Immersive Journalism: Using Virtual Reality to Experience the News

Nonny de la Peña
Senior Research Fellow in Immersive Journalism
Annenberg School of Communications and Journalism
University of Southern California
Los Angeles, CA
Email: nonny@nonnydlp.com

INTRODUCTION

Ernest Wilson, the dean of the Annenberg School of Communications and Journalism, put it like this: What if, after receiving the home and garden section in the morning, the reader could walk right *into* the section and visit a garden? This bucolic vision reflects one potential scenario for "immersive journalism," a new genre that utilizes gaming platforms and virtual environments to convey news, documentary and non-fiction stories. This burgeoning field can capture audiences increasingly accustomed to experiencing digital worlds.

The fundamental idea of immersive journalism is to allow the audience to actually enter a virtually recreated scenario representing the news story. The pieces can be built in online virtual worlds such as Second Life or produced using a head-tracked head-mounted display system or HMD. An HMD is a lightweight helmet that has screens covering the eyes and tracks head movement in order to synchronize the digital imagery on the screens with whatever direction the wearer looks. This can create a sensation of having a virtual body in a virtual location. Immersive journalism can also be constructed in a Cave, which uses full body-tracking technologies in a small room so that individuals can move their bodies around the space.

Virtual reality technology is best known as a tool for the gaming industry. However, it is also used for therapeutic purposes. For example, USC Professor Albert

"Skip" Rizzo has created a virtual Iraq which is used to allow soldiers suffering from post traumatic stress disorder to "re-experience" events such as a bomb, sniper or gunfire attack. Trained psychologists work with the patient during the process as part of something called exposure therapy, which slowly reintroduces a traumatic event to the patient in order to reduce sensitivity and psychological scarring. While Rizzo's results are still preliminary, his current data suggests that using virtual reality can help reduce PTSD symptoms. (Rizzo, Newman, Parsons, et al 2009)

While immersive journalism is also anchored in real world events, it is distinct from Rizzo's work in that it intends to tell a news story. Visual and audio primary source material from the physical world reinforce the concept that participants are experiencing a nonfiction story, with the video, sounds or photographs acting on the narrative. Video triggers at key points in the virtual landscape to remind a participant that the computer generated environment is grounded in the physical world. Scripted events that create a first person interaction with the reportage can also help create a feeling of "being there." Participants can also query or interact with the elements around them to learn more about the details or context of the news story.

Immersive journalism foxllows the basic tenet of connecting an audience and a news story. Creating that connection via different kinds of 'immersion' has also long been considered ideal. Describing her reporting during World War II, Martha Gellhorn called it "the view from the ground." (Gellhorn, 1994) Writer George Plimpton famously joined the Detroit Lions American football team in order to give his readers the most intimate sense of playing on this team (Plimpton, 2003). Television news correspondent Walter Cronkite made a series of documentaries recreating historical events in which he would offer a brief introduction before an announcer would give the date and the event, proclaiming, "You Are There!" More

recently, attempts to combine audio, video and photographs on the Internet have created what some journalists call “immersive storytelling.” As technology editor at MSNBC, Jonathan Dube said that he believes this can bring the reader or viewer “closer to the truth.” (Willis, 2003) In general, participants travel through the story as a digital representation of themselves or as one of the subjects in the news piece. Whether visiting the space as oneself or as a subject in the narrative, immersive journalism aims to afford the participant unprecedented access to the sights and sounds, and possibly, the feelings and emotions that accompany the news.

BACKGROUND

The use of interactive digital media by major news organizations has generally focused on photos or audio that can be accessed through websites. However, a recent and novel use of technology has been “news games” or “documentary games” in which game designers apply game mechanics and engines to educational or topical issues. News games can range from simple 2D animations to elaborate 3D gameplay. Three interesting examples are *JFK Reloaded*, the *KUMA\WAR* episodic series of games and *Survivor 911*.

