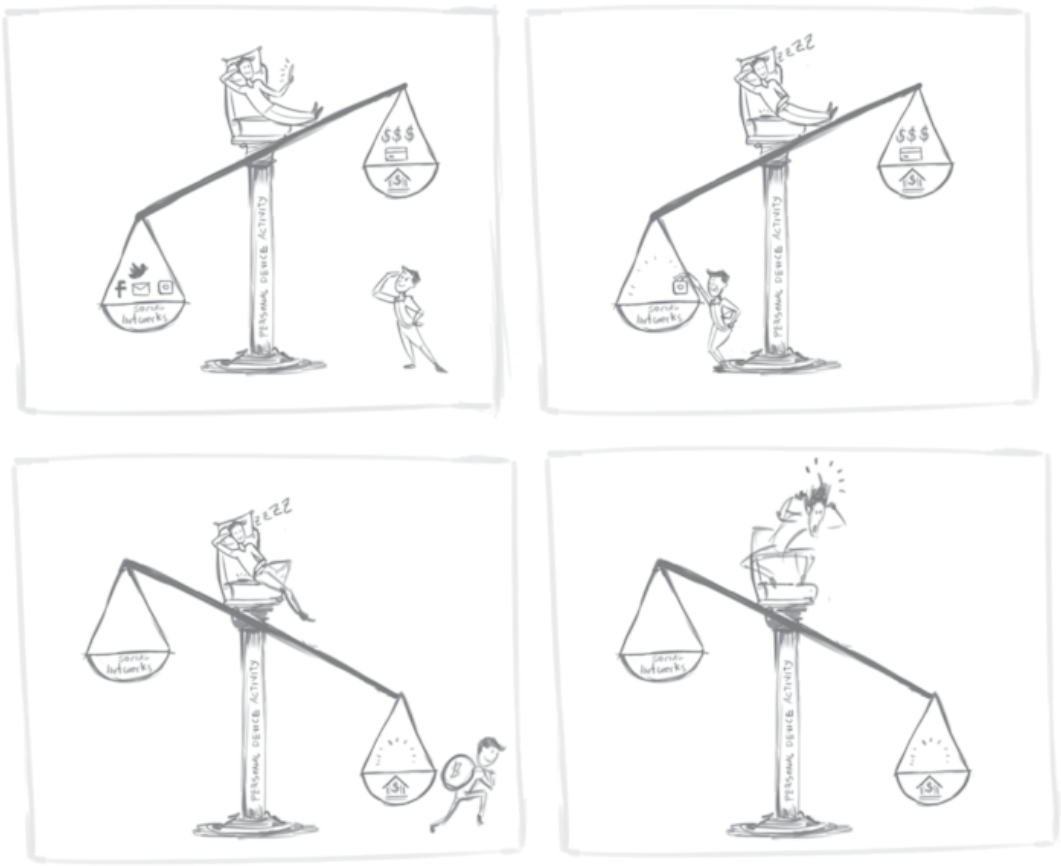
UNITED STATES OF AMERICA

I was inspired by the drawing style of the New Yorker covers, as this is a major publication aimed at a public. This example relies on semiotics to represent the user as a relaxed person, probably on vacation and working remotely, enjoying the surface without any apparent alarm, a product of his ignorance of concepts of logical or physical security awareness. However, several dangerous sharks swim underneath, conceptualizing cybersecurity elements such as the attacker, the tool, in this case the use of phishing, and the environment, symbolizing the sea to the digital environment.



ABRAHMA TANSINI

Graphic designer and freelance digital illustrator

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SPAIN

The proposal is based on using comics / humor to present concepts that are simple, easy to understand, and clear to any reader. The sketches are in sequence of a story. It narrates the vulnerability of bank accounts and valuable information at the moment a hacker accesses resources that are public in the user's social networks or databases. The value that this graphic proposes is to use humor and comic to expose complex concepts such as cybersecurity. The proposal is simple at the graphic level, however it can be refined and taken to a more finished digital art.

AFSAL CMK

Artist; coder; enjoys turning complex problems into simple designs

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INDIA

When it comes to digital privacy and encryption, users who are under various persona categories need to understand what it is and what exactly is happening. So, what I would like to know is, how my data is used, where it is stored, who is able to see it, what if it is compromised, etc. Usually such important information is buried under many 'T&C' pages. So, I want to make the message here very clear as "the data is only visible to the user or end-user." I used half part of the canvas for reality and the rest for digital dimension for "behind the scenes."

ALAINA NICOL

Strategic designer; web developer; artist; founder of a digital studio

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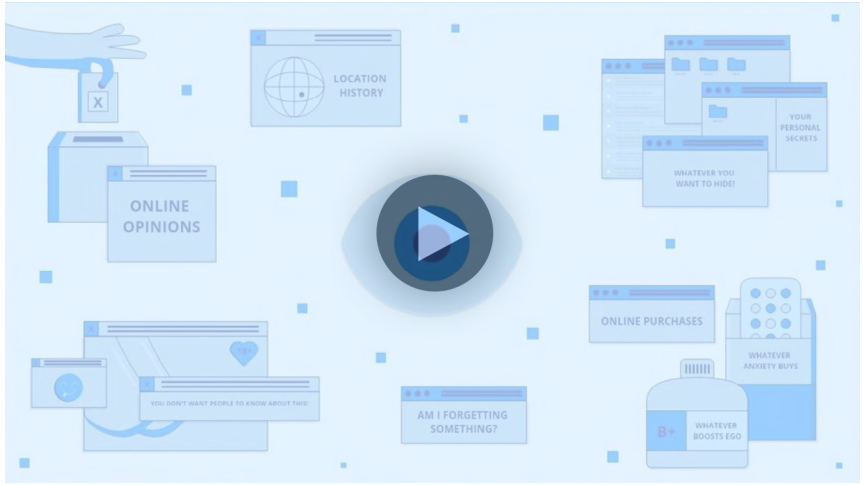
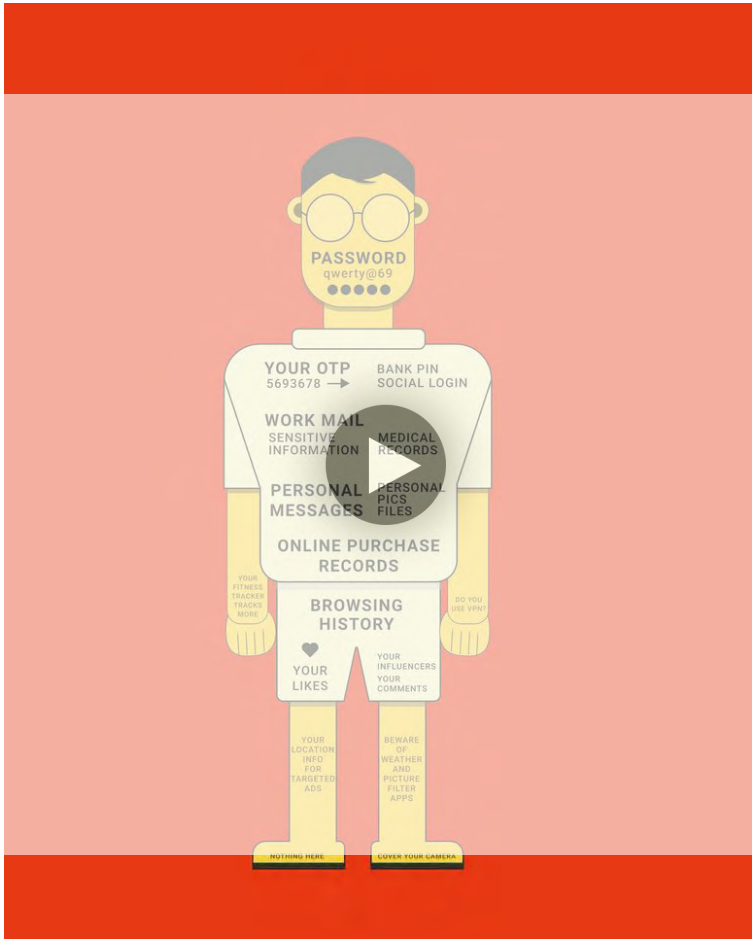
UNITED STATES OF AMERICA

