

The JJIE Virtual World Journalism Project:  
Experimenting with Virtual Worlds as an Emerging Journalism Platform

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Claire Bohrer

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### Abstract

Although immersive journalism in the virtual world was pioneered by journalist and documentary filmmaker Nonny de la Peña years ago, traditional journalists are just now discovering its potential as an alternative platform to report the news. This study explores the singularities of immersive journalism in virtual worlds using the "Marginalized Youth Voices Amplified on Virtual Worlds" project, which a journalism professor at Kennesaw State University received a grant to develop. The grant came from an Online News Association Challenge Fund for Innovation in Journalism Education, and has been used to produce 3D-scenario machinima (action videos inside virtual worlds) to tell real-life journalism stories of the youth in the juvenile justice system. The project deploys the principles of traditional journalism in the virtual world to re-create the experiences of youth in the juvenile justice system. As the project's student researcher, I plan to discover what journalism professors, students and professionals can learn from this nine-month experience of using virtual world platforms to tell real-world journalism stories. Using a combination of ethnographic and survey research, this study will undertake a structural analysis of not only the production practices of immersive virtual journalism—such as the reporting and recording of stories in virtual-world scenarios via OpenSimulator, an open source platform, multi-user 3D server application— but also of the impact of this emerging, evolving form of journalism on audiences, especially media-averse youth audiences. At the conclusion of this experiment, the answers to the following questions will be more clear: How successful can an interdisciplinary group of undergraduate students be in telling youth justice stories in virtual worlds? Does the immersive, personalized nature of virtual world journalism resonate more with youthful audiences than traditional journalism does? Do college students believe that it provides a richer, more empathetic experience in news

consumption? What can traditional journalism learn from immersive virtual world journalism?

### Literature Review

The presentation of news has drastically changed over the years. As McNair (2009) pointed out, news has gone from "analogue to digital; passive consumption of content to user-producer interaction; stationary to mobile" (p. 2). Due to the new, innovative technology of the ever-evolving Internet, journalism has been forced to keep up with a wide range of techniques for gathering and distributing news. Such innovations have ultimately re-defined journalism, causing news reporters to find and create inventive ways to capture the attention of their digitally-inclined audience. As a result of the ever-developing technology that has constantly challenged traditional journalistic practices, virtual reality has emerged as one of those innovative storytelling platforms.

Digital media in the form of online journalism has promised "new dimensions to news coverage" like "immediacy and abundancy" (Miller & Reynolds, 2014, p. 154), but virtual reality gives a whole new meaning to its third dimension: interactivity. According to Burdea & Coiffet (2003), virtual reality functions as "a simulation in which computer graphics are used to create a realistic-looking world" (p. 2). Rather than being "static," the world "responds to the user's input" (Burdea & Coiffet, 2003, p. 2) While interactivity in digital media initially enabled viewers "to express their thoughts about a story or provide news tips" via online media (Miller & Reynolds, 2014, p. 156), virtual reality permits "real time interactivity," which means that "the computer is able to detect a user's input and modify the virtual world instantaneously" (Burdea & Coiffet, 2003, p. 2). In other words, the user makes the decisions of what he or she can see on the screen, providing an entirely new connection between audience and news story.

Although virtual reality was invented over 50 years ago, beginning in 1962 with Sensorama Simulator, Morton Heilig's first virtual reality video arcade, and the first commercial virtual reality technology, the DataGlove was created by VPL INC. in 1992, the idea of immersive journalism has only just begun to emerge. In fact, virtual reality applications were created in various areas like art, medicine, entertainment and the military before they were even considered as a journalism platform (Burdea & Coiffet, 2003).

When virtual reality journalism first appeared in 2003, it was mostly practiced in Second Life, "a computer-generated alternative reality" (Brennen & Cerna, 2010, p. 1). In Second Life, users from all over the world construct avatars to navigate through virtual environments and participate in social, business, and educational activities similar to those in "real life." Just as news exists in the real world, news exists in Second Life, where residents and reporters actively produce news stories. Three virtual reality newspapers in particular, beginning with the *Alphaville Herald* in 2003, and including the *Metaverse Messenger* and the *Second Life Newspaper* have aimed to provide residents in and out of the virtual environment with ways of understanding life in the virtual world.

Along with these virtual world newspapers, TV shows emerged in Second Life, starting in 2006 with *Metanomics*, a web-based mixed reality show with virtual interviews. Hosted by Robert Bloomfield, this five-year-running virtual talk show enabled any individual avatar in the audience to participate by asking questions in real time (Cruz & Fernandes, 2011). *Metanomics* became so successful that many described it as "the seminal form of what journalism will look like in the 21st century" (Cruz & Fernandes, 2011, p. 6). Following the success of *Metanomics*, another virtual reality news show, *MBC Weekly News* appeared online with the Metaverse Broadcasting Company's Metaverse TV Network show lineup.

As a result of the success of these virtual reality shows and the growing popularity of Second Life in general, major news sources such as CNN and Reuters began to engage in virtual reality with the creation of Second Life bureaus. Through its user-generated iReport model, CNN allowed virtual citizens in Second Life to participate in the creation of the news (Cruz & Fernandes, 2011), while Reuters established full-time in-world avatar reporters in Second Life. Major moves from these companies prompted various other magazines, newspapers, and TV stations to establish a presence in Second Life. Suddenly, virtual worlds were intersecting with various "real-life" brands, causing Second Life to come to the forefront of conversation in "real-life" media (Totilo, 2007). These growing developments of virtual reality eventually led to the most significant turning point in the evolution of virtual world journalism: immersive journalism.

For journalism to be effective, journalists must create a connection between the audience and the story being told, which is exactly what immersive journalism provides. With the interactivity of virtual reality comes "the feeling of immersion, of being part of the action on the screen, that the user experiences" (Burdea & Coiffet, 2003, pg. 3). Nonny de la Peña, Chief Executive of the Emblematic Group, often referred to as "the godmother of virtual reality" (Volpe, 2015), employed this feeling to conceive the idea of immersive journalism.

According to de la Peña, et. al. (2010), immersive journalism "is the production of news in a form in which people can gain first-person experiences of the events or situations described in news stories" (p. 1). In immersive journalism, the audience can actually enter the news scenario re-created in virtual reality as an avatar, "an animated 3D digital representation of the participant" (de la Peña, et. al., 2010, p. 2). As an avatar, the audience can experience the story from a first-person perspective in several forms: "as oneself, a visitor gaining first-hand access to a virtual version of the location where the story is occurring or through the perspective of a

character depicted in a news story" (de la Peña, et. al., 2010, p. 2). One of the most remarkable aspects of immersive virtual environments is how people respond to these virtual situations. Although they know it is not real, the response-as-if-real (RAIR) is a common occurrence, arising from the three concepts of "place illusion, plausibility, and virtual body ownership" that make immersive journalism possible (de la Peña, et al., 2010, p. 4).

