Rebecca Rocillo

Dr. Naomi Hamer

ENG 910

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Exhibit Review Assignment

In this exhibit review, I analyze the Children's Museum Houston's virtual field trip version of its originally in-person exhibit, *Kidtropolis, USA*. I chose this exhibit because it does an impressive job at making the virtual version as interactive as possible; additionally, I found it very fascinating how it subtly teaches child visitors a specific set of American societal norms and behaviours. Finally, I chose this exhibit because my analysis revealed concrete ways in which the virtual experience could re-create the agency afforded to child visitors in person. In this review, I discuss my own experience with *Kidtropolis, USA*, explore how it accomplishes an impressive degree of engagement considering its virtual format, and examine its gaps and challenges.

Exhibit Overview: Kidtropolis, USA

The original in-person version of the *Kidtropolis, USA* exhibit is a fairly large indoor "simulation" of a small town, in which child visitors can play specific parts as law-abiding, economy-contributing citizens. As the official website description tells visitors: "it is up to you to keep this city functioning by becoming city leaders, business managers, shoppers, voters and workers to run it all" (*Children's Museum Houston*). The virtual version is a 3D space (similar to Google Maps). At the bottom of the window, there is a menu bar of slides, each depicting a particular location in Kidtropolis that users can "jump" to.

Overall, my experience with the virtual *Kidtropolis, USA* space was an exciting and enjoyable one. It was easy to navigate the virtual space, as I was able to go into all of the "buildings" and zoom into every detail on the walls. The "Info Dots" feature helps make the virtual space quite fun and interactive in its own right. Each dot colour represents a different function: light green dots offer fun facts and trivia, blue dots explain how the in- exhibit features work, and dark green dots open hands-on activity tutorials. Visitors can engage with the virtual exhibit to the degree with which they are comfortable —they can browse through the space, or take it further and follow one of the recipe videos found in "Niko Niko's Diner," for instance.

Curatorial Strengths: The Promotion of Structured Agency and Mobility

Interestingly, I would argue that the primary target audience of this exhibit is actually adult educators. The way that *Kidtropolis, USA* is structured to deliver an educational experience is very appealing to teachers and parents looking for a new and exciting way to teach their students and children. Nevertheless, the exhibit does a great job of making the experience genuinely attractive to kids (preschoolers to middle schoolers). One way it accomplishes this is by providing child visitors with solid frameworks within which to enact their creativity, imaginative play, and agency as individuals.

In "Gotta Catch 'em All: Structure, Agency and Pedagogy in Children's Media Culture," David Buckinham and Julian Sefton-Green observe that one of the most attractive elements of the game Pokemon is how it gives children a framework within which to practice ownership, responsibility, and initiative. In Pokemon, children must complete tasks and nurture their Pokemon into full form. Similarly, the KidCard system used in *Kidtropolis, USA* gives children a framework within which to learn about earning, saving, and spending. A debit card that holds legitimate value within the borders of Kidtropolis, the KidCard prompts children to "work" in

exchange for items and experiences. This makes Kidtropolis play feel somewhat more "real" to child visitors, who will quickly grasp the rules of the game in order to chase the feeling of achievement when they manage to build their own "credit" within this world.

Curatorial Gaps/Challenges: COVID and the Complications of Virtual Engagement

Unfortunately, *Kidtropolis, USA* suffers from the same pitfalls as many other in-person exhibits forced to go into virtual format due to COVID lockdowns. While the virtual field trip version does its best to re-create the agency afforded by the original exhibit, it does not provide digital equivalents for in-person opportunities for active visitor participation. There is no virtual version of the KidCard system, nor are there any opportunities for social interaction with other children (which is another one of the attractive elements of Pokemon as identified by Buckinham and Sefton-Green). When compared to the in-person exhibit, the virtual version is a solitary experience devoid of the unpredictability and excitement of the "real thing." Moreover, in the virtual field trip, there are no spaces for visitors to actively participate in the making of the exhibit. This is completely detrimental to the purpose of the exhibit: to allow children to experience what it's like to be part of a community. According to the standards of Nina Simon's *The Participatory Museum* (2010), this virtual exhibit does not create an effective participatory experience, in that it does not provide its visitors with any opportunities to contribute in a meaningful, lasting way. As Simon states, "The best participatory projects create new value for the institution, participants, and non-participating audience members. When you are driven by the desire to create new value, you end up with products that are transformative, not frivolous." I believe *Kidtropolis, USA* would greatly benefit as an engaging exhibit if its designers were to implement a way for virtual visitors to leave their mark, whether through feedback boards or online community activities—something to allow children to situate themselves as important

contributors to the town, as they would in person.

