

## A DESCRIPTIVE SCHEMA FOR ESCAPE GAMES

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A team of players erupt from the opened door of a live action escape room, setting a new record for display on the lobby television. At home, a different player watches the credits of an online room escape game scroll past, the light of the computer screen illuminating their scrawled puzzle notes. Cheers and high-fives are exchanged around a dining room table cluttered with cards as a different group stops the timer on a tabletop escape game. Elsewhere, two people pull off their virtual reality headsets and smile at each other, their work in the digital room finished. These escape games exist across digital and analog boundaries and feature widely different modes of interaction. But how are these games related to one another? This essay presents a visual schema for understanding the escape game as a unified genre spanning multiple media. It also introduces the term *genre adaptation* to describe the genre's expansion, a form of adaptation drawing not from individual works but from a set of genre conventions.

Currently, there are four broad categories of escape games. The first version chronologically is the *point and click escape game*, a primarily browser-based subgenre of digital adventure games. In these games, players use a mouse pointer to navigate a digital

space, gathering and interacting with objects with the goal of escape. The largest commercial category is the *live action escape game*. Commonly called “escape rooms,” these games share the objective of escape but substitute the digital space of the point and click games with a physical environment. Inspired by the popularity of escape rooms, the other two subgenres coincide with rising interest in virtual reality and board games, respectively. *Virtual reality (VR) escape games* come in two flavors: VR games for home PC and console platforms coexist with ones designed for dedicated commercial spaces. Escape games also appear as boxed products that can be played at home called *tabletop escape games*. Examples in this final category illustrate the variances in how escape games present their objects and spaces and also how conventions of the genre are adapted between subgenres.

Each escape game, regardless of subgenre, is a sequence of challenges bound to a specific space. Scott Nicholson (2016a) distinguishes between three types of challenges in escape rooms that apply across the entire genre. “Puzzles” require players to discover an answer, like the numbers in a padlock combination, based on clues. In “searching” challenges, players must find objects physically hidden in the game space. Players may also encounter “tasks” they must complete. Examples might be crossing a part of the room without stepping on the floor or following instructions to use a tool that slips under a door and opens it from the other side. Unlike puzzles, tasks focus on performance rather than mystery. A single challenge may use a combination of puzzles, searching, and tasks. These challenges can then be sequenced in various ways, such as one linear string of challenges or several concurrent paths culminating in a final challenge (Nicholson, 2016b).

The objects in the game space are central to these challenges and the linkages between them. These objects simultaneously play the roles of clues and tools. Players must use them to determine

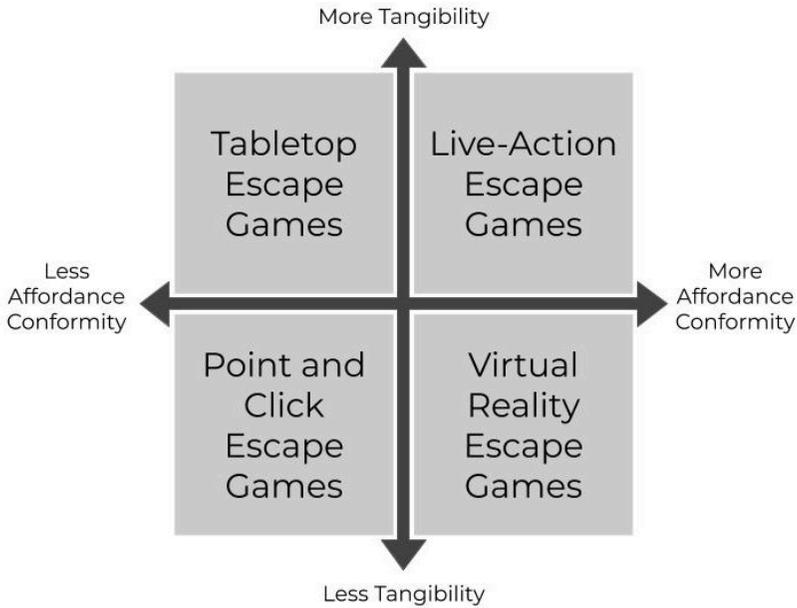
which objects should be manipulated and in what way and then perform the determined course of action. The same object may both hide clues required to solve a puzzle and have a use necessary to complete a task. In the process of designing an escape game, creators curate a set of objects and place them in the game space to create the desired structure. This partially explains the prevalence of locks and keys in these games; locked containers seal away clues for later puzzles and tools for later tasks, creating the overarching structure of the game. Nicholson (2016a) argues that the chosen objects also have an important role to play in immersion. Items and puzzles that do not match the setting, like a flashlight hidden in an ancient pyramid, seem out of place. There is a danger in including objects that only enhance the theming, though. A statue in the same pyramid-themed room may be a red herring that distracts players if it is not important to the room's challenges.