In her first VR project in 2012, "Hunger in Los Angeles," Nonny de la Peña places her audience in an LA food line, where a man suddenly falls to the ground in a diabetic coma before he can get food. Many who have experienced the video admit to how real it seems. One viewer, Bryan Bishop (2013) describes how "I was frankly surprised at how much I actually cared [...] My heart rate picked up, and I impulsively wanted to do something" (para. 11). In videos of viewers experiencing the story via the Oculus Rift virtual reality viewer, you can see "people down on the ground trying to help this guy," crying, because they cannot (de la Peña, 2015, 4:05). Somehow, putting on these goggles that allow you to move and see anywhere in the scene gives you this "whole body sensation to feel like you're actually there," thus eliciting the audience's empathy that journalists strive to generate through storytelling" (de la Peña, 2015, 0:41).

To make such a realistic experience possible, the viewer needs the right gear, which is why de la Peña partnered with Palmer Luckey, creator of the Oculus Rift Headset, to bring the story to life. The Oculus Rift is a VR viewing platform, which Luckey sold to Facebook for \$2 billion, making virtual reality evermore significant in news media conversation (Young, 2015). Then, to further boost the popularity of virtual reality, many news organizations, including the *Wall Street Journal*, ABC, CNN, the *Associated Press* and Vice have all experimented with virtual reality. *The New York Times* has also joined the virtual reality revolution, with its creation



of the New York Times Virtual Reality (NYTR) Smartphone app, in which users use Google Cardboard to view different virtual reality stories (Manly, 2015).

Although these well-known media organizations have begun to experiment with virtual reality, Nonny de la Peña remains the "godmother of virtual reality," as her projects continue to impress the world (Volpe, 2015). Her latest virtual reality experience, "Kiya" received rave reviews at the 2016 Sundance Film Festival in January. Using Freedom of Information Act material, interviews, and 911 recordings, "Kiya" presents the overall tragic story of a domestic violence homicide (*The New York Times*, 2016). Once the goggles are in place, viewers are suddenly present in this unsettling scene where a violent boyfriend holds his girlfriend hostage in his home while the girl's two sisters try to save her. With virtual reality stories like "Kiya," de la Peña seeks to "offer a better understanding of how events transpired, and to make people connect to stories they might otherwise ignore" (*The New York Times*, 2016, para. 13). Furthermore, with regard to this digital generation, she expresses her desire to "reach younger audiences who are accustomed to digital worlds and gaming platforms, and help them become informed global citizens" (*The New York Times*, 2016, para. 13).

Just as with all digital media, there is a certain amount of "skills, vetting, and investment" needed to implement virtual reality journalism (Miller & Reynolds, 2014, p. 159). It takes time to learn how to operate the new technology and how to produce news scenarios in a virtual world. Furthermore, in order to succeed in telling real journalism stories with this platform, it is necessary to get every factual detail of the story. On top of these concerns are the costs. For one, the Oculus Rift costs about \$600. Granted, one can always buy the \$23 Google Cardboard to view VR stories like in the NYTVR app, but that does not provide the best virtual reality experience (Kohler, 2016). Even the expensive Oculus Rift is not perfect, since viewers have a

large headpiece on their faces as they move awkwardly around a room, very possibly falling down as they immerse themselves into the story (Walker, 2015). And with the goal of making the virtual experience as real as possible, powerful hardware is necessary, which means that many computers are unable to meet these requirements. Without the right hardware, users often suffer motion sickness or just bad quality. At the moment, users who want the highest quality VR experience have to be willing to buy not only the expensive Oculus Rift, but also a high-power \$1500 computer (King, 2015).

Nonetheless, just like any emerging technology in the past, such as the first cell phones and computers, virtual reality technology will undergo many improvements before it is deemed indubitably sufficient. Despite its current drawbacks, there is no question that virtual reality journalism is on the rise. Existing work like Nonny de la Peña's multiple VR experiences prove that virtual reality offers a whole new, interactive way for the audience to experience news. And with the new digitally-oriented generation, this interactivity may very well lead viewers, young and old, to empathize more with news stories, thus ultimately making virtual reality the emotion-evoking platform that journalists have been seeking for years.

## Study

### **Project Overview**

The "Marginalized Youth Voices Amplified on Virtual Worlds" project was formed from an Online News Association Challenge Fund for Innovation in Journalism Education, which a journalism professor at Kennesaw State University received. The grant funded the efforts of eleven interdisciplinary undergraduate college student interns coming together to use virtual world tools to produce machinima (3D action videos inside a virtual world) that tell the real-life

stories of youth in the juvenile justice system. The students worked alongside a virtual world developer, videographers, editors, and web producers in the Juvenile Justice Information Exchange (JJIE) newsroom to create these machinima.

As part of the grant proposal, each machinima was to stand alone, be commentary, or be embedded in a larger story or multimedia presentation. The final products were to be viewable online and eventually marketed to youth via a class-created, interactive phone app. All techniques, digital resources and findings were to be shared with other newsrooms and universities to expand upon the conversation of immersive journalism. Our ONA proposal goal was to "demonstrate how students working in a real newsroom can use existing virtual world (VW) tools to begin that journey to VR storytelling" ("Project Overview," 2015).

For more information and to follow the project's progress, visit [virtualworld.jjie.org](http://virtualworld.jjie.org)

### **Why Virtual Worlds for Juvenile Justice Stories?**

The JJIE Virtual World Journalism project emerged as a collaborative effort with the Juvenile Justice Information Exchange (JJIE.org) located at the Center for Sustainable Journalism at Kennesaw State University. The JJIE is "the only publication covering juvenile justice and related issues nationally on a consistent, daily basis" ("JJIE About"). A main incentive of the journalists' at the JJIE is to get youths' voices heard; however, they face a major barrier in doing so, as they simultaneously have to protect the anonymity of the youth.

Like the journalists who write for the JJIE, the project aims to increase awareness of the happenings in the juvenile justice system by giving a voice to the often unheard youth. The virtual world medium allows for anonymity, as the youth will be able to tell their stories as avatars. Avatars can express emotions, take on different personas (Moser et al., 2007), and convey emotions across various cultures (Koda & Ishida, 2006), which ultimately enable youth

to tell their stories with true emotion while remaining anonymous.

Furthermore, the increasing popularity of virtual worlds among adults and youth is evident in various studies of the increasing percentages in virtual presence over the years (Beals & Bers, 2009). These growing numbers provide journalists with an audience who is more familiar with the medium, and therefore possibly more likely and willing to participate. In 2008, KZERO Research, a UK-based company that specializes in understanding marketing dynamics that relate to virtual worlds, reported that “the largest virtual world for adults (over age 20) has 13 million registered users, while the largest for children or youth has 90 million users (and there are six additional worlds with between 17 and 45 million users for people under 20)” (Beals & Bers, 2009, pg. 52). To provide further evidence of the appeal of virtual worlds for youth, eMarketer estimated that in 2007, 24% of the 34.3 million U.S. child and teen Internet users visited virtual worlds once a month and that figure is expected to rise to 53% by 2011 (Williamson, 2008). For adults and especially children who have grown up with virtual worlds, using virtual worlds as a news platform would probably be appealing, possibly even more appealing than textual journalism.

