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Transmedia Storytelling, Immersive Storyworlds, and Virtual Reality

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Abstract: *This paper considers the role of virtual reality (VR) experiences in major media franchises' storyworlds, including Star Wars, the Marvel Universe, the DC Extended Universe, Game of Thrones, and Harry Potter. The paper opens with a brief description of transmedia storyworlds and the concept of narrative extensions, which are new stories that are added to existing narratives across a range of media. To distinguish different types of experiences, I use four categories to describe fifteen VR experiences across these five major: sneak peeks, short demos, action games, and narrative extensions. For each experience, I consider the types of user interactions offered, the overall length and replay value of these experiences, cost at launch, and the overall success or failure of these experiences based on critics' and fans' comments and reviews. While the strategy of incorporating VR experiences into existing media franchise storyworlds is still very much in its infancy, there are identifiable trends in what kinds of experiences fans most appreciate, and what experiences generally fall flat or underwhelm fans. I conclude with some encouraging prospects for the future for sophisticated VR storytelling.*

Keywords: *transmedia, storyworlds, virtual reality, Star Wars, Marvel Comics, DC Comics, Harry Potter, Game of Thrones*

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TRANSMEDIA STORYTELLING, IMMERSIVE STORYWORLDS, AND NARRATIVE EXTENSIONS

This paper considers the role of virtual reality (VR) experiences in transmedia storyworlds across five different major media franchises—Star Wars, the Marvel Universe, the DC Extended Universe, Game of Thrones, and Harry Potter—as delivered in fifteen different VR applications. For each experience, I consider the types of interactions offered, the overall length and replay value of these experiences, cost at launch, required equipment, and the overall success or failure of these experiences based on critics’ and fans’ comments and reviews. While the strategy of incorporating VR experiences into existing media franchise storyworlds is still very much in its infancy, there are identifiable trends in what kinds of experiences fans most appreciate, and what experiences generally fall flat or underwhelm fans. There are encouraging prospects for the future for sophisticated VR storytelling.

Media theorist Henry Jenkins describes transmedia storytelling as a process in which “integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience” (2007), as when one part of an ongoing story is shown in a film, another part in a novel, and a third part in a comic book. Jenkins states that the growth in transmedia storytelling “reflects the economics of media consolidation or what industry observers call ‘synergy’” where “a media conglomerate has an incentive to spread its brand or expand its franchises across as many different media platforms as possible” and that “the current configuration of the entertainment industry

makes transmedia expansion an economic imperative, yet the most gifted transmedia artists also surf these marketplace pressures to create a more expansive and immersive story than would have been possible otherwise” (2007). He uses the example of comic books that are created to publicize the release of a forthcoming motion picture and also provide additional backstory and other information to further enhance the audience’s enjoyment of the story. Unlike adaptations that tell the same story but in a different form of media—for example, the novelization of a film, or a film’s story depicted in a comic—Jenkins sees transmedia storytelling as prioritizing “extensions,” where each new form of media is additive, contributing something new to what the audience knows about the plot, characters, or the world of the story (2007). In today’s commercial marketplace, each extension is an opportunity to offer more new material to a dedicated global fan base and serves as another potential revenue stream for creators.

Because story expansion can happen rapidly and across many media, creators often shift the focus away from specific plots and characters to their “complex fiction worlds,” where Jenkins argues audiences “are drawn to master what can be known about a world which always expands beyond our grasp” (2007). This phenomenon has both an economic function, as the desire to know more about the world leads consumers to make multiple purchases across many media, as well as a narrative function in that it allows for many different artists in many different forms of media to create their own original extensions, making transmedia storyworlds “transauthorial” as they transcend sole authorship (Wolf 2012). Jenkins’s student Sam Ford expanded on transmedia

storytelling with his work on immersive storyworlds by studying soap operas and professional wrestling, both known for their serial storytelling where individual plot lines can run for years (2007). Unique features of storyworlds include their long-term continuity, or the idea that each story must contain some sense of the stories that came before it and also connect to stories yet to come (2007). Serialized stories in immersive worlds also have the benefit of referencing each character's extensive personal backstory and a deep history of events in the world (2007). Thus much of the pleasure of consuming transmedia storytelling in immersive worlds is derived from audience members gaining new knowledge about the world while simultaneously being rewarded for the knowledge about that world that they already possess.

Today's fans of major franchises can expect stories to be told across many media and to access these narratives on different devices. To use just one example, the Star Wars videogames *Star Wars: Battlefront* and *Star Wars: Battlefront II* connect to separate Star Wars novels, and those novels in turn refer to moments and characters depicted in the franchise's films and television programs. One can read the novel *Battlefront: Twilight Company* without having seen any Star Wars films or having played the videogame. However, readers more familiar with the Star Wars storyworld will recognize moments in the novel that are drawn from the film *The Empire Strikes Back*; they will notice references to weapons and tactics common in the videogame; and the most dedicated fans will catch allusions to characters who only appear in *A New Dawn*, another Star Wars novel. Each extension—videogame, novel, film, TV show—operates both as its own

independent, self-contained narrative unit and also as part of a complex web of interconnected stories. In the ideal scenario for a narrative extension, the dedicated completionist fan feels rewarded when they catch subtle references to stories depicted other media, while more casual fans still enjoy the story without even knowing that there were references they missed. Recently, creators in these major media storyworlds have begun to explore the possibilities for narrative extensions in a new medium: virtual reality.