The resulting multitude of objects and devices contained in the room make the escape game a multimedia experience. Clues may be hidden in books or on paintings, and players might need to interact with electronic locks and other machinery. Each form of the escape game mediates its objects in a different way, and this can be used as a means of comparison between subgenres. The objects in a live action escape room are physical and can be directly manipulated. Players can touch the objects and interact with them using their senses just as they could if the object were outside of the designated space of the game. This subgenre forms a baseline for comparison.

Looking at the way other forms of escape games mediate their objects reveals two main axes on which they differ. In some games, the objects appear in physical form. This includes the objects in live action rooms, but also the components of the tabletop escape games: while the objects may not be in their standard form, the cards or other pieces that represent them are tangible. The digital representations of objects displayed on

computer screens and virtual reality headsets are, by comparison, intangible. The player does not directly inhabit the fictional space of the digital representations and can only interact with them through the game's interface. We can call this dimension *tangibility*.

The second dimension describes how the object might be used. The unmediated objects in the live action escape room have affordances as a result of their shape and material composition. A rubber ball can be rolled down a tube or bounced off a surface. These affordances may or may not be retained in the new mediated form of the object. An illustration of a rubber ball on a playing card will not have these specific affordances, while a 3D sphere responding to physics in a virtual reality environment might. A player in a live action escape room could use a screwdriver to release the screws holding a vent cover, but a point and click game's screwdriver can only perform that action if the game's programming specifically allows that interaction. In this way, designers of other types of escape games might pick and choose the affordances necessary to solve their puzzles. The fact that the tip of the screwdriver might be used to etch words into wood is an affordance that might not be matched by its digital representation, but that affordance might not be desired in either game at all. We can call the degree of similarity between the affordances of the mediated objects and their unmediated forms *affordance conformity*. Using these two concepts of tangibility and affordance conformity, we can begin to lay out how different types of escape games relate to one another.



*Image 1: Descriptive schema of how objects are mediated in different escape room types.*

Each of this schema's four quadrants contains a large number of individual games, and not all of them lie at the same points along the axes. This is not intended to bound the limits of what escape games might be like, or even include all examples within each form. The goal is to describe each category in a general sense and make observations about the relationships between these categories. The live action escape room serves as a baseline for this analysis. In general, these games are composed of physical objects which by nature have high affordance conformity with themselves. In addition to the ways in which objects are mediated, subgenres of escape games also exhibit differences in how the game space is presented. The confined space of the escape game bounds the game to a specific fictional location. In the live action escape room, play occurs in a physical manifestation of the fictional space, but this is not always the case. The way that players see the space and navigate it depends on the subgenre.

## POINT AND CLICK ESCAPE GAMES

In contrast to the live action games, the world of a point and click escape game is digital, along with all of the objects in it. In terms of the schema, they are intangible. Players experience this world through computer monitors or touch screens and interact with the objects indirectly. These digital objects have low affordance conformity with their physical counterparts because their affordances must be explicitly included.

The interfaces of these games revolve around context sensitivity. The click of a cursor or a tap of the screen are the only inputs accepted by the game and all of the actions required of the player are mapped to that input. In one of the earliest games in the genre, Toshimitsu Takagi's (2004) *Crimson Room*, opening drawers, pressing buttons on a stereo, and turning dials on a locked safe are all mapped to this one input. As Clara Fernández-Vara (2008) notes in her history of adventure game interfaces, text adventure games with parsers and some point and click games are designed around the usage of specific verbs. If *Crimson Room* used one of these interfaces, players would type or select the verb "open" in order to open the cabinet's drawers. Context sensitivity demands that objects rely on a logic of skeuomorphism. The similarities to real world objects are meant to inform players on how to interact with the digital representation. As the objects only have the affordances granted to them by the programming, this logic can sometimes lead to confusion. If a player expects to adjust the tuning knobs or volume dial on *Crimson Room*'s stereo, they may be disappointed by their lack of response when clicked. Since the stereo is only used to hide a key inside its disc drive, the lack of interactivity in this case actually assists in guiding players to the affordances important for the game's puzzles.

Certain objects in these games can be added to the player's inventory and then used to interact with the environment. When

picked up, these objects move to an “inventory” section of the interface, representing that the player has that object in their possession. These objects are tools used to carry out tasks in the game world. *Crimson Room*, for instance, includes an electrical cord and a cassette that must both be “used on” the stereo before it can be turned on. Selecting the item in the inventory changes the mode of interaction. Now the player is holding that item and attempting to use it in conjunction with other parts of the game world. The uses of these tools are strictly dictated by the game’s programming. You can click a key and then click a door to attempt to unlock the door but using the key to crack the window will not work if that interaction has not been explicitly included.

