The Amaya AR Project

An Augmented Reality Documentary of the 2018 Nicaraguan Resistance.

By Emilia Mason

A thesis exhibition presented to OCAD University in partial fulfillment of the requirements for

the degree of Master of Design in Digital Futures

Toronto Media Arts Centre

32 Lisgar Street, April 12, 13, 14

Toronto, Ontario, Canada

April 2019

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April 2019

Abstract

The Amaya AR Project is an Augmented Reality documentary; through my own personal experience from within the Nicaraguan diaspora, I bring to Toronto the story of Amaya Coppens, a Belgian-Nicaraguan political prisoner incarcerated in 2018 and still in jail as of March 21, 2019. The documentary is experienced in the physical space of Lisgar Park in Toronto through a hand-held mobile device and headphones. In this thesis document, I argue that different communities and sectors in Nicaragua are part of what Michael Hardt and Antonio Negri define as the commons, which network to form the multitude leading the April 2018 civic Uprising in Nicaragua. I have compiled a media archive of viral photos and sounds from Nicaragua since April 2018, drawing from impromptu citizen journalism including viral images and sounds circulated on social media, television, newspapers, magazines and radio as events unfolded. Through a research creation methodology, I experiment with this source material in Augmented Reality (AR). The approach to editing material in the archive is informed by Hito Steyerl's essay "In Defense of the Poor Image," leaning into the glitchiness, blurriness and low-quality of the viral content to express the affects of the situation in Nicaragua. The installation of the Amaya Project in Lisgar Park in downtown Toronto supports an embodied experience and solidarity between locations through the medium of AR. By evoking two spaces and realities at the same time, AR is used to creatively bring radically different worlds together, evoking my contemporary experience in the Nicaraguan diaspora.

Acknowledgements

First and foremost, to my parents, role models who I strive to be like.

My Advisors, Judith Doyle and Maria-Belén Ordóñez. Your guidance, patience and invaluable feedback shaped this research and creative project. I am fortunate to have learned from the expertise you generously shared. To the copy editor Kaelan Doyle Myerscough for the feedback received.

I am beyond thankful for the opportunity to collaborate with an amazing Sound Designer, Kiersten Depina, thank you for your hard work and for treating this project with the utmost respect. I would like to acknowledge the people who let me use their voices for this project, Linda Artola, Marcela Berrios, Roberto Guillén, Mayra Amador, Lucila Delgado, Elisa Barrios, Camila Rocco, Israel Lewites, and those who chose to remain anonymous. Without your voices, this project would not have been possible.

Taylor, thank you for this unconditional partnership, the emotional support you give me lights up the darkest days. Thank you for sharing your experience with me and believing I was able to go through the beautiful and painful process of Grad School.

And to all the people who supported me throughout this journey. Thank you for your invaluable feedback.

Dedication

This project is dedicated to all the people who lost their lives and freedom demanding justice and democracy in Nicaragua.

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Chapter 1 - Introduction

On April 19th, 2018, I was stunned to discover viral photos and videos on Facebook and Twitter of government supporters and anti-riot forces attacking students throughout major cities in Nicaragua, the country I grew up in and home of my dearest memories. When the uprising started, I focused on being a grad student in Toronto, but I kept finding myself in an addictive cycle of scrolling down my newsfeeds watching and reading post after post. I saved each photo, video and audio file I came across. I began creating an unstructured archive of all the viral content and published material[1], not yet thinking of this research-creation project, but as a sort of coping mechanism, trying to save all the proof available as if it would all be erased and the world would not believe these attacks happened. My life was divided into two: my physical world in the comparatively innocuous streets of Toronto, and the digital world on my phone and computer, full of violent images and sounds from Nicaragua.

In this thesis, I explore how the unfolding civic uprising in Nicaragua is experienced in Toronto by showing a sense of embodied experience and solidarity between locations through AR, drawing from impromptu citizen journalism, including viral images and sounds circulated on social media, television, newspapers, magazines and radio. I draw my theoretical framework from Michael Hardt and Antonio Negri's "Multitude - War and Democracy in the Age of Empire" (2004). They define *resistance* as the "war against war" (63), led by individual singularities of society, who, through cooperation and communication, come to recognize what they have in common (Hardt and Negri, Empire, 30). Each one of these singularities is described

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[1] The archive consists of images, illustrations, videos, screenshots and audio files which were viral on social media, and also articles, photos and videos published by news outlets like television channels, newspapers, online magazines and organizations with Facebook pages.

by Hardt and Negri as *the common,* and many commons together create a network with internal differences acting as one, defined as the *multitude*.