I learned that there aren't many visuals that eloquently describe what a webshell is. Mr. Webb Shell is a visual exploration of what a webshell is and how it works. Despite his rugged demeanor, Mr. Shell is vulnerable. Webb Shell thinks he is a tough guy that knows how to hack things.





ASWIN KUMAR BEHERA

Mechanical engineer with interest in visual design and experience modeling

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INDIA

(1) All-Seeing Eye: I've created a demo to illustrate that we as humans are unknowingly making it easier day-by-day for certain individuals and organisations to collect all the data they can about us. (2) Person: Interactive demo where a person can hover over a person's image and see what they should keep more guarded and be cautious about. Are the passwords we use on the various social sites and for banking the same? Do we allow third party services or the services to trust with more than they are allowed to? Why does this "app" always ask for my location even though they don't need it?

BRONNEY HUI

Professional photographer and graphic designer for nearly 20 years

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CANADA

The core idea is to bring out the absurdity of over-sharing of personal data in our daily lives with outrageous visual examples of extreme sharing. Normal daily scenes or objects that would make you stop and look because nobody would share things like this. Hopefully, the viewers will be engaged in seeing the direction we would be heading. Has the opportunity to reach multiple demographics without familiarity of cyber-security as it uses exaggeration of everyday objects/scenery. Next steps include a photoshoot with real photos and building out key messaging.

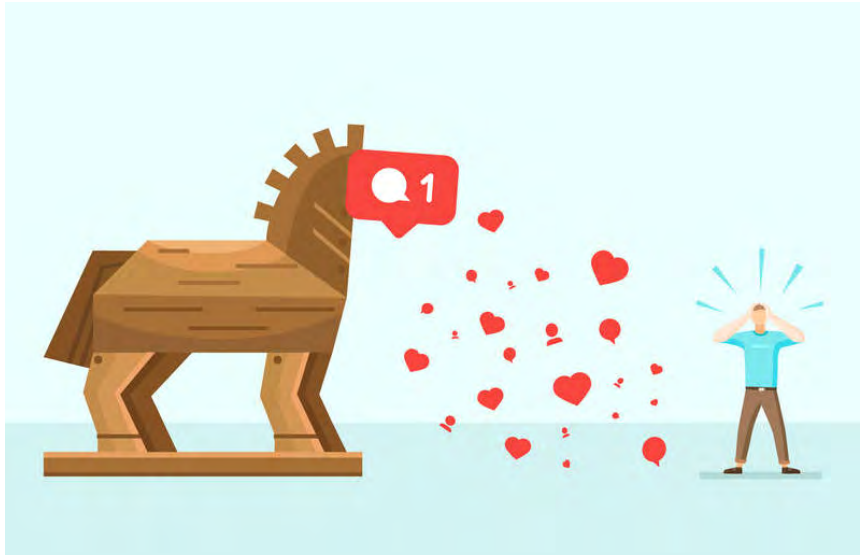

IMAGE DIRECTION

BRYCE QUIG-HARTMAN

Campaign designer for a marketing agency; music production/engineering

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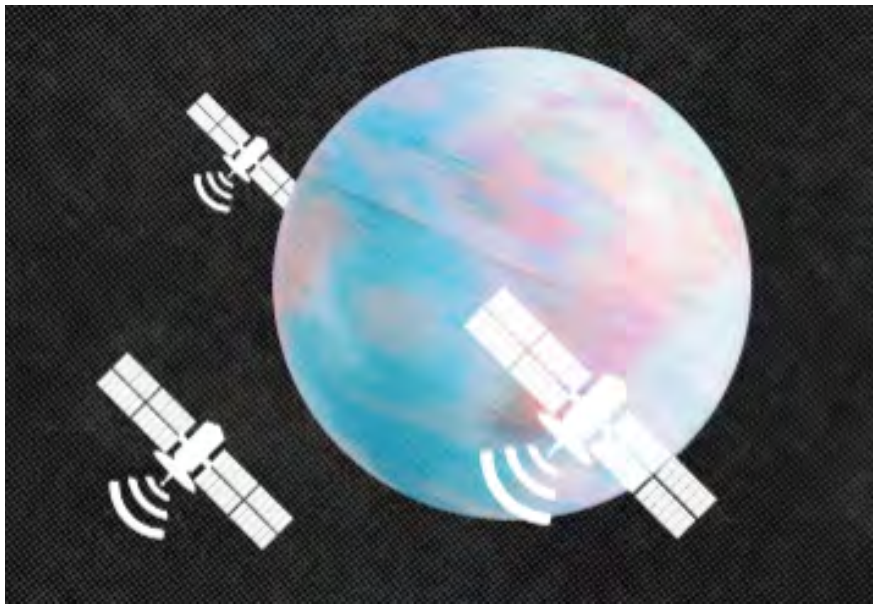
UNITED STATES OF AMERICA

Instead of an army of soldiers, today's digital trojan horses are filled with likes, comments, and followers. An unsuspecting user may think a simple click is completely harmless, but savvy hackers, government entities and corporations know that this miniscule action is the easiest way to break into user' security "fortresses." Privacy is intangible which makes it hard to visualize, but alluding to this classic Greek war tale brings notions of familiarity to a vague concept. This mood board represents similar artwork and concepts that were used as inspiration to create this submission.