Compared to live action escape rooms, the relationship between player and space is more distant. Point and click escape games use graphical perspective to simulate what the player might see if they were physically in the game space. The game *Cube Escape: Paradox*, a recent game in the *Rusty Lake* (2018) escape game series, scales its two-dimensional images of objects to create distance between the player’s viewpoint and the location of the object. While *Crimson Room*’s game space is three-dimensional, the same logic applies. Players move through these spaces by clicking certain areas of the screen. In *Cube Escape: Paradox*, clicking on arrows on the edges of the interface allow players to look at different areas in the room. The player’s freedom to navigate the room is restricted to possibilities determined by the creators. This can lead to frustration, as it is not always clear where players are expected to look. *Crimson Room* requires players to click near the edge of a mattress to look in the space between it and the wall. Without an indication to click there, players must discover this area through trial and error.



*Image 2. Still from Cube Escape: Paradox showing graphical perspective, arrows for switching views, and inventory slots. Screenshot by author.*

## VIRTUAL REALITY ESCAPE GAMES

Like their point and click counterparts, virtual reality escape games take place in a digital environment filled with representations of objects. The way these objects are mediated is similarly intangible. However, the affordance conformity of these representations is higher than that of the point and click games. Virtual reality's emphasis on immersion and simulation calls for objects that behave in ways that feel realistic. VR escape games for in-home use like *VR: Vacate the Room* (hOSHI, 2016) use 3D representations supported by physics engines. Rather than adding objects to an abstracted "inventory," players can carry objects around these games using motion controllers. *VR: Vacate the Room* requires players to hold virtual paper underneath red light to illuminate a secret code, unlock safes by reaching out and pressing the keypad buttons, and unlock doors by inserting and turning keys. These affordances are important to the puzzles and would be included in a point and click version of the same game, but in a more abstracted way. The other affordances

enabled by the ability to carry objects, examine them in three dimensions, and use them in physics-based interactions are not always necessary to solve puzzles. They are sometimes even detrimental. The designers of the VR game *I Expect You to Die* (Schell Games, 2017) did not specifically include the ability to throw a screwdriver out the car window, making the puzzles impossible to complete, but the way the screwdriver is mediated affords this action.

VR games take the immersive first-person view of the point and click games a step further. Using headsets, a player's view of the physical world is replaced with that of the game's digital space. The headset's head-tracking technology allows players to look around the space by turning their head just as they would in a live action escape game. The ways in which players navigate this space depends on the specific game. *I Expect You to Die*, for home VR platforms, does not allow players to move around the game space. Instead, this game allows players to pick up objects from a distance using telekinesis. Other games use room-scale VR that tracks players' positions, including some developed for the HTC Vive platform. This enables players of games like *Belko VR* (Top Right Corner, 2017) to move around the physical space in which they are playing the game as if it were the digital environment of the game. This mapping of physical space to digital space is pushed further in some escape room businesses that feature dedicated virtual reality games. The game *Eclipse* by French companies BackLight and Virtual Adventure (2017) covers 323 square feet in physical space that maps to rooms in a virtual spacecraft.

## TABLETOP ESCAPE GAMES

The tabletop escape games face an additional challenge in representing their objects. As board games, they feature primarily physical components. It is logistically difficult and likely expensive to include many life-size diegetic objects in the

box. Many of these games mediate the game world's objects using other physical objects that are more portable. Two of the largest series in terms of entries, *Unlock!* and *EXIT*, primarily use playing cards to mediate other objects. The objects are mediated in a tangible way, but with this level of abstraction comes a decrease in affordance conformity. Using cards to stand in for other objects requires creators to consider how the affordances of the card match up with those of the mediated object.

Attaining affordance conformity requires careful selection of target objects and forms of mediation. The *EXIT* series primarily features journal entries, maps, and other paper objects because the affordances of paper map well to those of playing cards. Players can overlay, fold, and cut up playing cards just as they could with the actual documents that are being represented. One entry in the series, *The Forgotten Island* (Brand & Brand, 2017b), takes advantage of these affordances by requiring users to cut pieces of a “map” in half and overlay them in a certain way to reveal the answer to a puzzle.

Other times, the *EXIT* series seems unconcerned with affordance conformity entirely. Rather than emulating the affordances of the objects they mean to represent, the designers lean heavily into the additional affordances granted by paper mediation. One game in the series, *Dead Man on the Orient Express* (Brand & Brand, 2017a), includes paper versions of the top of a wooden table and a large diamond. Players are meant to insert the diamond into holes in the table so that the tip of the diamond points to the numbers needed for a puzzle solution. For this puzzle to work, the diamond needs to be a very specific shape that matches the holes in the table, and it would be impractical to perform this action with a life-size table and a real diamond.