MAJOR MEDIA FRANCHISES AND VR EXPERIENCES

Many fans seek ways to be active participants in their favorite fictional worlds. The world's most popular tabletop roleplaying game, *Dungeons & Dragons*, has its origins in the desire of gamers to create characters and playable scenarios that resembled the types of adventures they read about in the works of J.R.R. Tolkien, Edgar Rice Burroughs, and Fritz Leiber, among others (Peterson 2012). Instead of being passive receptors of narratives, players of tabletop roleplaying games become virtually embodied in the game world, even if only in the theater of the mind. Many fans today engage in a practice known as cosplay, or costumed play, and attend conventions and other pop culture gatherings dressed as their favorite fictional characters. An even greater group of fans experience their favorite fictional worlds through videogames and other types of tabletop games. Thus it should come as no surprise that immersive VR experiences set in transmedia storyworlds are an attractive prospect for fans and creators alike.

The Star Wars franchise, acquired by the Walt Disney Company in 2012, has been

the most aggressive when it comes to developing VR experiences, having published eight titles. They have also been the most ambitious in terms of experimenting with new approaches. They were the first trans-media storyworld to launch a VR experience in December 2015 with *Jakku Spy*, a free nine-part story that served as a teaser for the upcoming film *The Force Awakens*, with a new story unlocking each day in the run up to the film's premier. This was followed by *Trials on Tatooine* (July 2016), *Rogue One: Recon* (Nov 2016), *Battlefront Rogue One: X-Wing VR Mission* (Dec 2016), and *Droid Repair Bay* (Dec 2017). Along with these efforts, they have created the AR/VR experience *Star Wars: Jedi Challenges* (2017) and, more ambitiously, a four-person VR experience called *Secrets of the Empire* (2017) that is only available at the Disney theme parks in Orlando and Anaheim. Their most recent entry is the first installment of a three-part serial entitled *Vader Immortal*, with the first episode launching in May 2019 with the second installment arriving in September 2019.

In comparison to the Star Wars franchise, the other four franchises considered in this paper only total seven VR experiences among them. The Marvel Universe, another Disney property, has three entries: the movie promotional tie-ins *Spider-Man: Homecoming* (Jun 2017), *Spider-Man: Far From Home* (Jul 2019) released on either side of the game *MARVEL Powers United VR* (July 2018). The DC Extended Universe entered the VR landscape early with *Batman: Arkham VR* in October 2016 but since has followed up with only one other game, *Justice League VR* (Dec 2017). The Harry Potter and Game of Thrones franchises each have a single attempt at VR experiences with *Fantastic*

Beasts and Where to Find Them (Jan 2018) and *Beyond the Wall* (May 2019) respectively.

I have organized the fifteen games into four loose categories based on their common features. The categories are: *sneak previews*; *short demos*; *action games*; and *narrative extensions*. In the analysis of each experience, I considered their date of release; how the experience connects to the storyworld's content; the required equipment; the price of the experience price at release; the average duration of the experience; and the experience's replay value. To further distinguish the differences between the categories, I developed terminology to describe the user's role in each type of experience. When discussing sneak peeks, I refer to users as *viewers*; for short demos, I refer to *players*; for action games, I refer to *gamers*; and for narrative extensions, I refer to *player-characters*. These titles attempt to reflect the nature of the user experience.

As this paper shall argue, the highest levels of fan satisfaction tend to be with short demos and narrative extensions, while the least successful tend to be sneak previews and action games. The novelty of VR experiences wears off quickly and today's VR users expect a nontrivial level of engagement with the storyworld, especially if they are required to pay for the experience. Significant interactions with well-established characters and strong visual grounding in the unique fictional world increases fan satisfaction and their willingness to pay for the experience.

SNEAK PEEKS

Sneak peeks are short experiences, usually under 10 minutes in duration, which are developed as part of a promotional campaign for a major motion picture. These are also referred

to as *360-degree experiences*. They feature limited to no meaningful interaction with the world, situating the user as a mostly passive *viewer* with the only action available being turning one's head. Of the three sneak peek VR experiences drawn from transmedia storyworlds, two come from Disney's Star Wars with *Jakku Spy* (2015) and *Rogue One: Recon* (2016), tie-ins for *The Force Awakens* and *Rogue One* respectively. The third is from the Harry Potter universe, *Fantastic Beasts and Where to Find Them VR* (2016).