Furthermore, virtual education has already been used to increase awareness of the criminal justice system, like in the virtual prison tours created by incarcerated juveniles. In these tours, anonymous juveniles share the emotional experiences of their sentencing, institutionalization, programming, and challenges through a prison tour video. These videos have had major educational benefits, as viewers agreed that they provide an authentic learning experience that increased their awareness of and support for alternative incarceration practices (Miner-Romanoff, 2014).

Moreover, at the 2016 Sundance Film Festival, *The Guardian* premiered *6x9: An*

*Immersive Experience of Solitary Confinement.* In the Voices of VR Podcast, Francesca Panetta (2016), special projects editor at the *Guardian* and creator of “6x9” discusses the objective behind the production: to allow the audience to experience all of the psychological effects of being in solitary confinement firsthand. The combination of the actual audio recordings from the jail cell, the realistic environment, and the audience's ability to interact with the experience enable hallucinogenic feelings of being trapped in a 6x9 ft prison cell for a long period of time (Panetta, 2016). This immersive experience is especially relevant today, since there are currently "as many as 100,000 state and federal prisoners [...] in solitary confinement in the United States at any given time" (Eilperin, 2016, para. 20). Therefore, providing an audience with the ability to experience life in solitary confinement firsthand further increases awareness that may very well trigger the desire for change.

Overall, virtual worlds are a great platform for telling juvenile justice stories. Not only do they promise youth the anonymity they deserve through the use of avatars, but they are an increasingly familiar platform among many adults and youth who will be able to relate more with the stories that are being played out in front of them, thus educating adults and youth and also making them empathize more through firsthand experiences of news stories.

### ***Project Machinima Alterations, but Juveniles to Remain Anonymous***

Initially, our project proposal for the ONA grant read: “We will tell their stories inside virtual world (VW) environments which the kids will help design. As life-like avatars, they will walk and talk audiences through their story of being in detention, of being arrested, of being homeless, and of being lost in the system” (“Project Overview,” 2015) . However, we changed our initial strategy, instead using three different approaches that still ensured anonymity for the juveniles. For the soundtracks of our machinima, we used a recording of a youth advocate

retelling his own childhood experience, a voice-over professional reading of a juvenile's poem, and the voices of student actors reading verbatim the actual records from a juvenile's court case and entire life.

One of the machinima that was produced for this project is currently being incorporated into an interactive mobile app. With the digital journalism revolution, young people are more inclined to get their news from interactive media (Miller & Reynolds, 2014). This app will focus on alerting youth to the consequences of juvenile offenses and ultimately on deterring youth from getting involved with crime-like activities in the first place. Included in the app design is a link to Georgia's SB440 state law, which defines the circumstances in which youth can be tried as adults (Campaign for Youth Justice, n.d.). In addition, the app will include survey questions to gather viewer input, appearing onscreen as the juvenile's story is told through the machinima. Survey results from each question will also appear onscreen. For the app user interface design, the app developer has worked alongside the virtual team, referencing Shields' (2015) effective techniques, such as providing real data, real-time interactivity, and real stories, to prevent teens from participating in dating violence, and incorporating these ideas to create an effective, appealing mobile application (Shields, 2015).

### **Methodology**

While immersive journalism works by journalists like Francesca Panetta & Nonny de la Peña employ the use of 3D headsets (the Oculus Rift) and 360 degree videos, the Virtual World Journalism team's productions were machinima, videos created in 3-D worlds using the OpenSimulator Virtual World as its platform. Despite its less sophisticated graphics, this project employs the same immersive journalism techniques as de la Peña, using real locations, real stories, real voices, verbatim text from documents, case reports, and interviews, all to provide the

audience with the accurate, full story. Furthermore, these machinima and their OpenSimulator virtual worlds can be experienced using the 3D Oculus Rift. Moreover, Burdea and Coiffet (2003) reinforce the idea that virtual reality goes beyond the hardware and amplified reality of the impressive virtual works of immersive journalism experts, as these works, just like ours, use the Metaverse's continuum of virtual experiences, which includes the internet.

### **Tools & The Virtual World Platform: OpenSimulator**

The project began with the virtual world developer introducing the team to the Metaverse and all of the virtual world tools that would be used to create the machinima.

The Metaverse is “a globally accessible 3D virtual space and computing infrastructure” (Rehm, Goel & Crespi, 2015, p. 1). The whole foundation of the Metaverse in minimal terms is “interconnected experiences in a virtual environment” (McCormick, 2015, para. 19).

Using the OpenSimulator software, one can create his own 3D multiplayer virtual world environments in the Metaverse. These user-created OpenSim virtual world environments within the Metaverse are called grids. Many of these grids are connected by an avatar transport system called the Hypergrid.

There are only a few types of virtual world server software (game engines) that support the development of user-created worlds. This project uses the open source OpenSimulator platform. On the project's website, on the Project Software page are various links to all the no-cost "open source" or "free software" that was used to create the JJIE Virtual World. By providing this information, the team hopes to encourage others to start a project of their own. (<http://virtualworld.jjie.org/project-software/>). The open source, OpenSimulator virtual world development server platform is available for free installation on any server (<http://opensimulator.org/wiki/Download>).

### **Our Project's Place in the Metaverse**

Our grid, the JJIE Virtual World Grid, is a virtual world amidst hundreds of other OpenSim worlds in the Metaverse. Like all other individual OpenSim worlds, the JJIE Virtual World Grid can easily be connected to others via the HyperGrid teleport system, which enables avatars to travel from world to world. Although worlds can remain private and be closed to HyperGrid traveling, the JJIE Virtual World Grid is open to all (<http://virtualworld.jjie.org/opensim-metaverse/>).

To enter the JJIE Virtual World Grid, one can use the Firestorm Viewer for avatars, as recommended by the project (<http://www.firestormviewer.org/downloads/>). With the intention of making our work and findings accessible to everyone, our virtual world allows anyone to enter. We also hope to encourage people and organizations to create similar worlds for machinima that amplify the voices of other unheard, marginalized populations.

Our website, [virtualworld.jjie.org](http://virtualworld.jjie.org) provides information on how to create your own OpenSimulator avatar and visit the JJIE Virtual World via the Firestorm Viewer (<http://virtualworld.jjie.org/create-avatar/>).

### **Student Interns in the JJIE Virtual World**

Each of the student interns had to create his or her own avatar, download the Firestorm viewer, and enter the JJIE Virtual World Grid to complete weekly inworld tasks. These tasks included exploring the world, creating prims (user-created objects inworld), watching videos and taking pictures inworld. Although all of the student interns were required to complete these tasks to familiarize themselves with the world, only three students, two Computer Science majors and one New Media Arts major, actually filmed, produced and edited the machinima for the project's final products.



**Communication Medium: Google Docs**

The JJIE Virtual World team members used Google Docs as the communication medium. They created, shared and edited documents, sheets and graphic files to manage and track the project's research, editorial content, galleries, video/sound clips, and final machinima production pipelines. Although many of the interns came into the internship unfamiliar with Google Docs, the virtual world developer was experienced with the medium and was able to train them to use it as the team's communication tool.