CAROLINE MATTHEWS

Digital designer with eight years of agency and media experience

caromatt.squarespace.com

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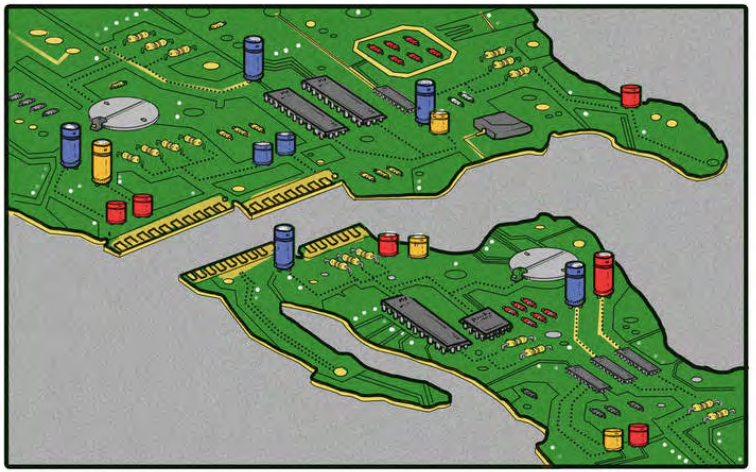
UNITED STATES OF AMERICA

(1) Space: I like using texture and filters in Photoshop to alter stock images. The content helps direct color; they are used to specify mood, tone, political party, etc. My design can be as general or as specific purely through color. This concept is more focused on the scale of surveillance. (2) Newspaper: Is censorship a form of surveillance? If the media is editing our present through omission, who can we trust? This concepts lacks a digital element.



01\\ Virtually as one Rattus

CLAUDIO ROUSSELON

Visual artist + muralist; interest in tech, sci-fi, aerospace + energy science

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MEXICO

Cyber alliances with the help of technology. I tried to illustrate the intrications of hardware, the little link between digital worlds can be as small as a microchip. Server room linked by a tiny strand of hardware! These small ink drawings are a representation of my traditional drawing style, I like to add tiny details in almost everything and when it comes to circuit boards and server banks it fits perfectly! Each around 2 hrs tops, digital colors for my main proposal.

CONOR CAPLICE

Content manager with background in writing; self-taught coder

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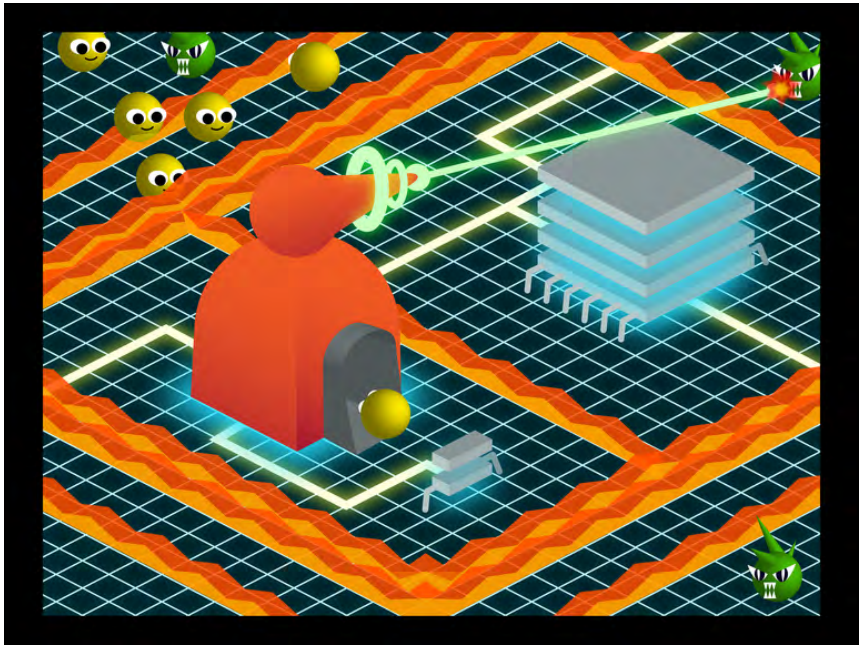
UNITED STATES OF AMERICA

(1) Captcha: This image depicts how all too often people reuse the same passwords for different services leaving them increasingly open to attack. If one account gets hacked, all of the accounts on which the same password was used is now easily accessible to the hacker(s) as well. (2) Condom: Let's be honest; sex sells. If the idea is to help better educate or represent the concepts surrounding good data hygiene, then let's equate it with hygiene practices people already understand, use, and know the risks of. This equates a computer virus to STDs, both of which are entirely avoidable by using proper protection.



ELIO REICHERT

Graphic designer with experience in digital media and interest in informatics

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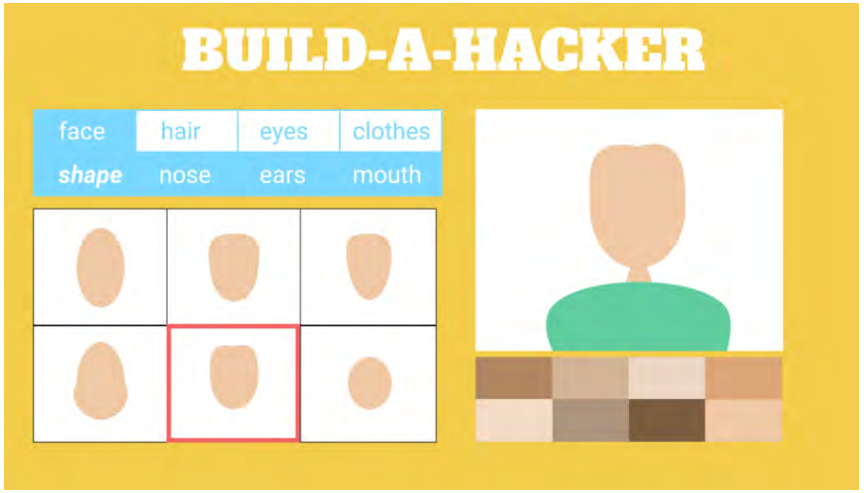
elio.reichert@icloud.com

GERMANY

(1) River: As a dam takes control of a river it is a metaphor for taking control of personal data streams. Dams stop rivers from flooding valleys with dangerous amounts of water. The same applies to the digital dam in this illustration. It ensures that your device will not be flooded with malware, spyware and other malicious codes. (2) Game: This concept works as an awareness game for cybersecurity. The goal is to build a strong computer system to mine money to build an even more strong computer system to mine even more money. But the stronger the computer becomes, the more attacks will occur.



IFRAH YOUSUF
Graduate student; UX designer passionate about inclusive design
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yousuf.ifrah@gmail.com
CANADA

(1) Magnification: To understand ethical hackers better, I compared them to researchers. Similar to researchers, hackers read between the lines, analyze information, and dig deeper to understand a particular system. The design I created is a computer being viewed with a magnifying glass to uncover a message.

(2) Hacker: The hacker stereotype ignores and undermines the diversity in cybersecurity. Build-a-Hacker is meant to reflect the diversity in cybersecurity and allow people who are overlooked in cybersecurity discussions to see themselves accurately portrayed.