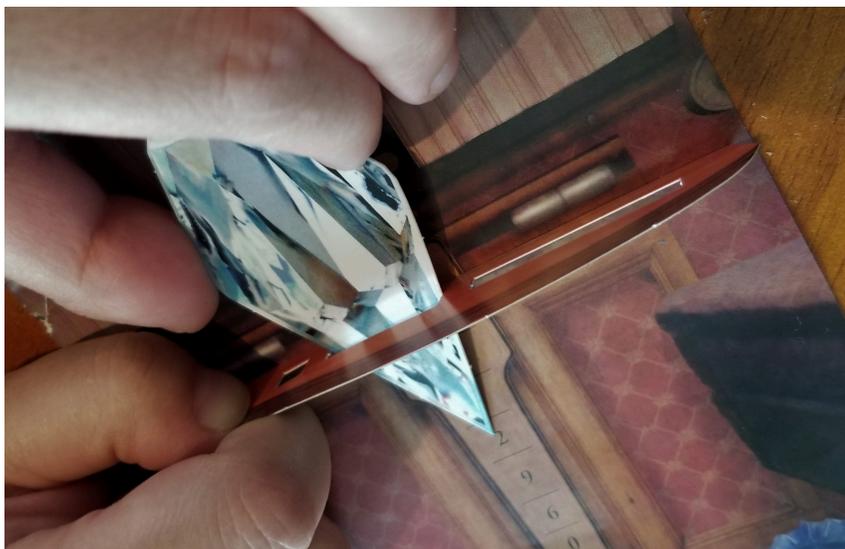


Image 3. Puzzle from *EXIT: Dead Man on the Orient Express*. Photograph by author.

When the affordances of the cards do not match the objects they represent, the *Unlock!* series includes a mechanic for interacting with objects. Cards of the red and blue suits in these games can be combined with one another. To do so, players add the card numbers together and look for a card with that value. In one of the most recent entries, *Lost in the TimeWarp!* (Demaegd, 2019), players have to dig a hole. A shovel, card 14, can be combined with a lawn, card 54. To try this, players see if there is a card 68 in the deck ( $14 + 54 = 68$ ). They can then flip that card to reveal the result of the interaction: a lawn with a hole in it.

Paper representations of in-game objects also afford new possibilities that would be more difficult to achieve in their original form. The components fit in a box easily and can be played almost anywhere, rather than having to go to a dedicated location as is the case with live action rooms. As Nathan Altice (2014) identifies, playing cards themselves have affordances due to their characteristics. Cards are planar. Without bending the card, players cannot look at both sides at the same time. Cards

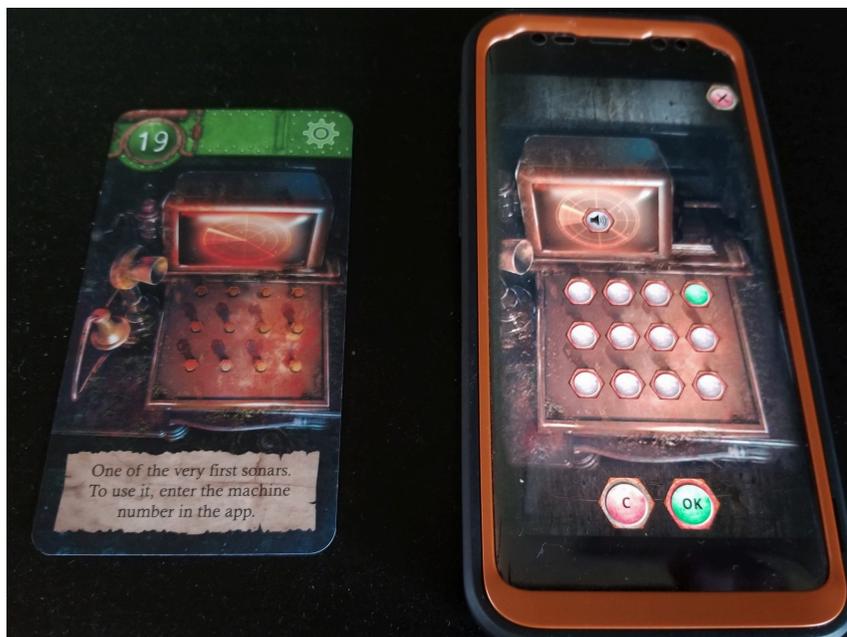
are also uniform in size, shape, and backing. This combination allows them to be randomized when they are facedown. In *Unlock!*, players often have to find a certain card in the deck, and it breaks the convention of uniformity to do so. While the cards have generally uniform art on the back, each card is marked with its card number and can therefore be identified without looking at the front. Riffling through the pre-shuffled deck of cards to find a specific one is one way that the games emulate the “searching” challenges of escape games. By hiding the game’s objects on the opposite side of cards, *Unlock!* can determine when players get the objects and clues without having to physically lock away content.