When the Fall intern team members found their first story about a juvenile who was arrested and incarcerated in 1999, they received thousands of documents from the youth's current lawyer. To organize these documents in a way that the whole group could see them, one student, who became the project's manager, set up a Google Docs folder with multiple sub-folders in which she placed all of the documents. She then divided the documents up among the eleven students, who read through them, summarized and analyzed them, and pulled out any relevant information, including quotes, contacts, and locations.

Google Docs were also used to create and share sheets with contact information, location information, and a timeline of the story's events. This process helped the team to organize and plan interviews with contacts, as well as to pull the entire story together. Overall, Google Docs were used to share documents, files, sheets, charts, videos, pictures, machinima production details, presentation details, and all other information so that the entire team could see, share, and edit the information at any time during the project.

**Participants & Objectives**

This study's first objective was to assess how successful an interdisciplinary group of undergraduate college students can be when presented with the challenge of creating a form of

immersive journalism in a 16-week semester.

The JJIE Virtual World project team consisted of 11 undergraduate college students. Among the 11 student interns, five juniors and six seniors, the following majors were represented: one English major, one African Diaspora Studies, one New Media Arts, one Media Studies, two Public Relations, two Computer Science, and three Journalism.

The project's mentoring team included the journalism professor who is also executive director & publisher at the Center for Sustainable Journalism, JJIE.org editors who provided investigative journalism advice, JJIE.org web producers, who assisted with audio editing and the project's website, JJIE.org videographers who provided video-editing advice, an app developer who worked alongside the students to create a mobile app for viewers to view and interact with the project's products, and a virtual world developer who mentored the students remotely through Skype, email, phone, and meetings in the JJIE virtual world.

At the conclusion of the project, all student interns and professionals involved in the project's production were surveyed to collect their perceptions of the project's success in reaching the first goal of creating an effective, immersive journalism experience through virtual worlds.

The second objective of the project was to determine the effectiveness of virtual world journalism on a college audience. At the end of the project, the team presented their findings about immersive journalism and their virtual world journalism mini-documentary machinima work to students and faculty at Kennesaw State University. The campus audience consisted of 24 students, and included a mix of majors, including Communications with concentrations in Journalism, Marketing and Media Studies, as well as Technology, Business, and Public Relations majors. After the presentation, student attendees were surveyed to gather their perspectives on

the effectiveness of virtual world journalism vs. traditional journalism and their outlooks on virtual worlds as a journalism platform.

The third objective of the project was to discover the perceptions and level of knowledge that journalism/communication students have about immersive journalism. To gather this data, as well as their own perceptions of immersive journalism, the team gave the same campus presentation and surveys to a Concepts in New Media Communications class at Kennesaw State University. The class audience consisted of 23 students, all majoring in Communications with concentrations ranging in Media Studies, Organizational Communication, Public Relations, and Journalism.

### **Procedures**

The project began Wednesday, August 19, 2016, in the conference room at the Center for Sustainable Journalism, where the eleven student interns met every Wednesday for the next 15 weeks; each student intern was required to contribute at least 12 hours a week to the project.

After first-week introductions, student interns split off into three groups based on their interests/expertise: the Journalism Team (5 students), the Machinima Team (3 students), and the Public Relations Team (3 students).

The first few weeks consisted of familiarizing the interns with the concept of immersive journalism and virtual worlds. Students completed inworld assignments (created by the project's virtual world developer) which consisted of following tutorials to navigate through the virtual world via the Firestorm virtual world viewer, creating objects from prims (virtual building blocks), and watching videos that related to the expanding uses of virtual worlds in journalism.

While familiarizing themselves with immersive journalism and the JJIE virtual world, student interns searched for stories of youth in the juvenile justice system to produce in the

virtual world. During the third week, the students came across a captivating story from 1999 about a boy who was incarcerated at age 14 for being an unarmed tag-along in a robbery. With this story came thousands of hand-written and court documents from his current lawyer, which students downloaded to Google Docs, the team's communication medium, where the project manager divided the documents amongst the group members, who would search them to uncover critical information. Then, the journalists used investigative journalism tactics to find the people who were involved in the incident and/or involved in the boy's life in order to discover more about the story. Through investigative journalism tactics like interviews and road trips, students gathered the necessary information to write an accurate news story. That research material was given to the machinima team to create the machinima that would tell the boy's story in a virtual world.

As the machinimists received the information, they worked together to build the virtual world according to the pictures, character descriptions, interview recordings, and the hand-written and court documents from the boy's life. Once the 3D scenes were built and the script was finalized, the machinimists began the filming process, which took many weeks and long nights to complete. After the filming and sound recordings were complete, the New Media Arts major edited the footage and sound clips into the finished machinima.

Along with the creation of the machinima, an in-depth, detailed version of the story using the traditional journalism platform of text was written by the journalists.

At the end of the project, there were three machinima products: one was a proof-of-concept video entitled "The Kid, The Cop, The Punch," which the two Computer Science interns had worked on during the summer semester of the project, using the recorded voice from a man's presentation where he shared his childhood story of being chased and hit by a cop. The second

was an impressionistic machinima using a poem of reminiscence written by a young girl in the juvenile justice system and read in the voice of a student at the university. The third and final product was entitled "Christopher: A Child, Abandoned, Deprived & Imprisoned," which was read aloud by the project's student interns using the verbatim text of the documents and conducted interviews.

### **Data Collection**

To determine the project's overall success from an internal point of view, the project's student interns and assisting professionals were interviewed. No initial survey was conducted because the researcher herself was not familiar with immersive journalism nor virtual worlds at the beginning of the project. For this reason, a control group (student attendees at the project's presentations) was used to test the knowledge that college students have of immersive journalism.

### **Results**

#### **Project-Internal Surveys**

The student researcher herself was fully immersed into the project as the project manager, project researcher, process blogger and journalist. As a participant and observer, she examined and worked to facilitate the communication practices between the three teams involved in the production of the machinima.

To determine the success of the project's production practices, surveys were given to all student interns and assisting professionals involved with the project. The surveys were a mix of open-ended, dichotomous, and scaled questions. Of the eleven student interns, ten completed the survey on SurveyMonkey.

#### **Survey Answers from the Project's Student Interns**

*Initial Contact:* When asked how they heard about the internship, student interns replied that they had learned about it from campus e-mails, the campus career center website, through campus departments, social media, and flyers posted around campus.

When asked why they applied for the internship, many student interns expressed their interest in the virtual reality concept, which was new to most of them: "I was hooked after learning how this internship would be something vastly different than anything I have done before," and "the virtual reality aspect really hooked my interest." Others were interested in the "cause of the project being youth justice," "the juvenile justice aspect" and being a part of "something that was bigger than myself."

*Pre-Project Expectations:* Student interns entered the project with "open minds," having "no idea what to expect," but "expecting there to be a learning curve," especially since most of the interns had never used virtual worlds or heard of immersive journalism before.

*Virtual World Thoughts (Pre/Post):* Interns entered the project with "little" to "no experience" with virtual worlds and "no experience at all" with machinima. As part of their training, student interns had to create their own avatars to complete inworld tasks in the virtual world. When asked which aspect of being inworld was most challenging, students said: "maneuvering the camera," "building objects," "flying," and "the controls."