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Rebecca Rocillo

500881068

Dr. Naomi Hamer

ENG 910

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Kidtropolis, USA: A Case Study in the Interactive Virtual Community Experience In this research paper, I will be discussing the virtual field trip version of the Children's Museum Houston's originally in-person exhibit, *Kidtropolis, USA*. This online tour does an impressive job at making the transition from in-person to virtual format, as it utilizes a wide variety of features to make visitors' experiences as interactive as possible. However, upon closer examination, it becomes evident that *Kidtropolis* could still be vastly improved in terms of interactivity, as it fails to provide online users with the opportunity to actively participate in the simulated community in the same way that they would in person. I argue that the fact that the virtual version does not provide any ways for guests to contribute to the online space in a meaningful way is completely counterproductive to its goal as an exhibit: to allow children to experience what it means to be a contributing member of a community in which everyone has a role to play, and in which everyone is important and heard. Drawing on the research of other scholars working at the intersection of technology and education, I propose a number of concrete solutions to this problem, extending the virtual *Kidtropolis* field trip exhibit into a more effective and engaging learning experience. Ultimately, my case study of *Kidtropolis* will present a possible framework of solutions for a challenge confronted by many museums during the COVID-19 pandemic: how to make the transition from in-person to virtual exhibits, without losing any of the interactivity of the in-person experience.

KIDTROPOLIS: OVERVIEW OF EXHIBIT (IN-PERSON AND VIRTUAL) The original in-person version of the *Kidtropolis, USA* exhibit is a large indoor "simulation" of a small town, in which young visitors can take up specific roles and responsibilities as law-abiding, economy-contributing citizens. As the official website description tells visitors: "In Kidtropolis, USA you choose where to work, where to shop, and what to do with the money you earn. And it is up to you to keep this city functioning by becoming city leaders, business managers, shoppers, voters and workers to run it all. Kidtropolis features nine businesses and over two dozen job opportunities!" (Children's Museum Houston) These businesses include the "Bank of America," "Hill Delivery Service," "HEB Market," and "Niko Niko's Diner."

Interestingly enough, I would argue that the primary target audience of this exhibit is actually adult educators. The way that *Kidtropolis, USA* is structured to deliver a practical and structured educational experience is very appealing to teachers and parents looking for a new and exciting way to teach their students and children. Nevertheless, the exhibit does a great job of making the experience genuinely attractive to kids (aged preschool to middle school). One way it accomplishes this is by providing child visitors with solid frameworks within which to enact their creativity, imaginative play, and agency as individuals.

For example, a prominent feature of the in-person exhibit is the KidCard system. Upon entry to the museum, every child visitor receives a KidCard, which acts as a debit card that the child can use to withdraw or deposit money in Kidtropolis. Children can "work" at various available jobs within the simulated community, collect their paychecks, and deposit them into their KidCard accounts. They can then use their cards to "purchase" items and experiences, such as studio time at the Art Academy. This system gives children a great deal of agency as individuals, and aims to teach them about financial responsibility and consequences.

The virtual version of *Kidtropolis* is a "3D" navigational space similar to Google Maps. Users

can click on arrows to move around the virtual space with an impressive level of freedom, and can drag their cursor across the window to get a 360 degree view of their surroundings. At the bottom of the window, there is a menu bar of slides, each depicting a particular location in Kidtropolis that users can "jump" to without having to "manually" navigate the entire exhibit.

The "Info Dots" feature is what distinguishes *Kidtropolis* from other virtual exhibit tours, in that it allows users to actually interact with the virtual space to a certain degree, as opposed to just looking at it. Scattered across the virtual landscape are a variety of different-coloured dots that offer different activities when clicked on by the user. Each dot colour represents a different function: light green dots offer fun facts and trivia, blue dots explain how the in-exhibit features work, and dark green dots open hands-on activity tutorials.