IVANA TROSELJ

PhD student in cybersecurity; fine arts / illustration

AUSTRALIA

(1) Eggs: I don not think we yet understand how to best recognise this threat; it has crept into the most trustworthy aspects of our everyday business. The bird is mistakenly rearing a grenade in a nest of its own eggs. This represents the act of misplaced trust. (2) Fox: To continue building out this concept, I am working on a zoo of surrealist cyber-animals and children in a dark wonderland world as metaphors for the activity that daily take place in dark woods of the internet. Nature offers many analogies that are readily recognisable, and fairytale supplies a values-driven genre immediately understood.

JASON KRAVITZ

Worked in cybersecurity ~20 yrs; data visualization; photography

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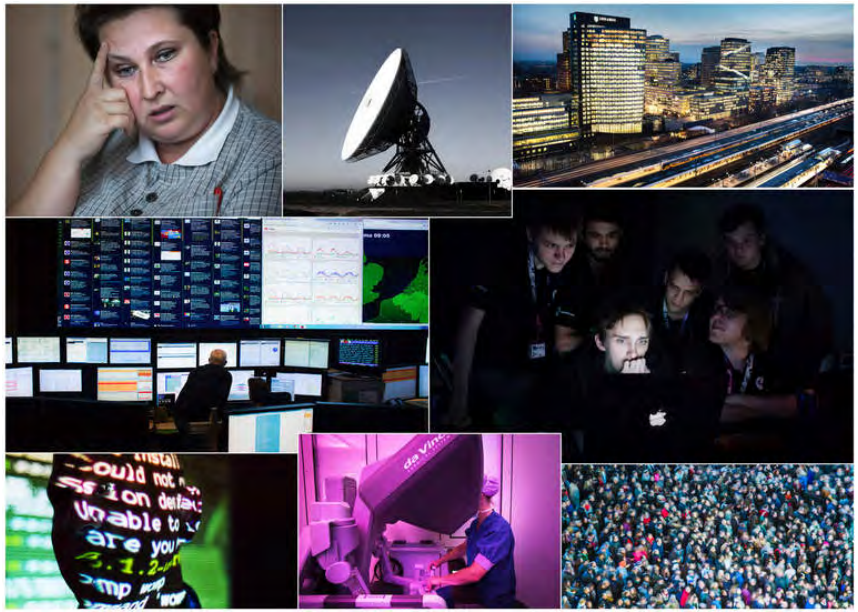
UNITED STATES OF AMERICA

I was thinking of a simple way of depicting the unassuming attacker in different images. The idea would be to show a number of different types of people of all backgrounds with the commonality that they are immersed in their own device while bragging (via sticker) that they have access to yours. This sticker concept is a play on the bumper sticker “My other car is a...” This concept is also a play on what is a computer these days. This kid is playing on a (rather old) gaming system, which could in theory still be used to hack into a server. Other examples include baby monitors, cars, and heart monitors.



Healthcare & Cyber security

Privacy checks

Obvious links to cyber security domain

Ligtht / Atmosphere setting

The surgical robot

This is the Da Vinci surgical robot in the Erasmus Medical Centre in Rotterdam. The robot minimizes the size of the wound and specialists can operate the robot from anywhere around the world if needed, not having to fly over a surgeon for a specialistic job.

The advantages are obvious but it demonstrates as well the importance of sound digital security as we move towards a society where even these kind of life-dependant systems are online.

JEROEN DE BAKKER

Documentary photographer; runs a cybersecurity photography project

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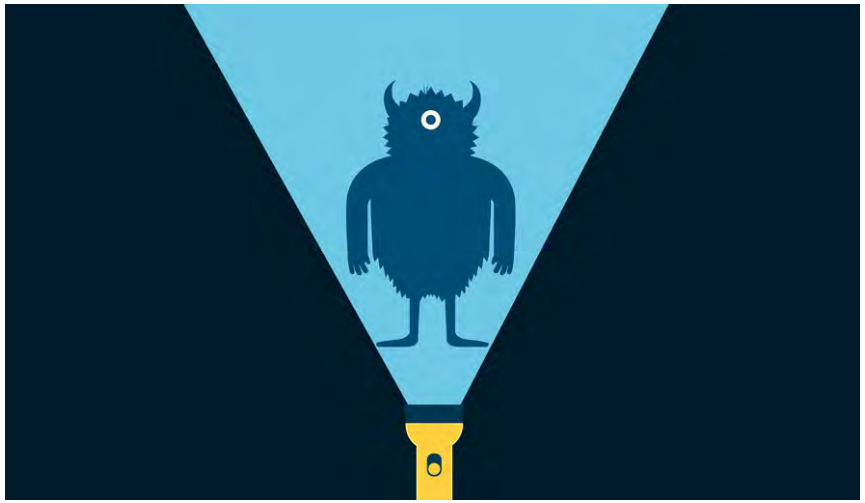
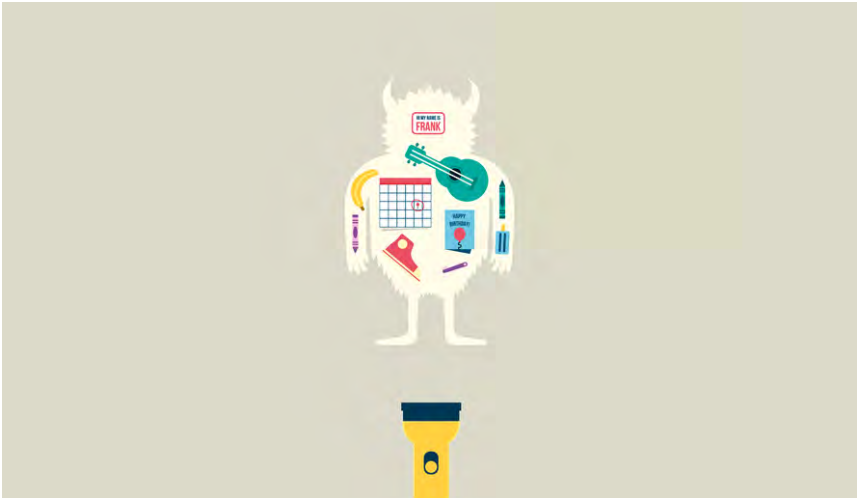
NETHERLANDS

All too often the powerful tool of photography is overlooked in communicating about the cyber security domain. First step in understanding a subject is to feel some personal relation to it, and that is very hard with binary code or complex illustrations. Photography is a very powerful tool in the battle for making cyber security more comprehensible and less abstract. Showing actual places, people and situations where people can relate to can make a big difference. My aim is to create an inspirational photography guide for photographers and journalists.