In *JFK Reloaded,* the player engages with one of America’s most enduring controversies – could a lone gunman assassinate President John F. Kennedy firing from the Texas school book depository located near a parade route? The game was launched on the web as a sort of contest and came down after the first player successfully made the shot. Given the many news pieces, books and documentary films on whether one man could have performed what seemed like a near impossible feat, this news game adds an interesting angle on telling the events of the day and perhaps helps address conspiracy theories around the assassination.

The *KUMA\WAR* episodic series of online games are re-enactments of battles from the war in Iraq and Afghanistan based on news accounts, interviews and DOD reports. KUMA Reality Games positions itself as journalistic and their web banner proclaims: "REAL WAR NEWS, REAL WAR GAMES," [1] (KUMA Reality Games, 2004, www.kumawar.com). KUMA also weighed in during the 2004 American presidential election. When a controversy erupted over whether candidate Senator John Kerry's war hero medals were deserved, KUMA created a game that allowed players to recreate the event surrounding the crucial battle. In this way, players were allowed to judge his time as commander of a Swift boat in Vietnam for themselves.

The third game, *Survivor 9-11*, is perhaps the most controversial. The game creators felt that the images of the day in which terrorists flew planes into the World Trade Center had begun to lack meaning after multiple viewings. They wanted to restore the reality of the event by putting people into the role of survivors and victims alike (Mirapaul, 2003). One of *Survivor 9-11*'s developers, Jeff Cole, stated that, "The game itself is not really a game at all … (it) keeps no score or actual track of time. It is merely a moment caught in time." (Fullerton, 2005)

While documentary games share some underlying ideas with immersive journalism, by their nature games must embrace gaming protocols. The player undertakes a task or pursues a goal, voluntarily constrained by agreed upon rules, and must take action to advance position. Progress is often measured by indicators such as levels or points. In contrast, a participant in immersive journalism isn't playing a game but is put into an experience where the participant is affected by events and may or may not have agency to change a situation. Immersive journalism also closely

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[1] www.Kumawar.com

parallels a news narrative playing out in the physical world much like a piece in a newspaper or segment on television and while one might experience the story from different starting points, the story itself should not shift.

Finally, immersive journalism is not necessarily reliant on off the grid gaming engines. The advent of large-scale multi-player environments such as Second Life,[2] which offer users freedom to build nearly any environment they see fit, are providing new opportunities for non-fiction "spatial narratives." Spatial narrative refers to the idea of the story being spread throughout a 3D environment that can be toured using an avatar or digital first-person perspective (Weil, de la Peña, 2008). However, deep immersive journalism, which is discussed further in the paper, does require a commitment to expensive technologies although they are proving to be extremely useful for non-fiction stories.

IMMERSIVE JOURNALISM PROTOTYPES

Gone Gitmo, a virtual representation of Guantánamo Bay prison built in Second Life, experiments with avatar agency, spatial narrative and the integration of documentary video within the computer graphics environment (de la Peña, Weil 2007). The site allows the participant to explore a place that is inaccessible to the average American citizen and press. (In fact, the Pentagon has repeated expelled journalists from the prison, including most recently banning four reporters from covering military commissions despite the fact the four had been reporting on the prison for years.) The participant is represented by an avatar that is eventually and unexpectedly yanked from passive involvement to active participation by being

[2] http://www.secondlife.com

hooded, shackled and transported in a C-17 transport plane to a cage in Camp X-Ray. Rising out of the cage, the participant is confronted with documentary footage of detainees while movement around the space triggers original video of Guantanamo Bay prison released by the U.S. Department of Defense. The integration of primary source material documenting the physical space within the virtual space ties the digital build back to Guantánamo Bay prison by reinforcing the narrative and the sense of immersion.