I began this research with two goals in mind: first, to inform people in Toronto about the human rights violations by the Nicaraguan government; second, to challenge the dominant cliché of the "revolutionary" in the context of Nicaraguan history.[2] To do so, it was necessary to show and research the context and conditions of the resistance in Nicaragua that has taken place since April 2018. The notions of the common and the multitude as defined by Hardt and Negri help specify resistance as that which is experienced and embodied by a range of citizen-subjects.

I chose to focus my attention on the particular case of Amaya Coppens, a Belgian-Nicaraguan political prisoner, understood through the lens of my personal experience as a Nicaraguan-Canadian living in Toronto.[3] Using Augmented Reality as a medium to create a digital audio/visual connection in the physical world, a Toronto audience will experience Amaya's testimonial of uprising and resistance developed through a digital world that I interacted with.

The material used for this research and creation project is from the unstructured media archive I began to create in April 2018, which consists of photos, video, sound files, screenshots and articles taken from radio, television news, YouTube channels, online magazines, and viral videos, photos and illustrations from Facebook and Twitter. The unstructured media archive

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[2] During the first months of the uprising, press coverage in English was limited, due in part because Nicaragua is a Spanish speaking country in Central America. Thus, the general public in Canada was not and are still not fully aware of the violence and crimes happening there. Most of the public awareness of the political situation in Nicaragua is based on events following the Sandinista Revolution in 1979, the Iran-Contra affair, or the civil war during the 1980s. Some people who are aware of our past conflicts, uprisings and protests in Nicaragua consider violence as part of our tradition as a nation. For people who just became aware of the situation in Nicaragua, it's easy to assume that those killed by anti-riot forces were probably just "revolutionaries" in the context of a constant state of war and violence, forsaking their identities as human beings.

[3] In the rest of this document the project will be referred to by The Amaya AR Project.

inspired the main questions for this research: How might written and verbal testimonials be used to create an embodied experience for an Augmented Reality documentary once they have been published in television, radio, newspapers and social media platforms? And how might media archive materials, 2D and low-resolution content from television, radio, newspapers and social media platforms, be effectively included in Augmented Reality as a rich source of experience and perspective?

The Amaya AR Project takes the form of an embodied documentary where participants in Toronto share my personal experience of being in a safe physical environment while watching and hearing the unfolding resistance events in Nicaragua and Amaya's experience through viral photos and videos from the unstructured media archive I have created. Extracting sounds from the videos, cropping photos and screenshots and manipulating them through an editing process, I highlight their viral and low-quality characteristics, exaggerating their glitches, blurriness and pixelated effects, in some cases to a point where participants can understand what the images represent but cannot see details. The images together create a digital collage of political repression and resistance in Nicaragua layered on top of the physical reality of Lisgar Park in Toronto.

The sound is the product of a collaboration with Kiersten Depina, a local sound designer in Toronto. From the archived videos, we extracted real sounds from the protests and marches and used them to create the background of the voice-overs. Along with the actress performing as Amaya and my own voice, we also worked with the voices of Nicaraguans from the diaspora (Argentina, Canada, China, Costa Rica, Denmark, Italy, Mexico, Netherlands, Spain, Switzerland, UK and the USA) who lent their voices to translate phrases and chants from the

protests and marches. The participants experience images and a mash-up of sounds and voice over through a hand-held mobile device and headphones.

In the Amaya AR Project, I share my experience, introduce the case of Amaya Coppens and present some of the acts of resistance organized by the *commons* of the Nicaraguan multitude. Hardt and Negri's definition of multitude and resistance is vital for the frame of analysis of this research, as it allowed me to observe and contextualize the many forms of protest and resistance as they emerged. I do not intend to determine whether or not resistance is politically successful, nor am I interested in evaluating or advocating for any specific tactics of resistance. This project focuses on exploring networks of communication and cooperation in the commons, resulting in a multitude leading the resistance in Nicaragua and the Nicaraguan diaspora. With the emergence of mobile technologies, it is easier to track uprisings and also to share them. AR can be used as a subversive and accessible tool to share and experience this content and can bring the diaspora commons together to create awareness outside Nicaragua.

Chapter Breakdown

In chapter one, I give a brief introduction to this thesis research and creation project. In chapter two, I establish a theoretical and historical framework to understand what I mean when I refer to the Nicaraguan commons: I provide an overview of Nicaragua's recent political history and how the current government affected the formation of the commons in Nicaragua and in the diaspora. From the different commons that form the multitude, the student movement initiated the April 2018 civic uprising, and Amaya Coppens, a member of that common, inspired this research project.