Like the point and click games, there is a distance between player and game space in these games. Altice notes that cards and their arrangements can describe metaphorical spaces. *Unlock!* and *EXIT* typically use a singular card or sheet of paper to represent each area in the game space. There are cards in *Unlock! The Nautilus’ Traps* (Ladagnous, 2017) that represent the living room, library, and engine room of a submarine. Each card has art depicting a first-person view of the room reminiscent of the point and click games, populated by numbers that indicate players can draw the card of that number. The Engine Room, for example, instructs players to find and reveal card 19, which represents a sonar machine found in that room. As players reveal new spaces, their current locations are not tracked. This is unique to the tabletop games. Even if players have progressed past the Engine Room, they can still interact with the sonar machine as if they were there. Players are presumed to be simultaneously in all locations and can always access the objects in any of the rooms. Navigation of live action escape games and virtual reality escape games are based on physical movement, limiting players to objects in their vicinity. The omnipresence of the tabletop player is an extreme version of the inventory systems in point and click games. Point and click players can

carry a subset of items with them to access anywhere, while tabletop players can access any revealed object.

#### VARIATIONS WITHIN QUADRANTS

Like many models, the schema's clean appearance belies the true complexity of the subject matter. The monolithic quadrants imply a homogeneity amongst the games in each category that is not universal. The tabletop escape game category includes notable variances. The *Unlock!* series, for instance, integrates digital objects. The series requires a digital mobile application that is used in conjunction with the box's components. While many of the objects in the game world are represented as cards, the games use the app to represent more complex objects. The app features a "machine" menu where players can enter the value of certain cards in order to interact with these objects.



*Image 4. A physical machine card from *Unlock! The Nautilus' Traps* compared with its digital representation. Photograph by author.*

Digital representation grants new affordances. One “machine” in *Unlock! Expedition: Challenger* (Malone, 2019) is a hollow dinosaur skull. After the players enter its card number into the app, the screen displays an image of the skull. The affordance of this skull that is useful for the games’ puzzles is its ability to be blown like a horn to make a loud noise. Players can activate the horn by blowing (or yelling) into the phone’s microphone. While the way the skull is represented is not tangible, the affordances of the mobile device map to the affordances of the in-game skull. As digital representations these objects lose some degree of tangibility, but the digital mediation allows for tighter affordance conformity.

Another series of tabletop escape games instead leans more heavily into the usage of physical objects. Both entries in the *Escape Room in a Box* series tout their usage of actual locks and keys. The first game, *The Werewolf Experiment* (Patel & Rubin, 2016), includes a small blacklight flashlight used to reveal hidden messages as well as a capsule that expands into a toy when immersed in water. This series achieves higher affordance conformity not by digitizing objects, but by choosing not to add an additional layer of mediation.

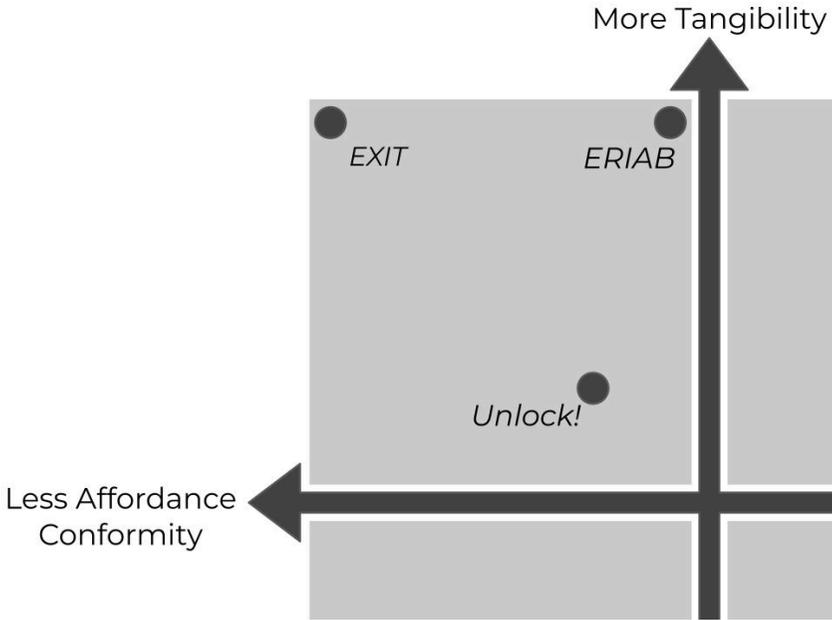


Image 1.5. Close-up of tabletop escape games quadrant showing relative positions of *EXIT*, *Unlock!* and *Escape Room in a Box (ERIAB)*.