Another Second Life prototype, *Cap & Trade*, is a news report on the carbon market that sends people on a journey to follow the money in order to try to better understand the complexities and human consequences of trading carbon credits (de la Peña, 2009). It explores the "Cap and Trade" markets by providing participants the ability to 'travel' through an examination of the current financial system in which both individuals and corporations can allegedly offset their carbon pollution by paying into such projects as forest preserves or methane capture on farms. Participants start this Second Life journey by selecting the component of their lives they intend to offset: annual carbon emissions produced from either their car, a transcontinental plane flight or from heating their house for a year. These selections then bring the participants to virtual replicas of actual projects. The human-rights consequences, financial waste and questionable practices provide a glimpse behind an otherwise opaque system. They are also followed by a personal "carbon cloud" to underscore individual responsibility inherent in the pollution problem.

Another unique prototype uses head mounted display technology, which creates a full immersive experience. Using an HMD is particularly applicable to nonfiction because people tend to respond realistically to virtual situations and events even though they know that these are not real. Even more surprisingly, this response-

as-if-real (RAIR) occurs even though the computer generated graphics and virtually simulated actions lack realism. Research on RAIR has focused on how individuals can feel 'presence' – the sense of being in the place depicted by the virtual displays. Recently this concept has been divided further into three key aspects -- place illusion, plausibility illusion and virtual body ownership. Place illusion is the sensation of being and operating at a remote or virtual place. Plausibility illusion is the feeling that what is happening is really happening. Third, recent cognitive neuroscience research in the field of body ownership, where it has been shown that the brain has a high degree of plasticity in the representation of the body, and that it is not difficult to induce illusions of body distortions, additional limbs, and even the sense of ownership of an entire virtual body. (Botvinick, Cohen, 1998; Sanchez-Vives, Slater, 2005; Slater, 2009; Slater, Spanlang et al. 2010)

Using these concepts, an immersive-journalism experience was designed using head mounted display technology and takes the audience a step further into what we are calling deep immersive journalism. The idea was to create a news story describing how detainees held by the U.S. military were forced to remain in 'stress positions,' for extended periods.[3] These detainees were often subjected to what was termed 'harsh interrogation' (Bazelon, Carter, et al. 2005). Incorporated into the experience was the 2002 and 2003 Guantanamo Bay Prison interrogation of Detainee 063, Mohammed Al Qahtani, who the U.S. Department of Defense declared had been tortured (U.S. DOD 2003; Woodward 2009, Jan. 14). It was also constructed to have

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[3] See http://www.slate.com/features/whatistorture/Taxonomy.html, citing link to CIA Manual http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB27/01-02.htm

the participant undergo an illusionary transformation of their physical body into the body of a detainee. Throughout, best practices in journalism were followed while still attempting to intensify the participant's involvement with the events.

The experience consisted of a visual and audio component. The visual design consisted of a virtual cell where the participants saw their avatar confined in the type of stress position documented in various governmental and news reports. The audio track implied that the Mohammed Al Qahtani interrogation was taking place in a cell adjacent to where the participant was experiencing the illusion of being in a stress position. Actors read from a script in which the passive tense of the Al Qahtani interrogation was changed to an active voice. For example, 'SGT R makes the detainee stand up and sit down 3 times,' was altered to 'Sit down! Stand up!' Also, a reference in the actual interrogation logs indicated a Cristina Aguilera song had been played to detainees but did not identify its title. Therefore the song was chosen somewhat arbitrarily. No additional changes or invented language was used in the script.

For a detailed description, please read the article "Immersive Journalism: Immersive Virtual Reality for the First Person Experience of News" in the August 2010 special edition of *PRESENCE: TELEOPERATORS AND VIRTUAL ENVIRONMENTS*. The complete video experience is also available online at: http://www.immersivejournalism.com/StressPosition.mov The following are some of the comments by three of the participants which are included in that video:

(1) The experience felt realistic:

> "I was nervous because I felt I was kidnapped or something, you don't know what is happening."

"I was definitely expecting the attention to turn to me at some point which was itself somewhat unpleasant … I was expecting something unpleasant to happen to me, definitely."