In chapter three, I consider how Augmented Reality can be used as a medium for storytelling, and how the affordances of this technology can be used as documentary material. I

also examine the work of other academics, artists and designers using AR for storytelling

purposes. Finally, I discuss the methodological framework for this project in the context of the

storytelling affordances of AR technology, and also with consideration for the ethical issues

involved in reproducing images of subjects for whom identification would be dangerous.

In chapter four, I describe my studio-based creation process and experimental approach to

designing and writing the script, editing the different audio and video sources, and designing the

User Experience for The Amaya AR Project.

In the final chapter, I conclude by returning to my research questions and my interest in

using already published images to create an AR documentary and consider future directions for

The Amaya AR Project.

Chapter 2 - Multitude: Creating the Commons

Nicaragua Then, Nicaragua Now

Between 1936 and 1979, Nicaragua was controlled by the powerful Somoza family in an American-backed right-wing dictatorship. Under the control of the Somozas, the National Guard imprisoned, tortured or killed anyone who dared to speak out against the government or join the FSLN. During the 1960s and 70s the Nicaraguan people fought a revolution led by the Sandinista National Liberation Front (FSLN), and on July 19th, 1979, the Sandinistas defeated the National Guard and overthrew then-President Anastasio Somoza Debayle (Kinzer). The revolutionary movement became a political party in 1979 based on socialist, anti-imperialist and anti-interventionist values. Daniel Ortega Saavedra has been the leader of the FSLN since the Revolution, led the Nicaraguan government from 1979 to 1990, and has been the President of Nicaragua since 2007.

The Sandinistas had strong ties with Cuba and the Soviet Union, which the United States opposed. During the 1980s, the Sandinista government received a series of economic sanctions from the US and fought the Contras, former members of the National Guard and Somoza supporters who were financially backed by the United States government. Due to this long history of revolutions and war in Nicaragua, the image of a person dressed in camouflage and carrying weapons has become a dominant representation of Nicaraguans in mainstream North American media.

Figure 1: Molotov Man by Susan Meiselas - Sandinistas at the walls of the Estelí National Guard headquarters in 1979. [4]

This 1979 image of the Molotov Man by photographer, artist and visual storyteller Susan

Meiselas appeared in The New York Times Magazine, Time Magazine and other publications

around the world that brought international attention to events through the medium of

photojournalism. Meiselas' images were purchased by news outlets from the Magnum agency,

controlled by the photojournalists. Before the Internet, Meiselas' images went viral. Molotov

Man was circulated and picked up as street graffiti and then later in FSLN propaganda. On

Meiselas' artist website the Molotov Man image is contextualized:

> On the day before Somoza would flee Nicaragua forever in July of 1979, Susan
> photographed the Sandinista Pablo 'Bareta' Arauz throwing a molotov cocktail at one
> of the last remaining Somoza National Guard regiments remaining under the
> dictator's control. During the months and years that followed, the image evolved into
> a symbol of the Nicaraguan revolution. Murals and graffiti of the "Molotov Man"
> could be seen all over the country. It appeared in a matchbook commemorating the
> one-year anniversary of the Sandinista revolution, on t-shirts, brochures and
> advertisements. Twenty-five years later, Bareta's likeness was adopted as the
> "official" symbol of the Sandinista overthrow of the Somoza dictatorship.[5]

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[4] Photographer Susan Meiselas explains the story of this iconic photo http://100photos.time.com/photos/susan-meiselas-molotov-man

[5] Excerpt taken from Meiselas' artist website http://susanmeiselas.com/latin-america/nicaragua#id=molotov-man

The Nicaraguan Revolution was not an isolated event; it happened at the same time as several other revolutions and resistance movements throughout Latin America, including the Martí National Liberation Front (FMLN), which started as a peasant leftist movement in El Salvador. The FSLN and the Salvadoran FMLN are similar to the movements as authors and theorists Michael Hardt and Antonio Negri describe in their 2004 book "Multitude: War and Democracy in the Age of Empire", "did not adopt the polycentric organizational model typical of guerrilla movements but instead followed in large part the older centralized, hierarchical model of traditional military structures" (81). The 1979 revolution was backed by the majority of the Nicaraguan people, hence the name "the People's Revolution," but it was led by the Sandinista leaders; as Hardt and Negri explain, "The People often serves as a middle term between the consent given by the population and the command exerted by the sovereign power" (79). This centralized and hierarchical model often excluded LGBTQ+ people and feminist-focused groups from the decision-making process. In the 2018 documentary "¡Las Sandinistas!", director Jenny Murray interviews some of the prominent female figures of the revolution, including Dora María Téllez former commander leader of the student movement in León, former commander Mónica Baltodano and novelist and writer Gioconda Belli. Through the interviews in this documentary, these women explain their experiences and struggles at a time when women were a big part of the revolution but gradually were made invisible by male leaders.[6] These revolutions and movements also sought to nationalize resources, stop interventionism from foreign states and

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[6] The documentary *¡Las Sandinistas!* "uncovers the untold stories of women who shattered barriers to lead combat and social reform during Nicaragua's 1979 Sandinista Revolution, and the ensuing US-backed Contra War, as these same women continue as leaders in the struggle against their current government's suppression of democracy and women's rights." https://www.lassandinistas.com/

desired economic justice. In the case of Nicaragua, the Sandinistas sought to nationalize all the resources the Somoza family had appropriated, like agricultural farms and concrete factories.