While not depicted in the schema, there are also variations in how these games depict space. *Unlock! Expedition: Challenger* introduces a layer of navigation that is absent in the other games. In this game, the arrangement of multiple location cards forms a metaphorical space that players are moving through. As players discover locations, they are instructed to lay the cards in a grid to form a map. This map is replicated on the screen of the app, and players can move between locations by tapping adjacent regions of the map. Players of the other games in the series are omnipresent and no time is spent moving between areas. This game challenges that convention by tracking player movement and including objects like a large boulder that can only be interacted with if players are in its location. Similar variations in approaches to the mediation of objects and depiction of space

appear in the other subgenres as well, but the tabletop escape game provides clear case studies for illustrating this variance.

## EDUCATIONAL ESCAPE GAMES AND OBJECT DUPLICATION

Escape games have also found a home in the classroom, in both digital and non-digital forms. Nicholson (2018) partially attributes the appeal of educational escape games to their cooperative nature. In live action educational escape games, students work together in a shared environment. Breakout EDU (2020) advertises that their games are designed to teach collaborative problem-solving skills by requiring students to work together to overcome mental challenges. Nicholson also identifies that escape games can be given narrative themes that are tied to class content. For example, Breakout EDU's *A Constitutional Kidnapping* (Martindell, 2019) and *A Force to be Reckoned With* (Shiele, 2016) are themed around American history and Newtonian physics, respectively. By having students work through a story relevant to their coursework, these escape games are designed to teach both social skills and class content. Educational escape games are not limited to any one quadrant of the schema but the approaches they take in mediating their objects have a direct impact on their usability in educational settings. Breakout EDU, a company that provides escape game experiences for classroom, offers several games that lie across the schema. The differences in these games highlight an additional affordance to be considered: the duplication of game objects.

Unlike most live action escape games, Breakout EDU's live action games do not require students and educators to travel to a dedicated location. Similar to tabletop escape games, Breakout EDU games transform and recontextualize the classroom as a fictional space by introducing the game's objects. As Nicholson (2018) notes, the affordances of the physical objects in these games create some logistical challenges. Without enough clues

or tools to share amongst the class, some students may be disengaged. With a single Breakout EDU kit, a class of more than twenty students would have to share a single set of locks and keys. Purchasing multiple kits for the class is an expensive option, with each costing around one-hundred U.S. dollars. For this reason, live action games on the Breakout EDU website are rated with an ideal group size, for either small groups or large classes. This approach limits the games available in each classroom setting.

Some objects in Breakout EDU games do afford duplication, allowing them to be used for larger class sizes. Each physical Breakout EDU game offered has a cloud-based folder with the files for the game's printable components. *A Constitutional Kidnapping* features letters supposedly written by American's founders while *A Force to be Reckoned With* has photographs of objects in motion. These digital files can be printed into several physical copies and distributed to students. Like the *Unlock!* and *EXIT* series, though, the affordances of these objects are limited to those of paper. Breakout EDU's digital offerings have different limitations. These games can be run independently on multiple machines, potentially allowing each student to have their own set of the game's objects and their own instance of the game's "room". As these games are browser-based, they can even be played by students independently outside of the classroom. However, these games are still subject to physical limitations of the number of computing and input devices. There is room for collaboration when multiple students are playing on a single machine, but ultimately only one student can interact with the digital space at a time. The scalability of escape games to groups of various sizes depends on the duplication of objects, an affordance not universal in these approaches to object mediation.

## THE RELATIONSHIP BETWEEN CATEGORIES

The schema compares the categories in aggregate form but does

not describe the nature of relationships between the categories. Uncovering these relationships is a murky task, but the concept of adaptation applies to an extent. Linda Hutcheon's (2013) book *A Theory of Adaptation* presents a framework for understanding transmedia adaptations in a broad sense. She notes that the word "adaptation" is used in both verb and noun forms, naming both a process and the product that is produced through it (p. XVI). Hutcheon discusses how stories move between three modes of engagement: showing (films, theater), telling (novels), and interacting (games) (p. XVI). This broad approach allows her framework to include adaptations from one mode to another, as is the case in book to film adaptations, as well as adaptations within a singular mode of engagement, like a film version of a theatre performance. In these terms, the movement from point and click games to live action escape rooms and the subsequent tabletop and virtual reality versions are movements within the interactive mode of engagement.