JOHN HURLEY

UI/UX + visual design; multi-disciplinary collaboration; musician

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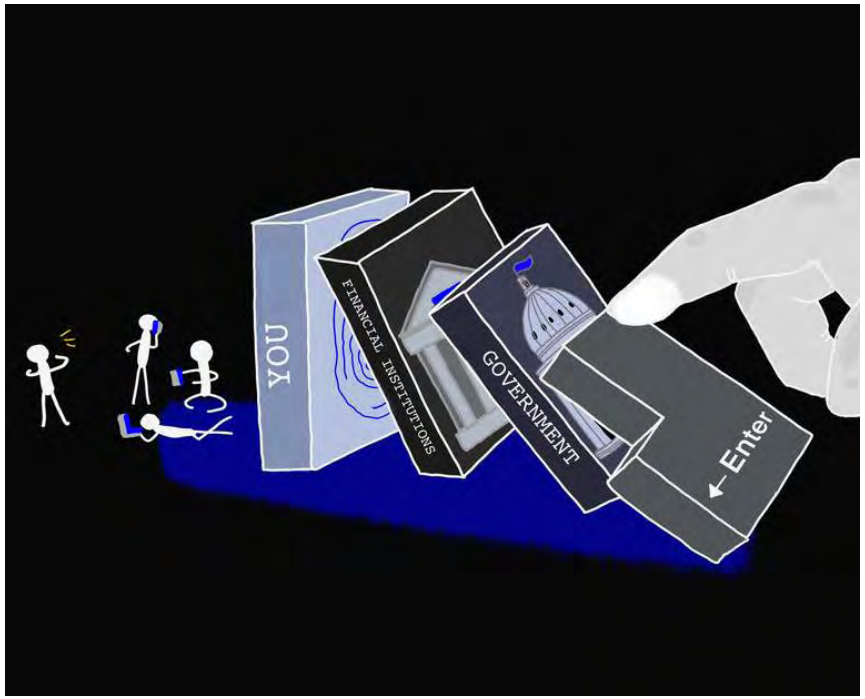
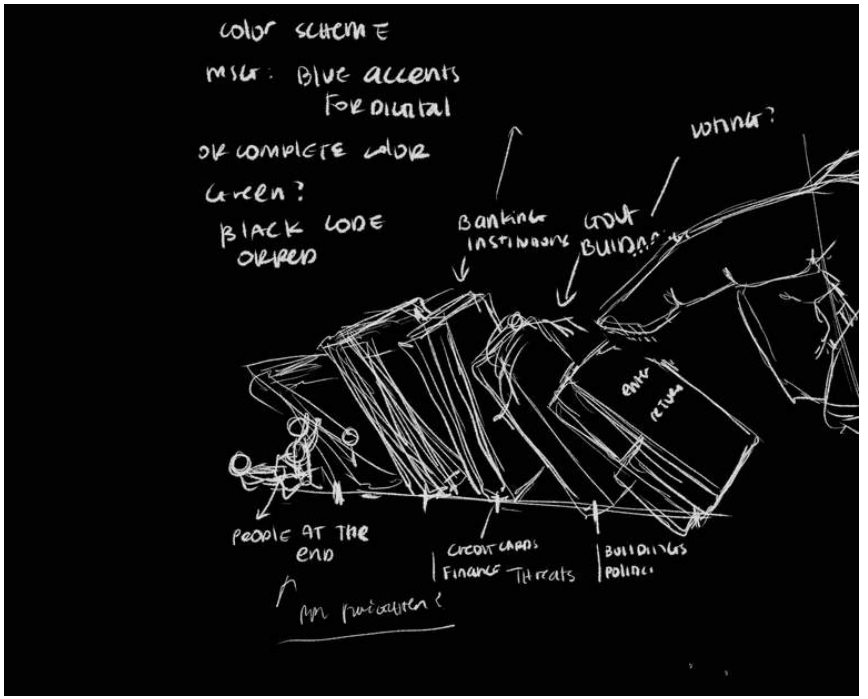
UNITED STATES OF AMERICA

Blindly agreeing to a terms & services agreement has become a meme, and as a result is not taken seriously. We have a short animation, and would like to continue to refine it. It shows the silhouette of a monster in the dark. Upon further inspection with a flashlight, we see the monster is a group of harmless objects and dataset accumulated. A single leaked dataset by itself might not seem so dangerous, but when paired together with machine learning algorithm and other unique datasets, it can take on a form that should make anyone check under their bed.





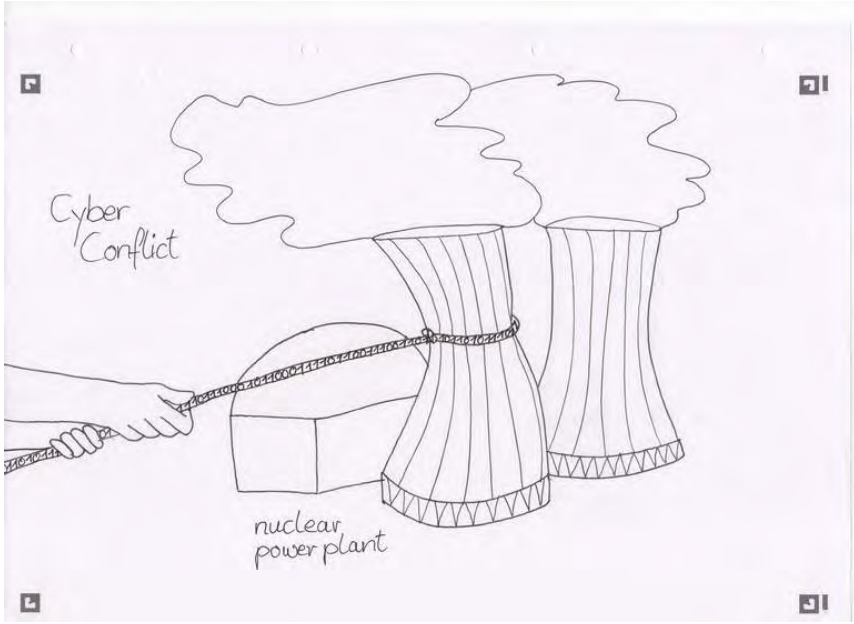
KHANH TRAN

Aspiring UX designer with comic-drawing hobby; ex-Google

khtran.com

UNITED STATES OF AMERICA

I was inspired by an artwork where the keyboard represented different institutions. It then occurred to me that programmers need to compile their code by simply pressing “Enter.” I picked up the colors from OpenIDEO brief. I was inspired by a dark palette, to show that most of these attacks are invisible and though, reported, rarely spark a sense of urgency from people (e.g Edward Snowden). I also enjoyed the stark blue since it reminded me of Windows dreaded blue screen.