Jakku Spy and *Fantastic Beasts* received lukewarm to negative feedback from critics and fans, with frequent complaints being that the experiences were too short and featured too little interaction; complaints aimed at *Fantastic Beasts* tended to be sharper as it was a paid app where *Jakku Spy* was free ("Review: *Fantastic Beasts*" n.d.; Broida 2015). Based on the reviews and comments, fan disappointment may have stemmed from the hyperbolic marketing copy that oversold what the experience actually delivered. *Jakku Spy* promised an experience that "thrusts you into the role of a Resistance secret agent on Jakku (the desert world from *Star Wars: The Force Awakens*), envelopes you in stunning virtual reality, and unfolds in a series of story-driven installments. It all leads into *Star Wars: The Force Awakens*, and there's never been Star Wars storytelling quite like it" ("Experience Star Wars" 2015), but in truth the experience featured snippets of scenery from the film that offered minimal interaction beyond turning one's head. Likewise, *Fantastic Beasts* claimed "you'll find Newt's shed is littered with all sorts of trinkets and magical apparatus you can mess around with. Thanks to the 360 degree view, it genuinely feels like you're inside his world, and you can even magically

interact with things with just a flourish of your wand. Yep, like a real wizard" ("Pottermore" 2016.), only to disappoint fans with minimal interactions and failing to uphold the statement that the experience would make the viewer feel like a wizard.

Learning from this misstep, the Star Wars news release for *Rogue One: Recon* (2016) spelled out exactly what fans could expect: "you control the lead pilot's POV. Look right and see your squadmate. Look left and see the stars. Look up and see a massive Star Destroyer overhead, so dangerously close you'll slink in your seat. It's a thrilling way to experience visual storytelling, and is a sign that storytelling is changing thanks to minds like those at ILMxLAB" ("ILMxLAB" 2016). As a result, fan reactions to *Recon* were more positive as they understood that this was intended to be a brief experience that was meant to give viewers a taste of being immersed in the Star Wars galaxy. In doing so, the news release successfully managed fans' expectations. *Recon* also improves upon *Jakku Spy* by making better use of the VR environment. The overwhelming size of a Star Destroyer passing overhead and the enormous Death Star that fills most of the viewing area are both iconic Star Wars elements and are immediately recognizable to even a casual fan; dipping into that storyworld knowledge, the scale helps to reinforce a theme that runs through the franchise, namely that the tiny Rebel Alliance is hopelessly outmatched compared to the might of the Empire's military terrors.

UploadVR, a site covering VR news, remarked on *Recon*'s replay value noting that on "the first viewing [viewers] will have focused on the action, but second and third viewings let you appreciate a lot of details including the many instruments

within the X-Wing's cockpit," and then goes on to describe the experience as "a snack sized feature with high production values, a signal that developers are putting their best foot forward with VR ("Recon" 2016). Here, the writer understood the purpose of the experience based on the terms described in the news release. While still being a very limited experience for viewers, this sneak peek movie tie-in proved more successful than *Jakku Spy* from just one year prior, demonstrating Disney's ability to improve on their VR experiences each year.

Sneak peek/360-degree experiences for transmedia storyworlds have fallen away in recent years. Of the fifteen VR experiences examined in this paper, the sneak peeks account for four of the five *earliest* attempts to use VR in transmedia storyworlds, but the most recent sneak peek comes from 2016. This is likely because the limited role of viewer in a transmedia storyworld results in greater disappointment than feeling of engagement. The direction for promotional tie-ins seems to have evolved into a more interactive VR experience, the short demo.

SHORT DEMOS

Short demos are similar to sneak peeks in that they offer compressed experiences lasting less than ten minutes, but they differ in that short demos feature more significant user interaction with mechanics, items, and settings from their specific transmedia storyworld. The short demos *Trials on Tatooine*, *Battlefront: Rogue One: X-Wing VR Mission* (2016), *Spider-Man: Homecoming* (2017), *Droid Repair Bay* (2017), and *Spider-Man: Far From Home* (2018) each offer players a more satisfying virtual "hands-on" experience in their respective fictional worlds.

All of the details in *Trials on Tatooine* work to reinforce that it is a thoroughly Star Wars experience. It opens with the familiar yellow-lettered Star Wars crawl before providing a sweeping view of Tatooine, the familiar desert planet from the films. The player stands beneath the Millennium Falcon and is guided by R2-D2 and the voice of Han Solo through making a few simple repairs to the spaceship, requiring the pushing of buttons and pulling of levers. The repair routine is interrupted by the sudden appearance of an Imperial Shuttle, its distinctive shape recognizable to any Star Wars fan. After it lands, white-armored stormtroopers spill out and take cover behind boulders and begin to open fire with their blasters. R2-D2 equips the player with a lightsaber, who is instructed to ignite it and deflect the lasers blasts back at the enemy. After a few minutes of deflecting blaster fire, the stormtroopers flee and the conflict ends. Solo offers a hasty thanks and then lifts off, giving the player a good view of the Millennium Falcon in flight. The entire experience lasts less than ten minutes but resonated with fans, having racked up 1200 reviews and earning a Very Positive aggregate rating on Steam ("Review: Trials on Tatooine on Steam" n.d.). Disney once again offered *Trials* as a free experience, which again moderates fan expectations. While the game mechanics are imperfect—it's simple to hit the blaster shots with the lightsaber but difficult to accurately redirect them—and the story is nonsensical in terms of where it fits in the storyworld, player reviews show the sheer thrill of wielding a lightsaber trumps the rest of *Trial's* limitations.