When asked which aspect of being inworld was most intriguing, students said "flying and teleporting to various grids," "how real it could feel," "building objects" and "creating my character."

By the end of the project, student interns were able to define virtual world and machinima in their own words, and at the end of the internship, they all agreed to be at least "somewhat comfortable" with virtual worlds.

When asked how likely it is that they will use virtual worlds in the future (for personal exploration, as a world developer, or as a machinima stage or other activity), 1 said “likely,” 4 said “somewhat likely,” 2 said “unlikely” and 3 said “very unlikely.” Those who could see themselves using the platform again said they would use it for: “possibly a machinima stage or other activity,” “as a personal project such as a multimedia art piece,” and “to reach youth to expand their experiences to new things.”

### ***Student Intern Surveys: Project-Specific Questions***

To gather perceptions on how successful the project set-up and team collaboration were in their immersive journalism productions, the surveys asked students a variety of project-specific questions.

*Time:* One of the main factors of this project was time. When asked if the 12-hour work week internship requirement was enough time to complete the assigned project tasks, 50% of students said "not enough" and 50% of students said "just enough." One student said that "the amount of time I spent on this project far surpassed that limit," while another student said "it just wasn't enough time to explore the story and create quality machinima."

*Pressure:* When asked how pressured students felt to manage the workload and to reach the deadlines of the project, 6 students said "a little," while 4 students said "a lot." Those students who felt more pressure than others expressed how they felt pressured "to make time for deadlines on top of my other school and work deadlines," "to finish the machinima," and "to coordinate all the segments."

*Different Backgrounds:* When asked if students felt that the different backgrounds of each of the interns made it more difficult or easier to collaborate, most all agreed that it made it easier, explaining that "everyone's expertise fit into the various tasks required of us," "it made for

different points of view," and that they "learned a lot from each other's backgrounds."

*Skills Attained:* When asked if the project helped to improve any of their skills, 7 of the 10 students said "yes." When asked if the internship enabled them to acquire new skills, each student agreed that it did. Attained skills included: "investigative journalism," "research," "virtual world building," "grant research for PR," and "working with a large team."

*Biggest Challenges:* When student interns were asked what was the most challenging obstacle of putting the story into virtual world 3D scenario builds, many said "time," "accuracy," and "creating the machinima."

When asked what was the most challenging obstacle of translating this story from a virtual world into a machinima, students said "being on the same page and the lack of time," "the amount of documents needed to read and translate into machinima," "making it seem real and accurate," "time," "editing and recording the scenes" and "making it emotional for the viewer."

*Google Docs as the Team Communication Medium:* One skill that many students learned from the internship was how to navigate Google Docs. Six of the 10 students had used GoogleDocs before the internship. At the end of the internship, all students agreed that they were at least slightly comfortable with using GoogleDocs. When asked the most difficult part of using Google Docs, students said "the amount of documents and where to find them," "sharing files," and "the organization of the docs." All students agreed that they would use GoogleDocs in the future.

When asked how effective GoogleDocs was as the communication platform for the project, 4 students said "somewhat effective," while 6 said "very effective." One student explained that "GoogleDocs would have been much more effective if everyone had taken the time to understand how to use it," while others said that "having a central place to get and edit documents made it easy to collaborate in the project."



*Goals Achieved?:* When asked if this project was successful in reaching one of its initial main goals: to amplify the voices of the marginalized youth in the juvenile justice system, 1 student said "a little" 5 students said "somewhat," and 4 students said "definitely." Many students explained how they thought "the project was successful in having at least one youth's voice heard," while others thought that "the project was very successful as we were able to meet and speak to key persons who gave us facts regarding the stories," and that this "will hopefully shed light on previous and ongoing problems on how youth are treated."

*Project Accomplishments & Results:* Finally, when students were asked what the main thing is that they hope this project will accomplish, students said that they hoped the project would "educate people on Juvenile Justice issues and in particular lend a voice to the youth's story of our machinima," "raise awareness for continued re-evaluation of juvenile justice laws and practices," "[be] a model for how this platform can be used to communicate complex stories and engage audiences," "shed light on youth justice to help young people make better decisions," and enable "[the boy in our machinima's] story to be heard and have something change his life."

***Student Intern Surveys: Immersive Journalism & Virtual Worlds as a Journalism Platform***

To gather student interns' perceptions of immersive journalism and of virtual worlds being used as a journalism platform, students were asked a variety of related questions.

*Immersive Journalism Thoughts (Pre/Post):* At the beginning of the internship, 7 of the 10 students said that they had never heard of immersive journalism, while 1 said he/she was "not very familiar" and 2 said they were "slightly familiar."

By the end of the project, student interns were able to define immersive journalism in their own words: "a form of journalism production that allows the audience to have a first-person experience of the events in the news," allowing audiences to be involved in the storytelling

process through virtual worlds,” “being in the story yourself,” “interactive and transparent news reporting.”

*Virtual Worlds as a Journalism Platform:* When asked if virtual worlds are an effective way to tell news stories, 3 students said “definitely,” 5 students said “yes” and 2 students said “somewhat.” When asked if virtual worlds had a future in the journalism world, 3 students said “perhaps,” 5 said “yes” and 2 said “definitely.” Most students agreed that virtual worlds are effective in telling news stories because “they can take you to an event that has occurred in the past,” “rather than simply reading about it, you can see it with your own eyes,” and “readers can get a first-hand feel, visually of the story as it unfolds.”

*Foreseeable Issues with Virtual Worlds in Journalism:* While many did agree that virtual worlds do have a future in the journalism world, interns did have concerns about using virtual worlds, saying that “it depends on the time frame of when the story needs to be distributed; with more time it's effective, with less, it's not,” “individuals in old-fashioned journalism might not be willing to adapt,” and “I think it tells a story but you cannot be as vivid as you can with language and the written word.”

### **Survey Answers from Members of the Project’s Mentoring Team**

Four of the 8 project's professional assistants completed the mentoring team survey: the virtual world developer, the project's journalism professor, the app developer, and a JJIE.org editor. Each member of the mentoring team was given a survey via SurveyMonkey with a mix of open-ended, dichotomous, and scaled questions regarding the project and his/her involvement with the project and the student interns. The virtual world developer and lead professor were the most involved in the project, so they had much more to say. Below is a summary of their answers to the questions.

***From the Journalism Professor:***

At the beginning of the project, the professor only had “a little” experience with virtual worlds, no experience with machinima, and was only “slightly familiar” with immersive journalism.

Throughout the internship, he assisted mostly with the journalism team, as he had “25 years of experience in journalism so that is where [his] mentoring and experience came into play.”

When asked *why he decided to join the project*, the professor replied: “I was the proposal writer and project lead. I was interested in alternative ways to tell youth justice journalism stories.”

*Initial Thoughts:* I was extremely excited about the possibilities for the project. By having a professional journalism staff working with us, excellent student mentors and high potential students, my expectations for success were very high.