"It was quite realistic … I felt pretty much the environment, the sounds, the perspective …"

"You see a face sometimes in front of you sometimes by your side and you think - is that me? I'm in a room, alone? … and I hear people around, and they don't seem friendly … you cannot control things … you're helpless …"

"I would be the next one in the interrogation room or something…"

(2) We asked the participants to sit upright and monitored that they did so which made their adoption of the virtual body surprising.

"When I looked downwards I could see my legs, so I was on top of the box"

"I might have been imitating his posture … I don't know, I remember feeling uncomfortable…"

"I felt mostly forward [he bends forward] sometimes I got tired and I […he straightens his back] but I was mostly forward…"

"I was all flexed …[he bends forward] and in an uncomfortable position"

"… you know where are your legs and your hands but at the same time you see the other guy, the guy that is supposed to be you, and you look at him, and … ok I'm really flexed, I'm in an uncomfortable position, so you start to believe that you are him."

Finally one participant, who had not been told our intent, i.e. this was a news story about detainees, said:

> "During the experience I was kind of reminded of the news that I heard about the Guantánamo prisoners and how they feel and I really felt like if I were a prisoner in Iraq or some... war place and I was being interrogated … I felt how does a prisoner feel like."

CONCLUSION

Nothing will ever replace the experience of being face to face with another human or actually being in a physical location where an event unfolds. However, journalists have always tried to convey stories that occur from afar and while the rise of digital tools make "faking it" much easier, factual manipulations in print or photography have a long history. In fact, we often accept photos that are "image corrected" or "image enhanced." Moreover, as educators, we must always caution our students in how they use digital technologies to tell stories -- even trusted news sources have been caught using technology for questionable alterations. For example, in 2006 a Reuters' photo editor digitally manipulated photographs from the Israeli-Lebanon conflict and released them as real.

Critics often dismiss virtual worlds as unrealistic because of the cartoon-like animation. But as these spaces become increasingly photorealistic, with more details drawn from data obtained in the physical world through various techniques such as 3D reconstruction, image-based rendering, and motion capture, immersive journalism can become a much more accurate representation of physical world stories. Of course, immersive journalism will still be subject to the same potential manipulation as video and photographs, but it will certainly be not any less "real" than video.

In fact, by allowing for more immersive experiences, if generated according to the principles advocated here and using ethical, best journalistic practices, immersive journalism has the potential to constitute a much more faithful duplication of real events. Being in the middle of a scene can be much more realistic and powerful than watching it from the audience or sitting, completely removed from the action, in a living room. As noted in the *PRESENCE* article, "Immersive Journalism: Immersive Virtual Reality for the First Person Experience of News":

> A major concern in journalism is the extent to which reporting complies with reality. The term 'reality' itself raises a series of problems. Post modern writers such as Baudrilliard (Baudrillard 1995) have come up with elaborate descriptions of how the duplication made possible by media becomes the truth by itself, a hyperreality. A possible objection to immersive journalism may be that it may strain the credibility of journalistic integrity, undermining the ability to bring the 'true facts' to the public. …we claim that, perhaps unintuitively, the opposite may be true. Immersive journalism does not aim solely to present 'the facts' but rather the opportunity to experience 'the facts.' … For example, note that immersive journalism may be based on 3D video rather than on 3D synthetic modeling and animation. While the limitations we mention for natural content still apply to such 3D audio-video experiences, they are certainly not less 'real' than video.

Using these ideas as the starting point, immersive journalism is a viable avenue for exploration, particularly in journalism educational endeavors where new ideas are welcome during this wrenching and transformative period for most legacy

media trying to survive in the digital era. When the record industry refused to consider experience in how their audience was going to interact with music, they gave Apple the right of way to build iTunes. The result was an extremely successful and robust environment that offers an entertaining, multilayered way to access music while also supporting Apple's iPod music device. No doubt immersive news is nascent, but journalists should learn from the mistakes of the music industry which, unfortunately, legacy media seems well on its way to repeating. With iTunes as the model, immersive journalists should concentrate on experience with the knowledge that consumer level offline platforms for 3D immersive journalism will be available in the near future.

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