Droid Repair Bay (2017) has a similar design to *Trials* but shifts to a new era in the storyworld as here the player assists BB-8, the

droid star of *The Force Awakens*, to repair a few of its robotic friends. There are fewer immediately recognizable Star Wars elements in this experience and it feels a bit more like a generic space adventure with some Star Wars characters added in rather than being an unmistakably Star Wars experience. The repair routine also feels generic and less specific to Star Wars and is underwhelming compared to wielding a lightsaber in *Trials*. Only 283 players reviewed *Droid Repair Bay* on Steam but the experience still earned it a Very Positive rating, with reviewers commenting on its clarity of intent and amusing content (“Review: Droid Repair Bay on Steam” n.d.). While the popularity of the Star Wars franchise and high production values led users to rate the experience positively, it seems evident that the action of the demo—fixing droids versus wielding a lightsaber—captured neither the popularity nor fan enthusiasm of *Trials*. While not a step backwards, it is the single example of Disney not making a marked improvement in VR content from experience to experience.

The two Spider-Man short demos are similar in many respects, with the latter title building on the strengths of the former. The first experience shares its title with the film it served to promote, *Spider-Man: Homecoming* (2017). This short demo offers players some basic Spider-man-specific mechanics. In *Homecoming*, users don the mask and famous red and blue suit of Spider-Man and engage in a web-shooting tutorial on the top of the hero’s apartment building. The player is rooted to a single spot and the mechanics are limited to targeting a balloons with web blasts. With the tutorial completed, calamity breaks out and the player must use what they have learned about the web-slinging mechanic to repair a falling crane. Oddly, a

showdown with a supervillain is teased but it never materializes, ending the experience on an underwhelming note. Fans voiced disappointment on Steam reviews and the experience only garnered 355 reviews with a compiled Mixed rating, with many fans bemoaning the lack of a more developed experience. Interestingly, several positive review rebut those criticisms with variations of the sentiment “what did you expect for a free game?” (“Review: Spider-Man: Homecoming” n.d.). This suggests that by 2017, both the VR market and the audience had matured enough for users to have developed expectations that free VR experiences would be short, free, and limited. Even so, *Homecoming* proved not to be a widely-played, widely-enjoyed experience.

Far From Home (2019) then may have exceeded fan expectations by providing a longer and more robust short demo that provides fifteen to twenty minutes of gameplay with more sophisticated mechanics as players reprise their role as the web-slinging hero. The expanded mechanics allow players to swing from building to building and climb walls with freedom of movement not available in *Homecoming*, mechanics that allow the player to feel as though they are embodying the one and only Spider-Man. After the player masters the basic mechanics, they must again deploy their newly-learned arsenal of skills to defeat a (somewhat silly) giant robot terrorizing the city. *Far From Home* has more than twice the reviews than *Homecoming* on Steam with 746 and an improved Very Positive rating (“Review: Spider-Man: Far From Home Virtual Reality on Steam” n.d.). Review comments suggest that more sophisticated mechanics help to fully immerse the player in the role of the superhero, even if the

experience is short. It seems probable that satisfaction would plummet however if this were a paid experience, due to the experience's overall limitations and low replay value as it is entertaining to experience a few times at most.

This low satisfaction for a paid experience is indeed the case with the Game of Thrones VR experience *Beyond the Wall* (2019), a demo that fails in all the areas that made *Trials* and *Far From Home* successful. This short demo features lasts only five minutes of and is only available through Viveport, a fee-based VR subscription service. In *Beyond the Wall*, the player assumes the part of a nameless ranger venturing out from Castle Black into the frozen wastelands north of the ice wall that separates civilization from the supernatural wild. Players follow an unnamed ranger as their guide into the wilderness, the doors of the gate bursting open with a wintry gale before the player steps outside. After a few seconds of taking in the towering snow-covered peaks in all directions, the player is engulfed in a whiteout blizzard and loses sight of their companion. The player hears sounds of a struggle in the storm and is then attacked by an undead bear that must be fought against with a flaming sword. Once the bear has fallen, the player pushes forward to find that their companion has been fatally mauled and, a few dozen yards away in the blizzard, shadowy forms are shambling closer. The fallen ranger is then reanimated, rising from his pool of blood and begins attacking the player, as he is now part of the undead army. The player can dispatch him easily with a few waves of the sword, but the player soon becomes surrounded by zombies. With hacks and slashes, the player attempts to fend off the endless hoard. In less than a minute, the ice

breaks beneath the player and the game ends with the player slowly sinking, staring up at the hole in the ice as the screen fades to black.