The live action escape room as a format was produced as an adaptation of the point and click escape game. Early live action escape room designers from Japan (Kato 2018), Hungary (Hooker, 2014), and the United States (Garrett-Singh & Lansing, 2013) have stated that they were inspired by the digital adventure game genre. Takao Kato (2018), founder of Japanese company SCRAP Co., names *Crimson Room* specifically as a reference in an archived version of the company's About page. SCRAP Co. (2020) introduced *Real Escape Game* to Kyoto in 2007, widely considered the first live action escape room. The name "Real Escape Game" itself positions these games in comparison to the digital escape game. Similar comparisons are seen in the tabletop and virtual reality spaces. The back of each *Unlock!* box claims that its players can "experience the thrill of escape rooms without leaving the table", and the name "Escape Room in a Box" explicitly acknowledges its connection to the live action games. Websites for commercial VR escape game locations suggest that

this category is rooted in the live action format. The page for Bane Escape's (2018) *The Offering* claims that it "combines a live action escape room game with an interactive virtual reality experience".

But escape games do not align perfectly to Hutcheon's model. First, Hutcheon (2013) focuses on story as the content that is being transferred across media (p. 10). While escape games feature stories to varying degrees, it is not a singular story that is being adapted from one medium to another. Second, traditional conceptions of adaptation focus on one specific work's movement across media. It is not one specific escape game being adapted into different forms. This is ultimately the problem with using the term "adaptation" to describe the relationship between these categories. The adapted work is plural. While Hutcheon suggests that adaptations can be based on multiple sources, like how the film *Moulin Rouge* borrows songs from multiple artists and genres (p. XV), that description is not quite right here either. A tabletop escape game is not made by mashing together specific components of existing live action escape games.

Game-specific frameworks for transmedia movements are similarly insufficient for this purpose. Grabarczyk and Aarseth (2019) present an ontological framework for understanding different versions of a single game. While their framework is primarily useful for describing ports and remakes of digital games across computational platforms, it interestingly also includes tabletop versions of video games. They use the term "resemblant" to describe the relationship of the mechanics and presentation of a video game and its board game adaptation. They argue that the actions players can take in these games and the aesthetics of these games are similar, but not identical. This is not specific enough to describe how escape games have moved across platforms, and again focuses on specific works rather than the larger genre.

As escape games develop into new areas, they borrow conventions from existing works. This adaptation is happening on the level of genre, rather than individual games. *Unlock!* borrows conventions from both point and click games and live action escape rooms. The *Unlock!* app tracks the time it takes for players to finish the challenges, giving them a lower score if they take over an hour. Time limits are a convention from live action escape games meant to keep paying customers moving through the game at a predictable rate. Time limits are largely absent from point and click escape games. Similarly, *Unlock!* games are designed for collaboration with multiple players. Live action escape rooms are touted as cooperative exercises to the extent that SCRAP Co. (2016) in San Francisco boasts that corporations like Google, Twitter, and Apple have used their games as team-building exercises. Point and click escape games, taking place on a single screen, are generally designed for a single-player experience. At the same time, *Unlock!*'s focus on combining items and using them with one another seems particularly inspired by the inventory systems present in point and click games.

This paper suggests the term *genre adaptation* to describe the relationship between these games. There is a causal link between the different subgenres of the escape game, but these links do not happen on the level of the individual work. Similar motions can be seen in board game designs. The games *BattleCon* (Talton, 2010), *Yomi* (Sirlin, 2011), and *Combo Fighter* (Johansen, 2019) are analog board games that seek to adapt the genre of digital fighting games, while *Cloudspire* (Carlson et al., 2019) draws on multiplayer online battle arena (MOBA) games. Expanding the concept of adaptation to include the genre-level will clarify analyses of similar games.

## CONCLUSIONS

The escape game, starting from the point and click room escape game, has been adapted into radically different spaces. This

paper argues for a unified understanding of the escape game genre existing across media through a process of genre adaptation. To compare between subgenres, it is useful to reframe versions of escape games as different ways to mediate objects. Escape games are a linked series of challenges in a specific space, and those challenges are formed by objects. These games differ in whether their mediated objects are tangible or not and in the degree to which they maintain the affordances of the target object. Individual games within each subgenre also vary in their approaches. Considering games in this way may also open up additional design spaces. How might digital representations better achieve affordance conformity? What other ways of mediating objects might exist? The escape game continues to morph and develop, and this screenshot of its current state may inspire future subgenres.