When asked *if virtual worlds are an effective way to tell news stories*, he replied: “definitely” because they “are a new and evolving way to tell news stories. It’s in its infancy with unknown prospects for the future. I think whatever you can imagine now could happen in the future.”

When asked *if the virtual world platform has a future in the journalism world*, he replied: “it does,” explaining that “right now it seems that it would. But technology evolves quickly. The tools we are using now could be irrelevant in the near or long term future. Or other platforms would dominate the field.”

When asked *what do you believe was the most challenging obstacle of putting this story into virtual world 3D scenario builds*, he replied: “We took on an enormously complex journalism story that made the virtual world building and machinima making way more difficult than anticipated. However, it also demonstrated and reinforced the idea that virtual worlds and avatars can be used to tell important stories.”

When asked, *what do you believe was the most challenging obstacle of translating this story*

*from a virtual world into a machinima*, he replied: Taking a story that was 8,000 words in its first draft and distilling that down to under 10 minutes in a virtual world machinima. The students did that amazingly well."

When asked his perception on *how well the entire group communicated*, he replied: "very well," explaining that "[Keeping in mind that there were] thousands of pages of documents sorted [through, and] just 11 students working on the project with [a few] mentors, I believe at all times everyone was fairly well informed about where the project was headed and were aware of their individual tasks. Of course, I think that happened because one student took on the job as master coordinator. Without that coordination, we might have had a very different outcome."

When asked *if the project was successful in amplifying the voices of the marginalized youth in the juvenile justice system*, he replied: "We were initially hoping to get more youthful voices involved. However, it turned out that our main story and proof of concept entailed recounting the youth justice issues from the past. Still we proved, I believe, that really any voices can be amplified."

Finally, when asked *what is the main thing that you hope this project will accomplish*, he replied: "It introduced all of us to new possibilities in journalism storytelling plus with our dissemination vehicles of showing the machinima, making public presentations at places like Trick 3D gallery and CNN and writing research and other papers, it will help others better understand those possibilities too. So that's our biggest accomplishment."

***From the Virtual World Developer:***

The virtual world developer already had "a lot" of experience with virtual worlds and machinima, and was "very familiar" with immersive journalism. Throughout the internship, she assisted mostly with the machinima team by "teaching them skills required to develop a virtual

world 3D scenario and script/capture a documentary news story machinima” and “[by teaching] them fundamental skills for using Google Docs to manage a collaborative project.”

When asked *why she decided to join the project*, the virtual world developer replied: "It was a unique creative challenge to work with students from a variety of majors and an opportunity to help multiple KSU departments engage with the Metaverse as a teaching and learning medium.”

*Initial Thoughts:* “I was impressed that Professor Witt wanted to integrate immersive journalism using virtual worlds into the Center for Sustainable Journalism. I did expect a more formal approach to the curriculum and project goals, but was happy to see that the actual project assignments and activities would evolve based on the skills and interests of the interns themselves”

When asked *if virtual worlds are an effective way to tell news stories*, she replied: “definitely” because “virtual worlds offer the opportunity to reconstruct all the details of a story with great accuracy at much lower costs than reconstruction in the physical world. They also allow for reconstruction of scenes that have been destroyed in the physical world. The stories can be captured in machinima from many different viewpoints and a story’s virtual world itself can be entered by ‘readers’ for a first-person experience of the story as an observer and/or as one of the characters. Machinima are also easily distributed on mobile devices and interactive mobile apps can be developed using both the machinima and virtual world settings.”

When asked *if the virtual world platform has a future in the journalism world*, she replied: “it definitely does” because the “simple factor of lower production costs makes the virtual world a desirable platform for production of news stories. Another significant factor is audience expectation of more interactive participation with information and the desire to explore information based on their own decisions/interests versus reading static words.”

When asked *what do you believe was the most challenging obstacle of putting this story into virtual world 3D scenario builds*, she replied: “The most significant challenge for all of the machinima productions was the semester time limitations on a team new to both virtual worlds and machinima (or any kind of video) production. For the Christopher story, there was the additional challenge of choosing the most important aspect of his life story to portray in a ten-minute machinima that would be a real journalism documentary and create empathy for Christopher in the viewers. The actual development of the 3D scenarios was a challenge since the team developers were learning to build as they built.”

When asked, *what do you believe was the most challenging obstacle of translating this story from a virtual world into a machinima*, she replied: The actual capturing of the inworld action was challenging due not only to the lack of inworld camera experience, but also due to the collaborative nature of the script development. Team members with only a few hours inworld experience were contributing ideas about what should happen inworld. All of their ideas could be produced, but lack of familiarity with world capabilities meant creative uses of the platform were often overlooked. The creative decision to use only original voice recordings or only text from actual documents meant the visual stories in all the machinima had to conform to these words. This was challenging, but also functioned as a very effective guideline in scripting the machinima action.”

When asked her perception on *how well the entire group communicated*, she replied: “well,” but explained that communication could have been improved through “a short computer skills test before the internship began with an online basic skills course, a more formal plan to implement Google Docs and initial GoogleDoc training sessions, and a required agenda outlining the details of group presentations.”

When asked *if the project was successful in amplifying the voices of the marginalized youth in the juvenile justice system*, she replied: “I think the real determination of our success will be based on the distribution of our machinima and the responses of our audience.”

Finally, when asked *what is the main thing that you hope this project will accomplish*, she replied: “In the near future I hope to see all of Kennesaw State University and other university journalism schools recognize the viability of virtual world platforms not only for producing immersive journalism stories, but as a medium of immersive, interactive teaching and learning for all subjects, as well as a presentation platform for creative endeavors.”

***From the App Developer:***

At the beginning of the project, the app developer only had “a little” experience with virtual worlds and machinima, and was “very familiar” with immersive journalism. Throughout the internship, he assisted mostly with the machinima team, “advising in mobile apps.”

When asked *why he decided to join the project*, the app developer replied: “I was interested about the idea of giving voice to the juvenile. I recommended “avatar” to maintain their anonymity and virtual worlds as the platform with mobile dissemination feature.”

*Initial Thoughts/Expectations:* “To build a platform to tell the stories of juveniles where we can make a difference in their education and future. To create a platform that would inform and change the juvenile justice system in favor of rehabilitating juvenile offenders.”

When asked *if virtual worlds are an effective way to tell news stories*, he replied: “yes,” because they “give context and visual references.”

When asked *if the virtual world platform has a future in the journalism world*, he replied: “it does,” explaining that “with dissemination through mobile devices, it has a great future.”

When asked *if the project was successful in amplifying the voices of the marginalized youth in*

*the juvenile justice system*, he replied: "Somewhat," explaining that "the final deliverable was achieved."

Finally, when asked *what the main thing that you hope this project will accomplish*, he replied: "Finding ways for wider distribution of machinima through mobile devices."

***From the JJIE Editor:***

At the beginning of the project, the JJIE.org editor had "no experience" with virtual worlds nor machinima, and had "never heard of" immersive journalism. Throughout the internship, he assisted mostly with the journalism team through "advising."

When asked *why he decided join the project*, the JJIE editor replied: "The innovative aspect."