LINDA GRAF

Freelance graphic designer; excited about intersection of tech and design

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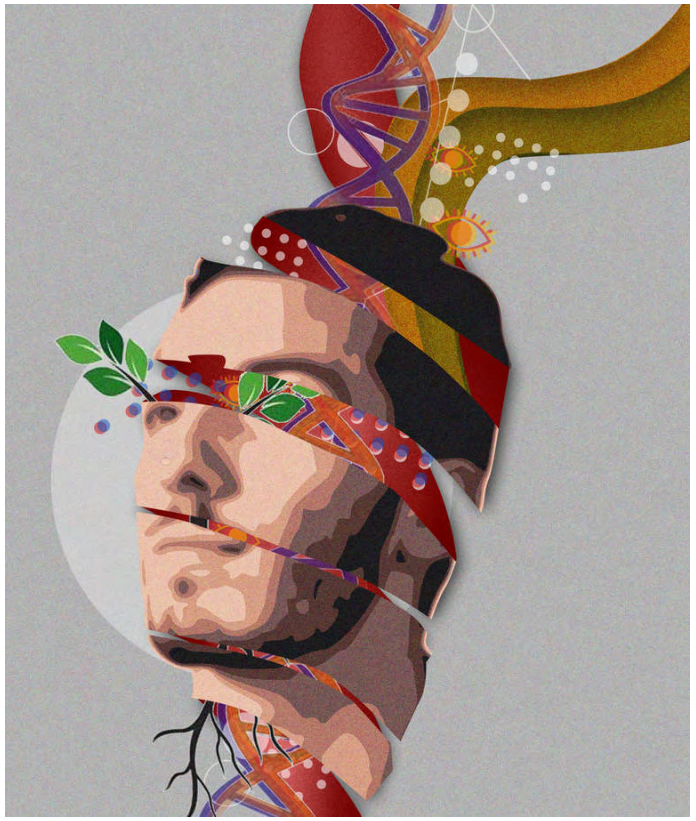
GERMANY

(1) Medical Equipment: I would like to show with this concept how an important system in the medical field is affected by a conflict. The structure of the system is broken. There are mistakes and the system can not work in the necessary and correct way. Equipment, the staff, medicines, all things can be affected by the conflict. (2) Sketch: I would like to illustrate how a cyber conflict can damage / stop the energy supply of a country via attack. I want to portray the attack with a kind of lasso. This way, I want to visualize the malicious code, regardless of a specific programming language.



MAI AROLLADO

Industrial designer + artist; believes design can save humanity

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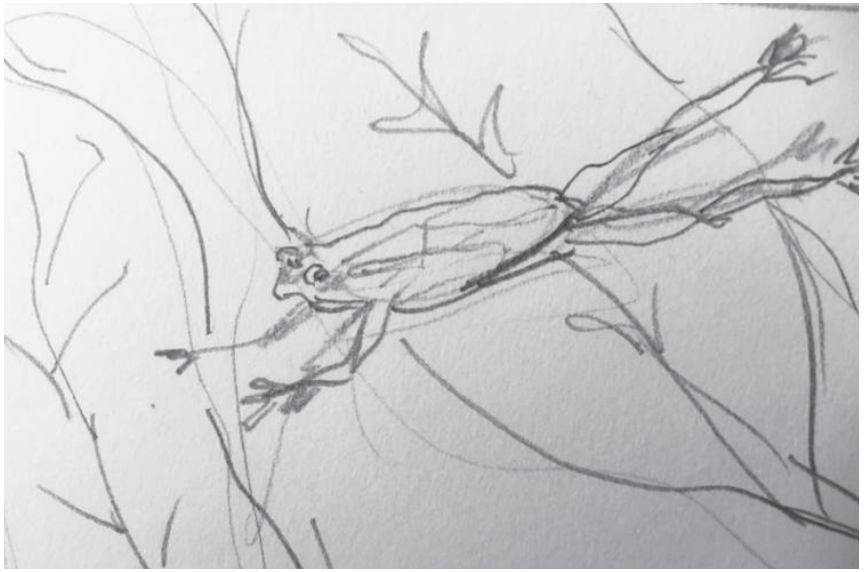
CHINA

(1) Eye: Aiming to create a warm analog feeling of paper cut-out with texture with a collage style of subtle digital feeling, helping make cybersecurity more relatable. I want to bring awareness that even though we are in the age of technology, we are still playing the same fundamental of privacy and security of our belongings. (2) Person: I want to depict hacker that relates to each human being like us, creating a certain degree of surrealism showing a human being being peeled.



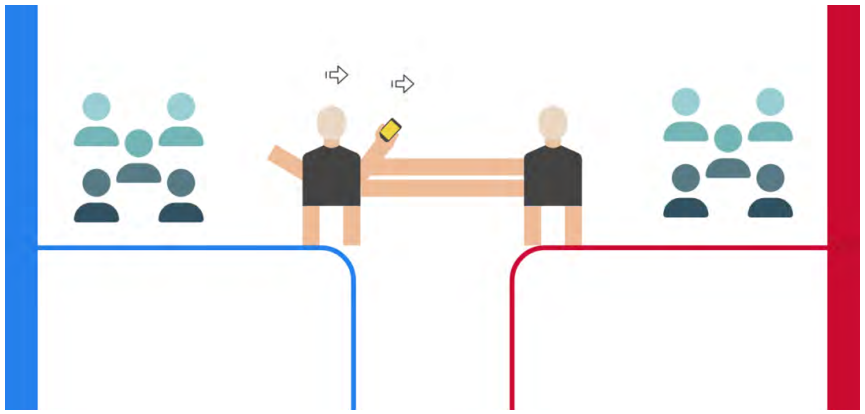
MARIAH JOCHAI

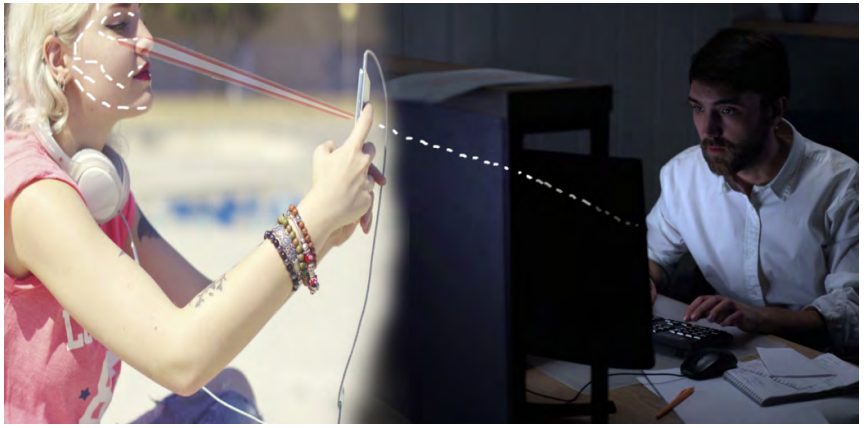
Art director; 10 years experience in fashion and tech

craftograph.com

UNITED STATES OF AMERICA

(1) Moth: In the natural world, sometimes a self-defense mechanism is the ability to not be seen by predators. I decided to focus on digital privacy by showing a moth camouflaged. The process of encryption starts with an unencoded file, then it is encoded, then it is decrypted for authorized viewers. Here the moth is mostly camouflaged but has wings overlapping the edge of the tree to show that it can be seen if it wants to be. It is only encrypted when over the bark. (2) Frog: Another way of looking at this same idea is a frog jumping over a green leaf that camouflages its body.