## REFERENCES

Altice, N. (2014). The Playing Card Platform. *Analog Game Studies*, 1(IV). Retrieved from <http://analoggamestudies.org/2014/11/the-playing-card-platform/>

BackLight, & Virtual Adventure. (2017). Eclipse: VR Multiplayer and Collaborative Adventure. Retrieved February 28, 2020, from [http://eclipsegamevr.com/en\\_us/eclipse/](http://eclipsegamevr.com/en_us/eclipse/)

Bane Escape. (2018). Virtual Reality Escape Room. [Virtual reality escape game] Retrieved February 28, 2020, from <https://baneescape.com/virtual-reality-escape-room/>

Brand, I, & Brand, M. (2017a) Exit: The Game – Dead Man on the Orient Express [Board game] KOSMOS.

Brand, I, & Brand, M. (2017b) Exit: The Game – The Forgotten Island [Board game] KOSMOS.

Breakout EDU (2020) Learn More. Retrieved November 13, 2020 from <https://www.breakoutedu.com/learnmore>

Carlson, J., Carlson, A. & Wielgus, J. (2019) Cloudspire [Board game] Chip Theory Games.

Demaegd, C. (2019). Unlock! Timeless Adventures [Board game] Space Cowboys.

Fernández-Vara, C. (2008). Shaping Player Experience in Adventure Games: History of the Adventure Game Interface. In *Extending Experiences: Structure, Analysis and Design of Computer Game Player Experience* (pp. 210–227). Rovaniemi: Lapland University Press

Garrett-Singh, S., & Lansing, S. (2013, November 25). Puzzle Break masters turning Pike/Pine suite into real-world puzzle. Retrieved February 28, 2020, from <http://www.capitolhillseattle.com/2013/11/puzzle-break-masters-turning-pikepine-suite-into-real-world-puzzle/>

Grabarczyk, P., & Aarseth, E. (2019). Port or Conversion? An Ontological Framework For Classifying Game Versions. In *Proceedings of the 2019 DiGRA International Conference: Game, Play and the Emerging Ludo-Mix* (pp. 1–14). DiGRA. Retrieved from [http://www.digra.org/wp-content/uploads/digital-library/DiGRA\\_2019\\_paper\\_189.pdf](http://www.digra.org/wp-content/uploads/digital-library/DiGRA_2019_paper_189.pdf)

Hooker, L. (2014, December 19). The Secrets Behind Hungary's Escape Games Craze. Retrieved February 28, 2020, from <https://www.bbc.com/news/business-30415679>

hOSHI (2016) VR: Vacate the Room [Computer game]. Author.

Hutcheon, L., & O'Flynn, S. (2013). *A Theory of Adaptation* (2nd ed.). New York, NY: Routledge.

Johansen (2019) Combo Fighter [Board game]. Kolossal Games.

Kato, T. (2018). What is Real Escape Game? Retrieved from <http://realgame.jp/about.html>. Internet Archive URL: <https://web.archive.org/web/20181101073211/realgame.jp/about.html>. Translated via Google Translate.

Ladagnous, A. (2017) Unlock! The Nautilus' Traps [Board game] Space Cowboys.

Malone, A. (2019) Unlock! Expedition: Challenger [Board game] Space Cowboys.

Martindell, C. (2019) A Constitutional Kidnapping [Breakout EDU Game]. Retrieved November 13, 2020 from <https://platform.breakoutedu.com/game/a-constitutional-kidnapping>

Nicholson, S. (2016a). Ask Why: Creating a Better Player Experience Through Environmental Storytelling and Consistency in Escape Room Design. Paper presented at Meaningful Play 2016, Lansing, Michigan.

Nicholson, S. (2016b). The State of Escape: Escape Room Design and Facilities. Paper presented at Meaningful Play 2016. Lansing, Michigan.

Nicholson, S. (2018). Creating engaging escape rooms for the classroom. *Childhood Education* 94(1). 44-49.

Patel, J. & Rubin, A. (2016) Escape Room in a Box: The Werewolf Experiment [Board game]. Mattel.

Real Escape Game (2016). Team Building Exercises. Retrieved from <https://realescapegame.com/tb/>.

Rusty Lake (2018). Cube Escape: Paradox [Computer game]. Rusty Lake.

SCRAP Co. (2020). History. Retrieved February 28, 2020 from

<https://www.scrapmagazine.com/about/history/>. Translated via Google Translate.

Sirlin, D. (2011) Yomi [Board game]. Sirlin Games.

Schell Games (2017) I Expect You to Die [Computer game]. Schell Games.

Shiele, N. (2016) A Force to be Reckoned With [Breakout EDU Game]. Retrieved November 13, 2020 from <https://platform.breakoutedu.com/game/a-force-to-be-reckoned-with>

Takagi, T. (2019). Crimson Room [Computer game]. Takagism.

Talton, B. (2010) BattleCon: War of Indines [Board game]. Level 99 Games.

Top Right Corner (2017) Belko VR: An Escape Room Experiment [Computer game]. Top Right Corner.