There are only scant mentions of Game of Thrones in this experience, and nothing in the bland, snow swept environment connects this experience to that storyworld. The mechanics are stale and it plays like many other generic zombie fantasy games. The player does nothing other than moving forward and swinging the sword with neither action requiring skill nor proper timing. This would be a forgettable free experience, but it's made worse by the fact it requires a paid fee to play. It earned an aggregate 2.5 stars out of 5 rating on the Viveport site, with the minority of positive reviews coming from many players admitting *Beyond the Wall* was among their first VR experiences, while the critical reviews come from more seasoned VR players who understand that the experience offers nothing new and only a tenuous connection to the Game of Thrones storyworld ("Review: Game of Thrones: Beyond the Wall" n.d.). Released three years after *Trials on Tatooine*, *Beyond the Wall* feels like a naïve attempt to create a VR experience in that it features a dull environment, repetitive mechanics, and no interaction with popular Game of Thrones characters.

The positive and negative reviews for short demos center on two main issues: engaging mechanics and a meaningful interaction with the transmedia storyworld. To be successful, the short demo must engage with the storyworld environment in a nontrivial way. Designer Don Carson has written about theme parks and environmental storytelling as a way to conceptualize building virtual worlds, and he advises designers to saturate the environment with the genre that they're

working in, where each elements of the experience reinforces all of the others. (2000). To use a theme park example, everything in the surroundings of Disney's Pirates of the Caribbean ride reinforces the pirate genre: cutlasses, buried treasure, skulls and crossbones, etc. This consistency is established in the setting while park goers wait in line, continues through the duration of the ride, and concludes in the gift store at the end. This creates a unified, consistent immersive experience and enhances visitor enjoyment of the ride. Successful VR short demos likewise provide that consistent storyworld experience and extend Carson's principle to the play mechanics as well. Unlike the sneak peeks that required minimal viewer interaction, the short demo requires the player to perform actions that are unique to that fictional world, e.g. wielding a lightsaber in Star Wars and web-slinging and fighting supervillains in Spider-Man. In contrast, the Game of Thrones short demo makes little use of either the storyworld or unique mechanics and, as a result, winds up being much less successful generic experience comparable to any number of mundane sword-swinging fantasy games found on the Steam or Oculus stores.

Battlefront Rogue One: X-wing VR Mission (2016) reinforces the importance of meaningful mechanics and immersive environments, as it is a widely acclaimed VR experience that manages to hit all the right notes. This experience straddles the categories of short demo and action game due to the sophistication of its mechanics and length of play. This single VR mission clocks in at nearly twenty minutes of play time and puts players in the cockpit of an X-Wing fighter on a mission that involves asteroid fields, dogfights, and multiple jumps through lightspeed. While there are a number of space combat simulators on the market, this

short demo is unmistakably Star Wars in the interior ship design, the references to familiar Star Wars storyworld elements, and the action sequences that look like scenes from the films. It's one of the few transmedia VR experiences that created genuine excitement among critics, with review titles like Game Central's "Impressive, Most Impressive" (2016), Trusted Review's "Star Wars Battlefront Rogue One: X-Wing is the Best VR Game I've Ever Played" (Yuen 2016), and IGN's "Star Wars Battlefront's VR Mission Might Be My Favorite PSVR Experience" (Altano 2016).

X-wing VR Mission does a number of things right. It is, in one critic's words, "short but sweet" (Devore 2016), providing a compact but thrilling VR experience steeped in Star Wars lore and, as every review notes mentions, it is a free download for anyone who owns the full *Star Wars: Battlefront II* videogame. As a PSVR exclusive add-on, it gets a 4.5 of 5 stars on the Sony Playstation store with over 13,000 player ratings, by far the most often reviewed and consistently highest rated experience in this study.

ACTION GAMES

If more mechanics-based action connected to the transmedia storyworld resulted in satisfied fans, it seems logical to expect that *action games* would be where VR experiences would be enjoying a great deal of success. Surprisingly, this is not the case, as the experiences categorized as action games have earned lukewarm reviews and faint praise. What distinguishes the action game from the short demo comes down to two factors: longer duration and greater price. Whereas the short demos analyzed were ten to twenty-minute long self-contained experiences made available for free, action games

represent open-ended experiences that come with a significant price tag. I used the term *players* to describe the user in short demos VR experiences because the interactions tended to be freeform and more about the general experience than scoring points or advancing levels; I use the term *gamer* to describe the users of action games because they feature level advancement, score tracking, and other markers of competition, situating the act of play into a structured game.

