

The Inception

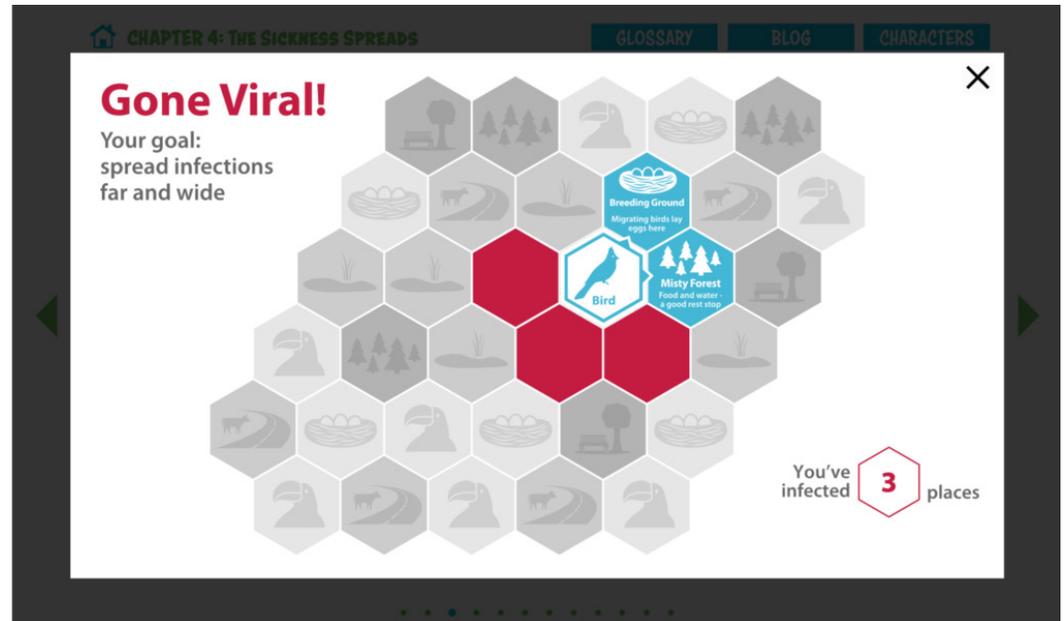
Imagine this: you are a virus living inside a host’s bloodstream. Your host is a crow, so when it spies some roadkill, it swoops down for a tasty meal. As your host bird eats, it gets bitten by a mosquito, who sucks up some of its blood and unintentionally takes you along for the ride. Success — you’ve infected a mosquito! Now, do you think you have what it takes to infect all of Queens?

The concept of virus transmission is a difficult idea for anyone to grasp. What does it take for children to comprehend playing a game as a tiny virus, let alone understand how West Nile Virus spreads? These were the challenges faced by the team creating *Transmissions: Gone Viral*, a NYSCI-produced digital comic book. In the comic, three kids (Maria, Rani and Eduardo) in Metro City come across an epidemic of crow deaths that later expands into a city-wide health scare. The kids investigate the mysterious deaths, learning how zoonotic diseases spread and the fact that humans and animals really aren’t that different after all — at least evolutionarily. Along the way, Maria and Eduardo encounter a game called *Gone Viral* that hints at a possible way the real-world virus could be spreading. The game — playable in the digital comic book — has the player assume a position as an unnamed virus, infecting hosts around the globe, switching hosts between mosquitos and birds. The game ends when the virus’ host dies, or when the player’s virus is successful in infecting the whole map.

For NYSCI’s annual Bug Day in June, our team had an idea: What if we took *Gone Viral* off the web and brought it onto NYSCI’s museum floor, in the form of an oversized multiplayer board game? We wanted to keep the basic premise — playing as West Nile Virus, switching from bird hosts to mosquito hosts in an attempt to infect various locations in the area — while incorporating new elements often seen in board games. *[Spoiler Alert: If you have not played either version of *Gone Viral*, we’re about to go behind-the-scenes and show how they work. Read at your own risk!]*

New York Hall of Science

47-01 111th Street
Queens, NY 11368-2950
718 699 0005
Fax: 718 699 1341
www.nysci.org