The ease with which users can navigate the fairly large virtual space and the Info Dots feature makes the virtual *Kidtropolis* quite fun and interactive in its own right. However, while a relatively successful transition from in-person to online format, the exhibit faces a number of significant challenges that threaten to undermine the entire goal of its original design. The following section of this paper will discuss these challenges in detail.

GAPS AND CHALLENGES: THE TRANSITION FROM IN-PERSON TO VIRTUAL

Unfortunately, the current online version of *Kidtropolis, USA* ultimately suffers from the same pitfalls as many other in-person exhibits forced to go into virtual format due to COVID lockdowns. While the virtual field trip does its best to re-create the agency afforded to young visitors by the in-person exhibit, it does not provide any replacement activities or systems for the wealth of opportunities for active visitor participation offered by the original. There are three main areas in which the virtual *Kidtropolis* could be vastly improved.

1. The lack of learning incentive / a self-motivating system. The challenge of providing young learners with a source of incentive, or a system that prompts self-motivation to engage in learning and literacy, is an ongoing challenge in education. How does one create a learning environment in which children do not feel like they are being coerced or manipulated into memorizing facts and functions? How does one create a system that actually motivates children to *want* to participate, enough to learn along the way without even realizing they're doing it?

As education and technology researchers are increasingly realizing, the answer may be found in the realm of children's video games—specifically, virtual world games. Virtual worlds are immersive simulations of space in which users can enjoy a great deal of freedom in determining the activities of their avatars (online representations of the self) (Marsh, 181). As Pivec (2007) observes, these types of games are designed so that the user becomes self-motivated in their pursuit of an in-game goal, to the extent that they will willingly engage in learning activities: "Intrinsically motivating games incorporate learning activities in their game world. [...] [T]he problems are part of the game and players are motivated to seek knowledge to provide a solution in order to continue with the game. In the described game, enjoyment is strongly related to the learning activity, which can be viewed as a desirable outcome" (389). The problem with the virtual *Kidtropolis, USA* is that it provides zero incentive for young users to explore the online exhibit and engage in the pop-up activities. There is no narrative to follow, no objective to reach—and this may eventually make the exhibit feel directionless, or worse: boring.

2. The lack of opportunities for users to communicate and collaborate with each other. The issue of co-participation is a challenge that is faced by both in-person and online exhibits. For

Heath and vom Lehn (2008), social interaction is not merely a perk of interactive exhibits, but an essential element to facilitating meaningful learning experiences. Unfortunately, however, they observe that "the very idea of 'interactivity' – a term that has primarily emerged with computer-based technologies – is conflated with social interaction, as if they are equivalent or the one naturally gives rise to the other" (86). Their research shows that interactive exhibits do little to encourage the spontaneous co-participation that visitors often seem to lean towards, even though the majority of exhibits are designed to be used by only one visitor at a time. The people who are not primarily interacting with the system are relegated to the role of passive audience.

This very much goes against what research suggests might be the instinctive tendency of most visitors (especially children) to participate in an interactive exhibit together—even when the exhibit is not designed for more than one user. When investigating the spontaneous forms of social interaction that emerged between children at a computer-based exhibit in a science center in Denmark, Laursen (2012) found that, while computer-based exhibits are by default limiting because they are usually designed for one user at a time, young visitors would invent ways of operating the exhibit with multiple users at once. This suggests that the limitations of a computer-based exhibit do not fully dictate the ways in which child users might interact with that exhibit: "While the exhibit evidently has a pre-programmed script for the individual user, the schoolchildren in the study re-shape the exhibit's prescribed interactions" (Laursen, 114).

Unfortunately, the virtual *Kidtropolis* is sorely lacking in the social interaction area, as it provides zero opportunities for users to communicate or collaborate with each other as they would in person. This greatly affects the users' learning experiences, as the "community" element of the original exhibit is completely missing from the online version.