Justice League VR (2017) from the DC Extended Universe and *MARVEL Powers United VR* (2017) from the Marvel Universe were released within seven months of each other and are fairly similar experiences. As one might expect, the gamer assumes the role of one of the many from the DC and Marvel pantheon of superheroes (five for DC, eighteen for Marvel) and the action game employs those characters' unique superpowers to fight enemies. As with the short demos, these action games center on hero-powered mechanics that would be familiar to devoted fans of the franchise, e.g. the Flash's challenges deal with his ability to run at super speed and Wolverine fights using his adamantine claws, and so on. In this respect the action game is similar to the short demo in that the mechanics align with what fans know about characters in each storyworld, but the experiences diverge in terms of duration. Short demos succeed due to the brevity of the experience offered. In the *Star Wars* and *Spider-Man* short demos, the player is limited to a handful of mechanics in an experience that lasts ten or fifteen minutes, which is about the length of time it takes for the novelty of the mechanic to wear off.

However *Justice League VR* and *MARVEL Powers United VR* are open-ended in duration as gameplay offers multiple levels of

enemies to defeat and gamers can earn points to upgrade their heroes' skills as they progress through the game. However, the games get repetitive quickly and the excitement of assuming superpowers doesn't overcome the relative tedium of the challenges. These action games in fact draw attention to how VR game mechanics often feel stilted and imprecise, a fact made more apparent with a lack of diversity in the challenges. The 800-plus reviews on the Oculus store for *MARVEL Powers United VR* (a \$40 Oculus exclusive) earn it a healthy four-star review, but the majority of reviews do mention the lack of variety ("Review: MARVEL Powers" n.d.). What redeems this title in most reviews is the variety of heroes on offer, so even if individual mechanics grow dull quickly, there are still eighteen different heroes to choose from. *Justice League VR* fares much worse, disappointing gamers on both Steam with 25 Mostly Negative reviews ("Review: Justice League VR: Steam" n.d.) and a 3.2 rating on Oculus, with over a third of gamers giving a one or two-star review noting its repetitive nature and lack of options for a \$10 game ("Review: Justice League VR: Oculus" n.d.).

While this paper concentrates on VR, it is worth noting that both the *Star Wars* and *Marvel* franchises offer experiences that are technically augmented reality (AR) action games but are very similar to their VR cousins. *Star Wars: Jedi Challenges* (2017) and *Marvel: Dimension of Heroes* (2019) use a combination of the Lenovo Mirage headset, the player's smartphone, hand-held controllers, and a free app to deliver a VR-like immersive experience. The headset encloses the gamer's entire field of vision and darkens the gamer's actual surroundings, making it feel more like a VR-lite experience than AR games like *Pokemon GO* or *The Wizarding*

World of Harry Potter, both of which use real-world surroundings as part of the experience.

Jedi Challenges is impressive in terms of mechanics, graphics, and gameplay even if its original price tag of \$200 is high for what it delivers. The gamer assumes the role of a generic Jedi and has the option of several game modes to choose from. The lightsaber duel is to be expected, but *Jedi Challenges* also features 3D tower defense games and holochess, the memorable 3D chess game played on the Millennium Falcon in the original *Star Wars*. Compared to VR experiences, the Lenovo headset is far lighter and allows more mobility because the gamer isn't tethered to the computer by cables, restricting their movement. While the graphics lack the crispness of VR experiences, I found that I played longer and enjoyed exploring the different game modes more than in other more visually impressive VR experiences. Using the lightsaber to redirect blaster shots back at the droids and stormtroopers felt much more fluid and natural than in the near-identical challenge in *Trials of Tatooine* and the lightsaber battles against foes presented a genuine challenge that kept me playing longer than I anticipated. As for disadvantages, like the other action games, the game modes do grow repetitive over time and the mobile phone noticeably heats up after only fifteen minutes of play. *Marvel: Dimension of Heroes* was not available at the time of writing, but it appears to be very similar to *Jedi Challenges* with similar game modes and different mechanics based on the heroes the gamer chooses.

Perhaps what's most surprising about *Jedi Challenges* is the effort it makes to connect to a wide range of material from the *Star Wars* transmedia storyworld. In the

previously discussed *Star Wars* VR experiences, each drew on the setting of a single *Star Wars* film: *Trials of Tatooine* with the original *Star Wars*, the *Rogue One* titles with that film, and *Jakku Spy* and *Droid Repair Bay* with *The Force Awakens*. In contrast, *Jedi Challenges* adopts characters and visuals from *all* of the film eras and from two cartoon series, *Star Wars: The Clone Wars* and *Star Wars Rebels*. Dueling opponents include Darth Maul from the prequel trilogy, Seventh Sister and the Grand Inquisitor from *Rebels*, Darth Vader from the original trilogy, and Kylo Ren from *The Force Awakens* trilogy. There are a wide variety of enemy droids and different types of stormtroopers from all parts of the storyworld's timeline. *Jedi Challenges* represents a shift toward a more broadly knowledgeable, and likely younger, audience demographic as it assumes the gamer will be familiar with canon *Star Wars* media outside of the films, even though that knowledge does not matter for the game beyond offering familiarity and immersion.