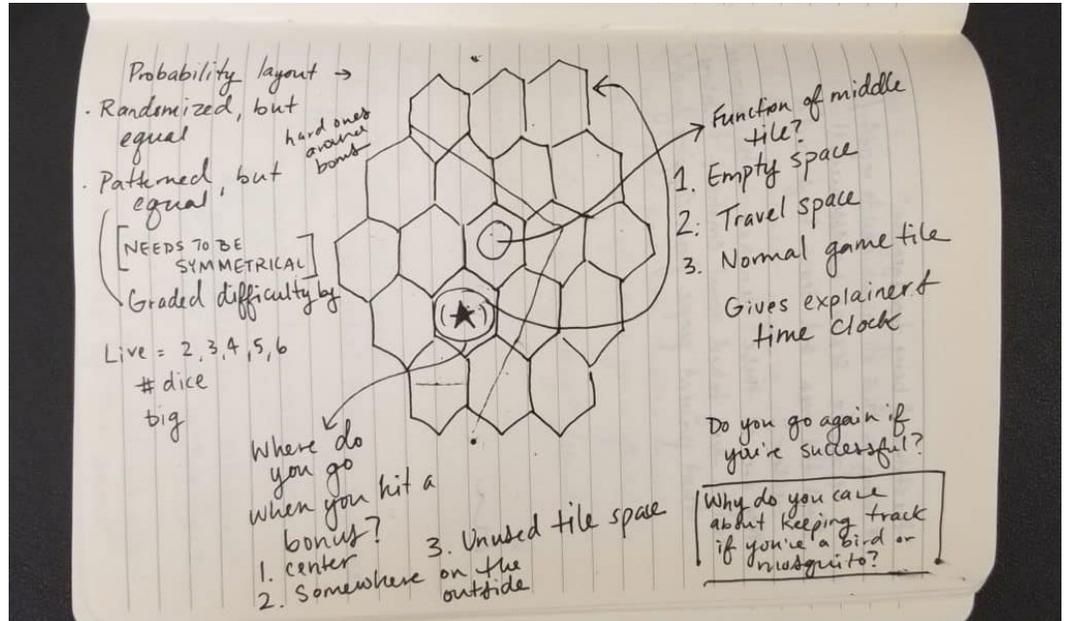
Bringing in the New

One of our main goals when developing the physical game was to change it from a memory game to a strategic game. In the real world, some locations are more or less likely to be beneficial for virus transmission, depending on the host a virus is in. To reflect these varying degrees of risk related to each location, we decided players would have to achieve certain dice rolls to infect locations. The dice mechanism allowed us to assign each location-host combination a probability of success, based on which numbers a player needed to roll to succeed. In the original game, each location you navigated to had a dedicated outcome. Now, your virus may have to roll a 1, 2 or 3 to infect the location if you're in a bird host (50 percent chance of infection), but have to roll a 2, 3, 4, 5 or 6 to infect it if you're in a mosquito host (80 percent chance of infection).

With this new introduction of location difficulties, we had to give players clues to figure out where they would have the best chance of their host surviving and their virus being passed on. This gives players the chance to make educated guesses at the locations they want to take over, while also providing the game with a little narrative as players encounter storms, playgrounds and even a coyote!

Challenges Introduced

One of the first challenges we encountered was trying to make it multiplayer game: If we have multiple players infecting locations in the map, how do we make sure players don't immediately get trapped by other players on the board? To solve this, we implemented bonus tiles, a concept that had appeared in the digital game. When players encounter a bonus tile in the right type of host, they



are able to “jump” across the board and infect a location they were not currently in contact with. This acted as a safeguard for stuck players and added an element of surprise when players flipped the location to discover they were suddenly at an advantage.

A second challenge was the question of which materials would be used for the digital-turned-analog game. During our first test with paper tiles, they slid around and overlapped one another at the lightest touch. We knew it would never stand up to eight-year-olds at NYSCI, so we decided to sandwich the paper in between two pieces of clear plexiglass. With the help of our Exhibits and Graphics departments, we soon had our materials: a large game board the hexagon tiles could fit into and plexiglass hexagons.



Production of the game took nearly two months from inception to completion. On the Friday before it was set to be on the museum floor, a NYSCI miracle took place: staff from all parts of the museum — Exhibit Experience, Design Lab, Maker Space, Research, Explainers — worked together in our last push for production. Game tiles were cut, tokens were laminated, cut and sorted, plexi-



glass and paper were sandwiched, and our first fully assembled playtest took place. It was a flurry of energy, and at long last our game existed in its full form.

How Do You Play?

Players start in the center of the board, called the “Epicenter.” On a given turn, a player can try to infect any location tile that they’re next to. The player flips over the tile, reads what scenario befalls their host bird or mosquito, and rolls the dice to see if they are successful. If yes, they have successfully infected that location and can try infecting a new location. If not, they return to their previous tile, and their turn ends. As the game progresses and players expand their infection, the tiles get harder and players must choose their infection sites wisely. In the end, the player who has infected the most locations at the end of the game wins.

Bug Day

Gone Viral the board game debuted on Bug Day, June 28, 2019, set up between an insect petting zoo and a chef serving bug brownies. With the help of our facilitator Jonathan, kids spent the afternoon battling it out between strains of West Nile Virus – infecting city parks, visiting zoos, and surviving weasel attacks. On occasion, kids returned more than once for a rematch or to teach their friends and family how to play. We heard visitors debating which locations would be safe for their host (“I want to go to the cemetery, but I’m in a mosquito. Who am I going to bite there?”), and kids correcting each other about which host they



were in. The game opened up conversations with visitors about viruses moving between hosts — a challenging and unintuitive concept for many to think about.

All in all, we are happy with the initial visitor response, and excited about the possibility of using this game for other events and programs, or even scaling it down to be a take-home version.

Thank you to the Exhibits Department for creating our board and tiles, to the Graphics Department for printing the inserts for our tiles, to Design Lab staff for the use of their workshop and tools, and to the Exhibit Experience team for providing design advice. Finally, thank you to all the friends and colleagues who contributed to this effort — for playtesting the original paper version, cutting out paper tokens, taping tiles together, and accepting a few delays in project deliverables as we sat on the floor making “the virus game again, but bigger.”