*Initial Thoughts:* Very creative. [I knew that the team] would be successful but it would mean a lot of work.

When asked *if virtual worlds are an effective way to tell news stories*, he replied: "yes" because "it holds the viewers' attention."

When asked *if the virtual world platform has a future in the journalism world*, he replied: "it does," saying "it could be the future of journalism."

When asked *if the project was successful in amplifying the voices of the marginalized youth in the juvenile justice system*, he replied: "Definitely, no other way to exemplify it."

Finally, when asked *what is the main thing that you hope this project will accomplish*, he replied: "Introducing people to Christopher's story"

**Mixed Methodology: Ethnographic Study**

The collection of the data included a mixed methodology. Not only did the student researcher focus on how the project was done via personal involvement, but she also used an ethnographic study of virtual journalism, where she measured the effectiveness via project



presentations to college students.

While presenting to the college student audience, the researcher aimed to discover how well-received this virtual world platform would be for a young audience. To test immersive journalism's ability to generate empathy in college students, the JJIE Virtual World Team presented its project's productions and findings to students at Kennesaw State University. Student attendees first viewed de la Peña's piece, "Kiya" using the NYTVR app and Google Cardboard. Students also viewed (on a computer projector) de la Peña's piece, "One Dark Night," which uses actual 911 recordings to present the story of the day that Treyvon Martin was shot by neighborhood watchman, George Zimmerman. Then, the Virtual World team presented their two machinima: "The Kid, The Cop, the Punch" and "Christopher: A Child, Abandoned, Deprived & Imprisoned."

To measure how effective the virtual world journalism medium is for a college audience, printed surveys were given to the 24 student attendees, most from a Mass Media Studies Communications Class. The surveys included a mix of open-ended, dichotomous, and scaled questions to determine their perception of virtual world journalism vs. traditional textual journalism.

### **Student Audience Surveys**

#### **Campus Presentation Audience Surveys**

The KSU campus presentation was advertised through campus-wide e-mails and on flyers posted around campus. On Monday, February 8, 2016, the KSU campus audience consisted of 24 students, and included a mix of majors, including Communications with concentrations in Journalism, Marketing and Media Studies, as well as Technology, Business, and Public Relations. After the presentation, student attendees were surveyed to gather their

perceptions on the effectiveness of virtual world journalism vs. traditional journalism and their outlooks on virtual worlds as a journalism platform.

### ***Pre-Presentation Survey***

Before the presentation, the students were asked to answer a few questions, first generic, interest-based questions, and then questions regarding their knowledge of immersive journalism and virtual worlds.

Of the 24 students surveyed, 18 were "not familiar" or had "never heard of" immersive journalism, the rest being "somewhat familiar." Twenty-three of the 24 students had little to no experience with virtual worlds and only 5 students had viewed a machinima before.

### ***Post-Presentation Survey***

After the presentation, students were able to define immersive journalism themselves: "It puts you into the story," "offers opportunity for people to personally engage in stories," "a first-person, reality perspective," "retelling of events through 3-dimensional graphics that utilize real sounds/footage."

When asked if traditional textual journalism or virtual world journalism would appeal more to an audience, 43% said virtual world journalism. When asked why virtual world journalism is effective for presenting stories, students said: "people understand more through visuals than a text," "immersion triggers emotions and enables participation," "it's more personal, more realistic, and gives individuals the ability to connect and experience exactly what is going on" and "you are in it and it feels so real so you get the whole effect."

While many agreed that virtual world journalism would appeal more to an audience, 14% were hesitant to say that virtual overrules traditional: "Textual journalism [is] simpler; everyone can read. Not everyone wants to have to explore for information," "traditional is not blurry and can

be shared more easily," "textual is cost-effective; it is able to reach more people." However, 43% of students were still torn between the two, based on aspects like accessibility, audience age and interests: "both [are effective] because in some scenarios, a movie may not be appropriate," "both can appeal to different audiences with different demographics," "textual for those with strong imaginations [but] those with shorter attention spans would get a feel of a story without needing to read it."

### **Concepts in New Media Communications Class Presentation Audience Surveys**

To gather further outside perspectives on how effective virtual world journalism is for a college audience, the same presentation was given to a Concepts in New Media Communications class. Twenty-three student attendees were given the same surveys that the campus presentation attendees were given. Before the presentation, they were asked to answer a few general questions about themselves, and then to answer questions based on their knowledge of immersive journalism and virtual worlds.

#### **Pre-Presentation Survey**

Of the 23 students surveyed, 5 students were "somewhat familiar" with the term immersive journalism, while "13 were "not familiar" and 5 had "never heard of" immersive journalism. One student had "a good bit" of experience with virtual worlds, while 9 had "a little" and 12 had "none at all." Of the 23 students, only 1 had ever viewed a machinima before.

#### **Post-Presentation Survey**

After the presentation, students were able to define immersive journalism themselves: "a virtual experience that can give its audience a version of reality, and allows them to experience the event and feel empathy towards its subjects," "a way of informing and story-telling, but more in-depth and deeper emotional attachment," "a 360 degree version of news and stories," "using

technology to recreate stories to make them more immersive and interactive,” “being completely involved with a news story.”

When asked if traditional textual journalism or virtual world journalism would appeal more to an audience, 11 of the 23 students said virtual world journalism. When asked why virtual world journalism is effective for presenting stories, students said: “it’s new, exciting and immerses its audience into a news event, giving the closest version of reality possible,” “it’s a more advanced way to present stories,” “people react to person and emotional stories,” “it shows you like you were a bystander. It makes you feel like you’re in the real world.”

While some agreed that virtual world journalism would appeal more to an audience, many said that textual is more effective, because “people can visualize scenes that are more effective than seeing them in a digital space,” “it’s what people know so far,” “it seems more credible,” and “it takes too much time to put something together in a virtual world.”

Still, many others said that “a balance between both [virtual and textual] would be best,” as “they can both help each other by telling the same story in different ways,” “virtual worlds are beneficial in evoking emotion towards those involved; however, text is needed for a deeper context.”

### **Analysis**

For the first objective of the experiment, to see how successful an interdisciplinary team could be in creating immersive journalism through virtual world machinima in a 16-week semester span, there were mixed feelings on the success of the project.

Based on the intern’s surveys, many felt that more time was necessary to produce quality machinima. Others felt that the communication could have been better and still, others wished that the project had amplified more voices of youth in the juvenile justice system than just the

three that were covered in the machinima. At the same time, many students did feel that the project was a success in that they did learn a lot, expanded upon their skills and created a form of immersive journalism that did amplify the voices of some youth that would bring awareness of the workings of the juvenile justice system.