Action games draw from franchise material but do not serve as narrative extensions into the larger storyworld. There is no suggestion, for example, that the story of the Jedi training in *Jedi Challenges* will connect to the plot of *The Rise of Skywalker* film. These stand-alone action game experiences do allow gamers to become active participants in their favorite storyworlds with mechanics unique to the heroes and situations of that specific storyworld, but ultimately there are no consistent stories in them and are meant to be entertaining in and of themselves. This lack of meaningful connection to the storyworld's larger narrative distinguishes the action game from the last category considered in this paper, the narrative extension.

NARRATIVE EXTENSIONS

The *narrative extension* represents the most ambitious effort on part of VR developers. These experiences immerse participants in stories that affect the transmedia storyworld. They do employ game mechanics and draw on elements that are unique to that storyworld like action games, but they also tell a story that serves as an extension of canon information. Rather than one-off disposable experiences, they are intended to reveal new dimensions about characters and the wider storyworld. Developers not only expect but *rely* on fans' preexisting knowledge of canon narratives in order to make these experiences successful. These experiences are the longest in duration, the most detailed, and most sophisticated in terms of storytelling strategies. I refer to the user as a *player-character*, or PC, albeit one who has no real agency in affecting the outcome of the narrative. The term here is meant to describe experiencing the story through the role of a specific character.

Batman: Arkham VR (2016) was the first major storyworld franchise to release a VR title on Oculus, Vive, and later Playstation (PSVR). The story of *Arkham VR* takes place between two other videogames by the same developer, *Batman: Arkham City* (2011) and *Batman: Arkham Knight* (2015). As one might assume, the PC assumes the role of Bruce Wayne and his superhero alter ego, Batman. The story begins in the opulent Wayne Mansion, where circumstances quickly require the PC to descend to the Batcave and don the familiar cowl and bat-gear. The Batcave is full of gadgets and serves as an introduction to some of the basic mechanics of throwing batarangs (bat-shaped boomerangs) and using a grappling

hook. The story involves investigating the mysterious disappearance of two of Batman's closest allies, Nightwing and Robin. Perhaps unexpectedly, rather than combat, the game mechanics deal more with forensic analysis and puzzle solving as the story centers on Batman investigating crime scenes and interrogating thugs.

The game is dark and has a brooding, sinister tone. The graphics are excellent and the details of Gotham City's seedy underworld are immaculate, creating a consistent immersive world, harkening back to Carson's advice about environmental design. These high production values along with strong writing and voice acting make encounters with villains such as the Penguin memorable, and the sheer size and speed of the hulking Killer Croc is truly intimidating for the PC. On the downside, the story turns out to be a hallucinatory fever dream due to Batman being poisoned by the Joker, which is always a disappointing narrative frame even if it does allow the developers to take greater risks with the storyline knowing it will not impact the storyworld continuity.

The response to *Arkham VR* has been generally positive, with most user complaints centering on two factors: the lack of physical action and the price. The game provides an hour or two experience depending on how thoroughly the user explores each environment, and reviewers are split on whether the \$20 price tag is justifiable. Many fans also lamented the lack of action. Batman's is equal parts detective, acrobat, and martial artist, but in *Arkham VR* the character is restricted to pushing buttons and pulling levers. Another complaint was the disappointment in not being able to drive the Batmobile. The game leads the PC to the

vehicle's door, but the PC must settle for a revving engine sound as the screen goes to black before arriving at the next destination. Still, *Arkham VR* has 668 reviews on Steam with a Mostly Positive Rating, earns a 3.8 out of 5 rating in Oculus reviews, and 4 out of 5 stars on the PSVR.

Disney has taken the boldest steps forward in terms of VR narrative extensions that extend the Star Wars storyworld in significant ways. First is *Secrets of the Empire* (2017), an experience only available at the theme parks in Orlando and Anaheim. It is a unique team-based storytelling experience, where groups of four player-characters enter the VR storyworld together on a mission to steal plans for a powerful weapon from an Imperial base on the lava-drenched planet of Mustafar, the setting of the final act of *The Revenge of the Sith*. The group, disguised as stormtroopers and aided by the droid K-2SO from *Rogue One*, must solve puzzles, fight monsters, and battle enemy troopers to return the plans to rebel operative Cassian Andor, another character from *Rogue One* and one who will soon to have his own television series as a transmedia narrative extension on Disney+, the company's upcoming streaming channel. Lucasfilm Story Group has stated that the story told in *Secrets of the Empire* is canon (Matsunaga 2018), meaning that the events in the experience are considered factual and true for all other parts of the storyworld. The story of *Secrets* thus has ramifications for other narrative extensions including *Vader Immortal* and possibly in the upcoming videogame *Star Wars Jedi: Fallen Order*, though the specifics of the connections remain to be seen. While the game mechanics of *Secrets* are nothing new, the group VR experience brings a new element as does the blending of

VR with the physical world, meaning player-characters can touch the walls and sit in the chairs they see in headset. The experience received strong reviews from critics and fans ("Secrets Of The Empire" 2018) and is thoroughly steeped in the Star Wars storyworld, using well-known characters and environments to full advantage, and features a plot that feels like a natural Star Wars adventure. *Secrets of the Empire* is an innovative experiment, the success of which will likely lead to other VR entertainment experiences at Disney and other theme parks, though it is expensive: \$30 per person for a 30-minute experience, though no park pass is required. It seems plausible that these kinds of experiences will someday be located inside the theme park with no additional charge.