NATHANIEL ANDERSON

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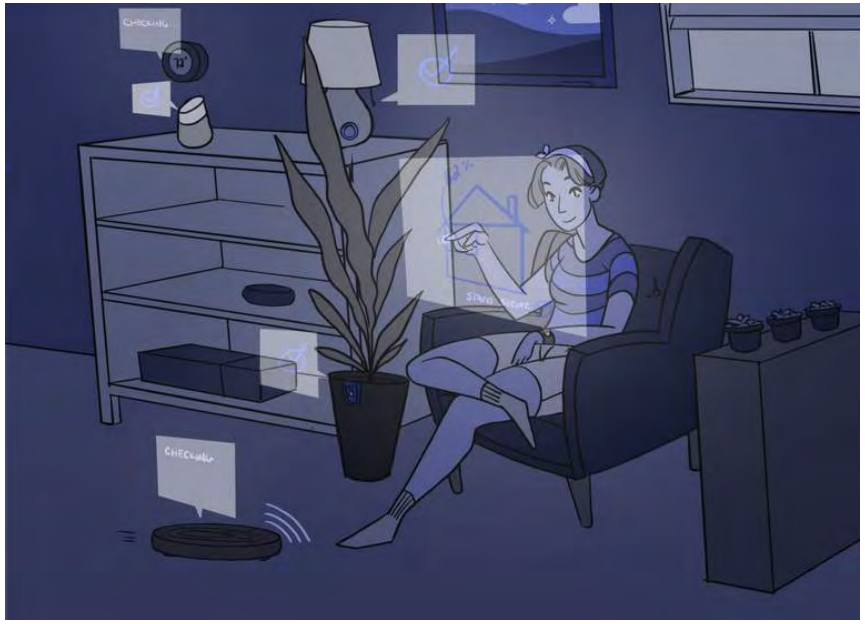
The plan is to mix real, journalism style photos and subtle special effects to visualize some pieces of what's happening with modern scandals like these that everyone hears about but few people can actually explain. Focusing on the actual passing over of data, we can get specific with our visuals to relate to real-life scenarios that people do everyday and don't realize it could lead to a data leak. Visually, this can expand from simple, realistic photos that illustrate the technology with subtle on-screen graphics to short videos and simple animations on the same topics.



REBECCA WANG

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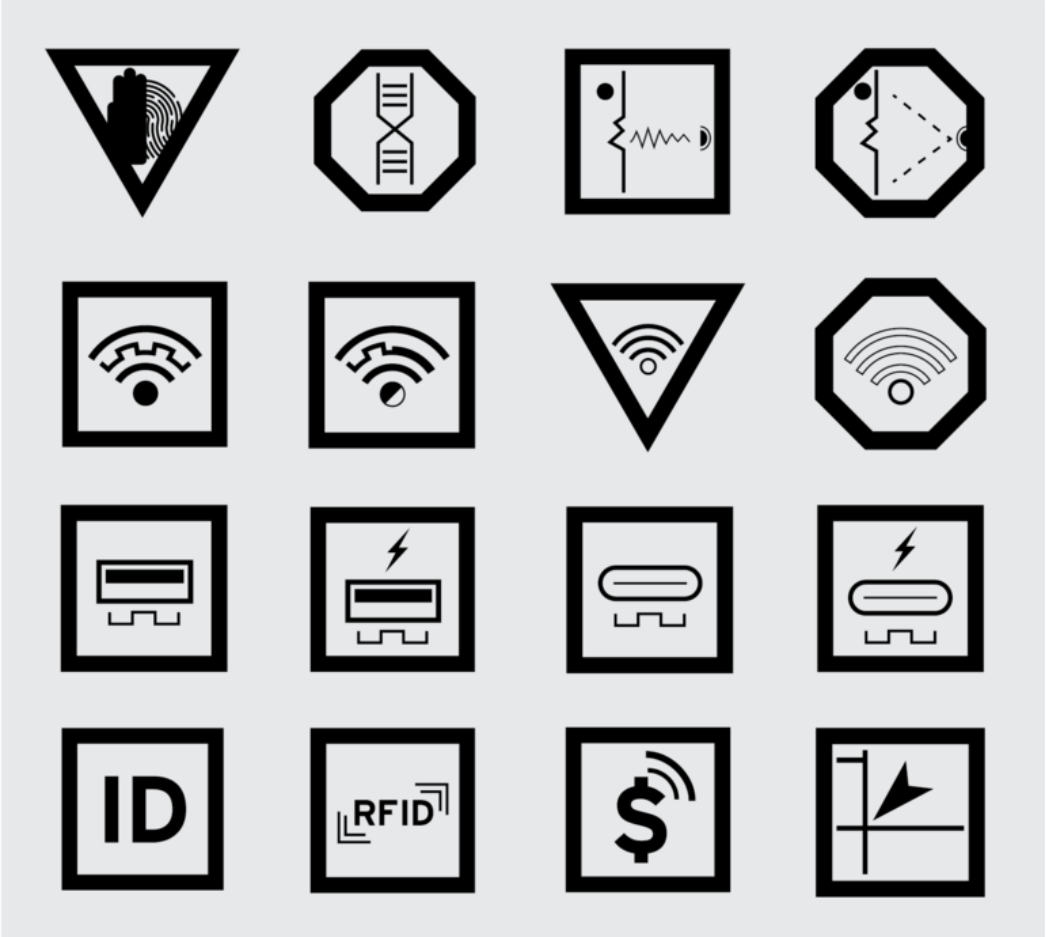
CANADA

(1) Home: As IOT grows into the home, it is possible to see a future where all homes contain a network of connected devices. In this drawing of an imaginary home, a woman is performing a routine security update on the smart devices in her home with the holographic projection created by her smartwatch. The image of the house on the projected screen provides the interface for her to interact with the smart devices. (2) Comic: Using a short comic strip to demonstrate how smart home devices could be more secure by asking for a password or requiring some other kind of authentication from the owner.