Also, based on the ONA grant proposal's original purpose to "demonstrate how students working in a real newsroom can use existing virtual world (VW) tools to begin that journey to VR storytelling via telling stories of youth who are among the 50,000 annually involved in the Georgia juvenile justice system" ("Project Overview," 2015), the project was successful, as the eleven student interns did achieve this objective of telling the stories of youth in the juvenile justice system in virtual worlds. Also, based on the ONA proposal's measurements that define the project's success, including: the project will have:

amplified the voices of marginalized youth with innovative technology, allowed kids to participate in telling their life story, gathered a collaborative, interdisciplinary cohort of students, professionals, technologists and researchers who created and broadcasted an innovative, immersive form of journalism, while teaching each other new technology for storytelling, implemented OpenSimulator virtual world software, demonstrating its practicality for collaborative projects, built accessible apps, disseminated findings to universities and news entities, and forged relationships on campus, advancing our teaching, research, service and long-term sustainability missions... ("Project Overview," 2015),

the project was a success, as it fulfilled all of these goals, with the exception of the in-progress accessible app.

Furthermore, as proof of the project's success, the team produced three machinima:

“The Kid, The Cop, The Punch” (see: <https://vimeo.com/140483937>) was created as a proof-of-concept by the two Computer Science majors starting in the summer before the project officially began. This video is similar to *The New York Times* video Op-Docs (2016), which is a “forum for short, opinionated documentaries, produced with wide creative latitude and a range of artistic styles, covering current affairs, contemporary life and historical subjects.”

The second machinima, “Christopher: A Child, Abandoned, Deprived, & Imprisoned” (See: <https://vimeo.com/156710532>) became the main focus of the project. Although the team had originally sought to tell the stories of multiple youth in the juvenile justice system, the Christopher story took over the project. With this extensive story at the center of the team's focus, it was not possible to highlight various voices of marginalized youth in the juvenile justice system. However, the team felt that his story from 1999 was captivating and meaningful enough to tell; from age 2 to 13, he was in and out of more than fifteen foster care homes, due to his parents' neglect and his growing behavioral issues, which eventually sent him to a boot camp and a mental hospital, and then to prison at age 14. Charged 20 years for armed robbery and 20 for aggravated assault, Christopher, now age 28, is still serving 40 years for the crime of being an un-armed tag-along in a non-lethal shooting at the age of 13 years old. This was the story for which we received thousands of documents from his current lawyer and spent taking us many long hours and weeks investigating. Discovering more and more upsetting information, the team members realized that they were probably his last chance for the story to be heard and to show just how unjust the system could be. Because his story was so complex, the journalism team also decided to take on the task of writing a full-textual story tracing his entire life from when he was first placed in foster care to when he was sentenced to 40 years in prison.

The team's third machinima, “Forgive,” also fits into the Op-Doc category as it relates to

“wide creative latitude and a range of artistic styles.” “Forgive” was scripted from a moving autobiographical poem written by a teen who is currently incarcerated in California. *The Beat Within*, which publishes writing and art from incarcerated youth, provided us with the poem. Since the youth wanted to remain anonymous, the team had a member of the Spoken Word Club on the KSU campus read the poem, which is still under production as an impressionistic inworld machinima.

Lastly, the team successfully “disseminated findings to universities and news entities” and “forged relationships on campus, advancing our teaching, research, service and long-term sustainability missions,” by first presenting their work to CNN in December, 2016, creating discussion about the possibility of virtual world journalism at one of the most renowned news sources in the world, and then by presenting the project’s productions and overall immersive journalism findings to the students and faculty on Kennesaw State University’s campus.

Based on the student audience surveys of both the campus presentation and the Communications class presentation, most students were not familiar with the concept of immersive journalism. However, by the end of our presentation, students were able to define the term themselves and were encouraged to participate in the discussion of how virtual worlds could be used to effectively tell news stories. From these presentations, we were able to introduce many future journalists to immersive journalism, jumpstarting a conversation on virtual worlds as a journalism platform on Kennesaw State University’s campus.

**Discussion:**

Although the components of our virtual world machinima, including their scenarios and avatars, may not be as visually sophisticated as the work of virtual reality experts, such as Nonny de la Peña or Francesca Panetta who use expensive viewers like the Oculus Rift, our two-

dimensional machinima are still considered immersive journalism. In fact, according to Foreman (2009), many studies have been completed to reveal that head immersion VR can “create a greater feeling of presence than desk-top presentation, although VEs [virtual environments] can be effective when programmed using relatively cheap software [...] and presented on a cheap monitor” (p. 244).

With more expensive resources, our virtual world scenarios can surely be explored using the Oculus Rift and the inworld camera settings are capable of capturing the 360-degree machinima that is viewable via Google Cardboard like the work of de la Peña showcased at the Sundance Film Festival (2016). However, since we did not have all of the materials or the money for expensive headsets and other technology, this project instead demonstrated how an interdisciplinary team of students could use inexpensive, relatively easy-to-use tools like OpenSimulator to create immersive journalism pieces. Furthermore, this low-cost startup experiment of virtual world journalism in colleges may encourage other journalism schools to explore immersive journalism production as well.

## **Conclusion**

The JJIE Virtual World Journalism project demonstrated how an interdisciplinary group of 11 undergraduate students, with the help of an interdisciplinary team of professional mentors, can create immersive journalism productions using virtual worlds within a 16-week semester.

Overall, this project prompts further research on the impact of virtual world journalism vs. traditional textual journalism. What type of impact could this journalism platform have on audiences, particularly print media-averse youth audiences? Could this new form of journalism be the answer to what journalists and audience alike have been seeking? - a more personalized, immersive experience that connects and relates audience to news stories? Do youth, and college



students in particular see virtual world journalism as a richer, more empathetic experience through which they would want to consume their news? How do they compare it with traditional news delivery mechanisms? Could virtual world journalism overtake traditional textual journalism, or at least be a complement to textual journalism?

The JJIE Virtual World project was just a small step in the direction of answering these questions. Although the team's machinima were developed through the use of various Creative Commons assets and a few custom objects, the Virtual Reality Metaverse expands far beyond this, and it is filled with innumerable possibilities. Currently, at Kennesaw State University, there has been a lot of talk and planning for digital media storytelling in various forms. Thanks to the \$35,000 ONA grant, our project was able to quickly introduce eleven student interns to immersive journalism through telling true stories in virtual worlds, which allowed them to introduce the emerging concept to the university.

As stated at the beginning of this paper, immersive virtual reality was used for other purposes, such as marketing and medicine, long before anyone thought to use it for journalism. The possibilities of virtual reality continue to expand, which begs for a conversation about the extension of virtual reality learning on college campuses. The project team mentors are currently searching for internal and external partnerships to continue this important conversation in having virtual world applications integrated into a national news platform. Although it is not possible to say that immersive journalism can replace traditional journalism just yet, it is very possible that immersive journalism will become a standard complement to long-form textual journalism in this digital age. Furthermore, with the employment of the mobile app, the JJIE Virtual World Journalism project opens the possibilities for further studies on what impact mobile virtual world machinima can have on public awareness, youth education, and ultimately deterrence of youth

from getting involved with the system in the first place.

Lastly, understanding college students' perceptions of and attitudes toward immersive journalism, especially those of college students planning to pursue careers in journalism, will be useful for news organizations who are seeking for a more interactive, digital platform to better connect with their audience. Understanding of college students' perception of virtual world journalism will also provide the possibility of immersive journalism education in schools, which could eventually determine the direction of the platform or mode of delivery of journalism in the future.

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