Lastly comes *Vader Immortal*, an experience that represents a major milestone in VR entertainment and points to one possible future of digital storytelling in transmedia storyworlds. Simply put, *Vader Immortal* gets just about everything right for an extended VR narrative extension. It is a three-part story, with each episode selling for \$10 as an Oculus exclusive. The series promises to show another side of one of greatest villains in film history, Darth Vader. Without giving away too much of the plot, PCs assume the role of a Force-sensitive smuggler captured by Darth Vader and pressed into his service on Mustafar. The PC's secret mission is to find the key resurrection, so Vader may bring his wife Padme back to life after he failed to prevent her death in the final prequel movie, *Revenge of the Sith*. *Vader Immortal* picks up this thread of desire and spins it into a new narrative direction that, in the first installment, is only partially revealed. Highly knowledgeable fans will recognize this theme tying directly to the comic book

series *Darth Vader: Dark Lord of the Sith*, which explains how and why Vader chose to build his headquarters on Mustafar. This is a prime example of a transmedia storyworld's synergistic properties: knowing information from the *Darth Vader: Dark Lord of the Sith* comic extends to the experience of *Secrets of the Empire* and *Vader Immortal*, yet each title stands alone as its own contained entertainment experience. This is quite a feat of sophisticated 21st-century transmedia storytelling, and it's possible that there will be ties to other forthcoming television shows, comics, and novels as well.

Vader Immortal is successful despite not bringing any real new mechanics to the VR experience. Rather, it improves upon what came before by embedding these familiar, though slightly refined, mechanics in a logical place in a longer coherent narrative. The opening sequence is reminiscent of *Rogue One: Recon*, where you experience a sense of claustrophobia in your ship's tiny cockpit as massive Star Destroyers loom all around; aspects of piloting the ship and freeing yourself from a detention cell harken back to the simple mechanics of *Droid Repair Bay*; and there are several opportunities to wield a lightsaber, both to deflect blaster shots with greater accuracy as seen previously in *Trials of Tatooine*; and the melee blocks and attacks are similar to those in *Jedi Challenges*. While the PC's quipping droid companion can be grating, the story works as a whole and each episode can be played in its entirety in a single hour-long session. The success of the game with fans is undeniable. On the Oculus Quest store, *Vader Immortal* has 2456 reviews with 86% of the ratings being 4 or 5 stars, and on the Oculus Rift store it fares even better with 3,393 reviews with

92% of the ratings being 4 or 5 stars. That's an astonishing number of highly positive reviews for a game that has only been out for 4 months at the time of writing.

CONCLUSIONS

VR experiences do not yet offer a significant number of transmedia storyworld extensions compared to other media such as television, film, comics, games, and print fiction. The DC Extended Universe, Harry Potter, and Game of Thrones franchises have only dabbled in this medium with mostly disappointing results. The Marvel Universe's most successful attempts to develop VR content consists of two short demos to promote upcoming Spider-Man films, though the AR title *Dimensions of Heroes* may point to more ambitious efforts in the future. The Star Wars franchise leads the pack in terms of both quantity and quality of VR experiences, learning from early disappointments and improving upon mechanics with each new release. Star Wars is also the only franchise attempting to create genuine narrative extensions into the transmedia storyworld using VR experiences, using the innovative team experience *Secrets of the Empire* at their theme parks and through their impressive narrative extension *Vader Immortal*, both of which tie into canon content in other forms of media.

The price of VR equipment has steadily decreased over time, and there are new headsets being released that operate as self-contained units. This not only frees consumers from needing an expensive computer to try VR experiences, but these new standalone units also allow greater freedom of movement as they do not need to be tethered to a computer by cables. These changes coincide

with developers' growing understanding of what makes for successful VR games and experiences. As the VR audience matures, they have grown to expect more than a 360-degree experience with little chance to interact with the storyworld. In general, fans are less than happy having to pay for repetitive games even if the mechanics allow them to adopt the skills of their favorite characters and heroes. The success of the VR narrative extension *Vader Immortal* demonstrates that even a variety of familiar mechanics can feel fresh and exciting when contained within the framework of a meaningful story, especially when that story has a genuine impact on the rest of the transmedia storyworld. It seems likely that well-crafted serial narratives will drive an increasing number of fans into purchasing this new wave of less expensive standalone headsets in order to enjoy exclusive storyworld VR content. It seems equally likely that Disney and other franchises will continue to expand their VR offerings in their theme parks, again using narrative extensions to draw fans to their attractions.

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