3. Lack of opportunities for users to make meaningful contributions to exhibit. In the virtual *Kidtropolis* field trip, there are no spaces for visitors to actively participate in the making of the exhibit. This is completely detrimental to the purpose of the exhibit: to allow children to experience what it's like to be part of a community. Thus, the online exhibit fails to create an effective participatory experience, in that it does not provide its visitors with any opportunities to contribute in a meaningful way. As Simon (2010) states, "The best participatory projects create new value for the institution, participants, and non-participating audience members. When you are driven by the desire to create new value, you end up with products that are transformative, not frivolous. [...] Participatory projects suffer when visitors perceive that the staff is pandering to them or wasting their time with trivialities. Participatory activities should never be a 'dumping ground' for interactivity or visitor dialogue." *Kidtropolis* would greatly benefit as an engaging exhibit if its designers were to implement a way for virtual visitors to leave their mark and situate themselves as important contributors to the town, as they would in person.

In the following section of this paper, I will propose a number of concrete extensions that the designers could use to address the gaps and challenges outlined above.

PROPOSED EXTENSIONS

Create a Game-Based Experience. When creating opportunities for participation at a museum, designers cannot simply leave the offer open-ended—especially when asking people to create content, as they're already unlikely to do so. As Simon (2010) observes, "The best participatory experiences are not wide open. They are scaffolded to help people feel comfortable engaging in the activity. [...] A supportive starting point can help people participate confidently—whether as creators, critics, collectors, joiners, or spectators."

Similarly, Buckinham and Sefton-Green (2003) argue that the concepts of *structure* and *agency* do not necessarily have to be opposed: "Drawing on theories of pedagogy, we suggest, might offer a more productive, and less abstract, way of understanding what is taking place in these interactions between producers, texts and audiences" (380). One way that the designers of *Kidtropolis* could create a structured, scaffolded framework for child user agency and engagement is by adopting an online game model for the exhibit—specifically, a virtual world game model.

According to Marsh's 2012 study of children's learning and literacy in the virtual world game *Club Penguin*, "the purposes for literacy in virtual worlds such as these are varied and have much in common with purposes for literacy in the offline world," which suggests that the virtual world game model "[provides] a motivating and enjoyable context for reading and writing and enabled the construction and maintenance of online social networks" (179). Contrary to the initial assumption that online gaming would be detrimental to children's development, virtual worlds provide a safe space for child users to exercise their own agency in a way that actually serves to further develop their literacy and communication skills.

Due to its design as a community simulation, *Kidtropolis* already functions like a virtual world in many ways. Similarly to *Club Penguin*, the original in-person *Kidtropolis* exhibit allows children to roam their environment, earn coins by "working" (i.e. playing games), and spend their coins at a variety of vendors. I suggest that by transferring the interactive elements of the original in-person exhibit to the virtual version, *Kidtropolis* could stimulate the same levels of interest and engagement as popular games like *Club Penguin*.

The first step to re-creating the interactivity of the original *Kidtropolis* exhibit would be to provide the digital equivalent of the wide variety of games and activities available for children to choose from and play in person. The exhibit designers could add a new Info Dot,

which would open pop-up windows with fun digital games related to the parts of the simulated city within which they are located. Some ideas for these games might include:

- A dish assembly game located in Niko Niko's Diner, in which players must take increasingly complex orders from virtual customers, assembling restaurant dishes according to instructions, and dealing with basic money math.
- A package sorting game located in Hill Delivery Service, in which players must read the labels of incoming packages, and sort them into the correct packages accordingly. Players could even then be asked to deliver the packages around the neighbourhood.
- A digital art space located in the Art Academy, in which players could choose whether to draw "free hand" or by colouring in a pre-set outline.

In keeping with the types of games offered by virtual world platforms like *Club Penguin*, these proposed games are designed with real-world skills in mind: basic math knowledge, ability to comprehend and follow instructions, organizational and time management skills, and of course, creativity and imagination. With the addition of games that online users can actually play, the interactivity of the virtual exhibit can be greatly strengthened.

But how can *Kidtropolis* motivate users to keep coming back and playing these games, completing these learning activities and exercises? As Pivec (2007) states, games should be "intrinsically motivating" (389). I suggest that the designers incorporate the in-person KidCard System into the virtual exhibit, further likening it to the structure of virtual world games like *Club Penguin* or, as referenced by Buckinham and Sefton-Green (2003), *Pokemon*. Buckinham and Sefton-Green observe that one of the most attractive elements of the game *Pokemon* is how it gives children a framework within which to practice ownership, responsibility, and initiative. In *Pokemon*, children must complete tasks to nurture their Pokemon into full form. Similarly, the KidCard system used in *Kidtropolis* gives children a framework within which to learn about earning, saving, and spending. A debit card that holds legitimate value within the borders of Kidtropolis, the KidCard prompts children to "work" in exchange for items and experiences. This makes Kidtropolis play feel somewhat more "real" to

child visitors, who will quickly grasp the rules of the game in order to chase the feeling of achievement when they manage to build their own "credit" within this world.