TERRELL SHAW

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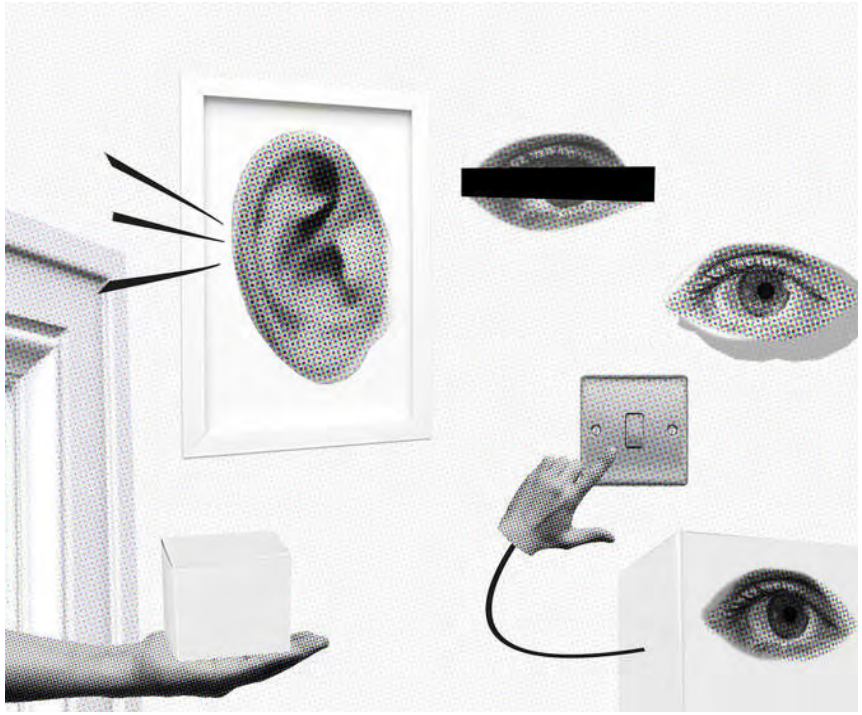
What if we had some type of societally relevant lexicon readily available to discuss the intricacies of cybersecurity - not technically, but societally. I've started to develop a working lexicon of graphical symbols and concepts toward this goal - to introduce technical concepts to the general public the same way that industries precursor to cyber, specifically modeled after energy, healthcare and pharmaceuticals, automotive safety, and the entertainment rating systems of movies and video games. Can we bring the same level of understanding, accountability, and emotion to cybersecurity?



THOMAS GRIMER

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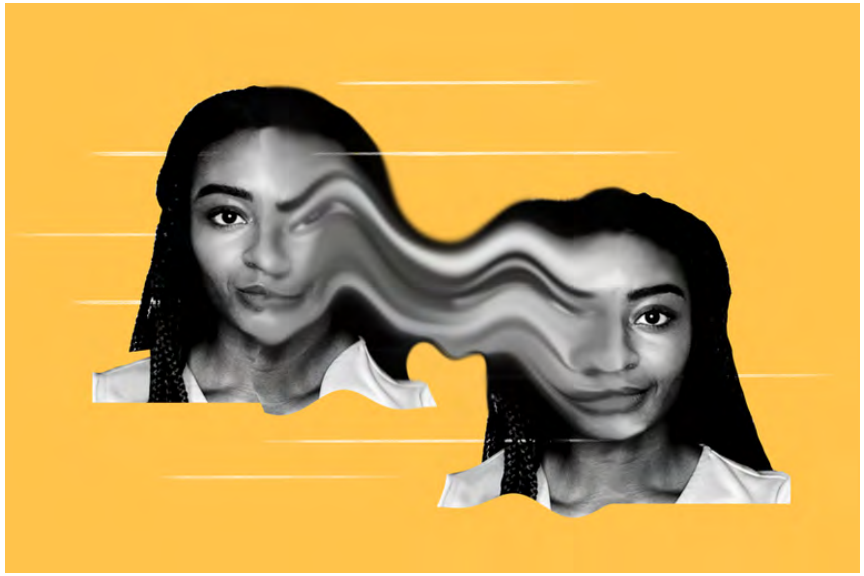
What will happen if you can't turn on your lights, are denied control of your car, office, even infrastructure? This abstract visual indicates an internal environment via the door frame. Within the space is a plain but connected device with the ability to passively watch and listen. To show the pervasiveness of interconnection eyes and ears are in multiple locations. The devices are placed in the walls and added into common objects to demonstrate that technology will be integrated into numerous objects. Though the visual is intended to develop awareness it hopes not to be alarmist.



TIFFANY BAKER

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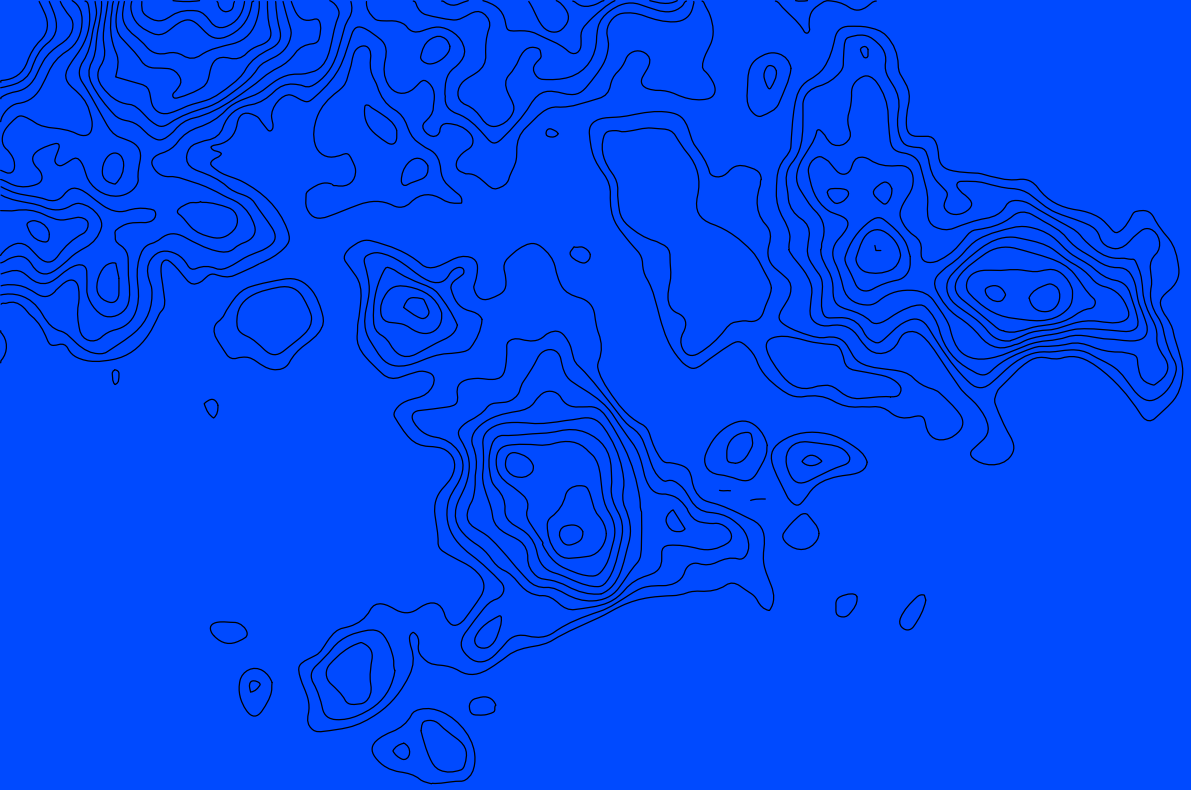
(1) Two Faces: Images of the subject are repeated next to each other and eerily blurred connecting them. In this case, the image is of me. I feel that this speaks to how technology and the human intelligence that powers it are directly able to alter our digital appearances. (2) Woman: I created a photo-illustration showing one half of the subject, Duchess Meghan Markle intact, the other half blurred beyond recognition. Deep fake videos, which use biometric mapping of body parts like faces, usually target someone of celebrity status or political influence as their subjects.



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