The KidCard System is an excellent structure within which to allow children to experience financial agency. It would be greatly beneficial if children navigating *Kidtropolis* online could collect virtual "dollars" by playing the games or completing activities scattered around the online space, then spend those virtual dollars on virtual items. Of course, this is all very ambitious and might require some sophisticated programming—but it would be worth it. Not only would a virtual KidCard motivate the child to fully explore all aspects of the virtual field trip in order to discover all the ways they can add to their savings, it would also (to a degree) replicate the agency that the child would have in the physical space.

Create Opportunities for Social Interaction, Collaboration, and Community Building.

Besides generating self-motivated activity from its young visitors, the virtual *Kidtropolis* would also benefit from the creation of communication channels, which would allow virtual community members to interact with one another (to a certain degree). Moreover, the way *Kidtropolis* is currently designed, there is no way for visitors to indicate they were here or what they thought about their experience. Of course, there is the option for educators to contact the Children's Museum Houston, but that does not give the ordinary child participant an opportunity to participate in the project at all. As of now, it does not matter whether you as a visitor were there or not, as you ultimately leave no trace of your presence in the virtual space behind. To counter this lack of opportunity for user communication and contribution, I propose the creation of various "Community Boards" located in different sections of the virtual exhibit, in which users can post pictures of their online and offline activities, and accomplishments, and even react to existing posts by other

community members. For example, a Community Board in the Art Academy might feature screenshots from people's digital art, or uploaded pictures of a child's completed craft following one of the video tutorials. Another example might be a Community Board in Niko Niko's Diner, featuring screenshots of people's digital meals or uploaded pictures of a child's completed dish following one of the video tutorials. Of course, safety measures would have to be implemented to prevent child users from being exposed to any inappropriate content. Uploaded images might take 24-48 hours to be made visible to the digital public, only after being screened and approved by Museum staff. Reactions to other people's posts might be restricted to a limited selection of emojis and pre-set text options (such as "This is super cool!") that users could choose from. (This system of pre-set reaction options could also be applied to other elements of the exhibit, giving users a way to rate activities, games, videos, and locations and see what previous visitors thought.) Of course, reaction options would all be positive, not only to make all participants feel good about their contributions, but to encourage participants who might initially be shy about joining in. Not only would these Community Boards facilitate safe and controlled pathways for community building between users, they would provide a way for virtual visitors to actually leave their mark on the exhibit in a meaningful way. Simon (2010) argues that "[supporting] participation means trusting visitors' abilities as creators, remixers, and redistributors of content.

[...] Participatory projects make relationships among staff members, visitors, community participants, and stakeholders more fluid and equitable." Far from being "frivolous" or "placating," these opportunities for co-participation contain real value, not only for participants and visitor witnesses, but for the institution itself.

CONCLUSION

Now more than ever, it is essential for researchers to probe the developing relationship between interactive digital technology and children's education. With the remote learning necessitated by the ongoing COVID-19 pandemic, the Canadian education system has become more closely intertwined with technology than ever before. Rather than resisting this, however, more institutions—from museums to schools—should lean into recent developments with the same level of adaptability that children have demonstrated in their growing digital literacy. If children are increasingly speaking the languages of virtual worlds, perhaps it is time to take education into their territory, rather than trying to drag them out of it and back into the rigid, traditional modes of learning that previous generations are accustomed to.

However, we cannot put the onus entirely on technology to better our education system. As Merchant argues, our current model of learning limits capacity for innovation; the real challenge here is "how we can re-imagine meaningful interactions in which pupils and teachers have the wider access to the ideational and relational resources that new technology can enable" (148). Much more research is needed on how schools can create a balance between virtual world learning and real-world teacher-student interaction. But existing scholarship looks encouraging, and with more and more institutions like the Children's Museum Houston moving to virtual learning formats, the digital education revolution may be even closer than we realize.

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