The FSLN lost the elections in 1990, and in 2006 Daniel Ortega was re-elected as President taking office once again in January 2007. Since then, Ortega and his family have been in control of all branches of government and news media outlets, including the majority of national public television channels.[7] In 2016, the famous Nicaraguan writer and former FSLN militant Gioconda Belli wrote "… Ortega set about exerting absolute control over state institutions such as the electoral council, the supreme court, the national assembly, the army and the police. Then he reformed the constitution to allow for indefinite re-elections" (Belli). Many of the former core revolutionaries in the FSLN from the 70s and 80s turned their backs on Ortega and the FSLN around this time.[8]

Characteristics of revolutions and social and political movements have changed as national and international political and social contexts have changed. The means of communication and organization during the April 2018 Nicaraguan civic uprising is different in key ways from the 1979 insurrection, prior to the Internet. Hardt and Negri compare the network of the contemporary commons to a *swarm* because it is formless, spontaneous, and anarchic: "traditional models may assume it has no organization whatsoever" (91). These networks are composed of different singularities of the multitude which cooperate and communicate, yet, remain different from each other (92). In 2018, the formation of Nicaraguan resistance operates like an intelligent swarm seeking social justice and democracy from below.

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[7] Television channels 2, 4, 6, 8, 13 and 22 belong to the Ortega family; they are owned and managed by Daniel Ortega and Rosario Murillo's sons and daughters. (Nicaragua Investiga) https://www.nicaraguainvestiga.com/la-familia-ortega-murillo-tiene-seis-canales-de-television-abierta/

[8] Sergio Ramírez served as Vice president for Daniel Ortega from 1985 to 1990. Dora María Téllez was one of the student leaders in the revolution, and a core member of the FSLN.

Illegal government reforms and corruption in the Ortega government inspired this intelligent swarm to oppose the government and the hierarchical FSLN. For example, pro-choice feminists in Nicaragua have protested and organized like an intelligent swarm since a general prohibition on abortion was enacted in November 2007 and made part of the new Criminal Code (Cerda). The farmers movement (also known as the peasant movement) have also actively protested and created a swarm of organized farmers across the country since the approval of the unconstitutional Law 840 on July 2013. In the 840 Law the Ortega government granted rights and concessions to build an Inter-American canal to the Hong Kong-based company HKND (López Baltonado;) (Shaer).[9] The Pensioner's movement is led by senior citizens protesting the Nicaraguan Institute of Social Security (INSS) for their right to a reduced pension.[10] In 2018, anthropologist Luciana Chamorro and artist/researcher Emilia Yang described the pensioner's movement and its articulation through the National Union of the Elderly (UNAM), supported by university students beginning in 2013:

> The fight for the reduced pension marked a milestone in contemporary Nicaraguan history for generating an intergenerational alliance between members of the UNAM and youth middle-class university students, self-appointed in solidarity with elderly adults through social networks under the hashtag #OcupaINSS. (Chamorro et al 95)

This solidarity between university students and the pensioner's movement in 2013 was one initial sign of democratic cooperation and communication amongst the commons to protest the government, and in 2018, these commons intensified their communication once again.

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[9] HK Nicaragua Canal Development Investment Co., or HKND, is a private infrastructure development firm, registered and founded in Hong Kong in 2012.

[10] The reduced pension guarantees a partial pension for those adults over 60 who did not meet the requirements to pay 750 weekly social security contributions necessary for an old-age pension, due to conditions of insecurity and informal labor. It is a legal protection instituted in the Social Security Law established in 1982 after People's Revolution led by the Sandinistas (Luciana Chamorro et al 96).

In April 2018, Nicaraguan students led the biggest uprisings since the end of the civil war in 1990. On April 17th, the government made official, by a presidential decree, a reform to the Nicaraguan Institute of Social Security (INSS), which included "a 5% decrease on old age and disability pensions, to finance the pensioners' medical attention, and an increase in the quotas paid by workers and employers of 7% and 22% respectively" (Carlos Fernando Chamorro).

The next day, the government supported violence against senior citizens who were protesting social reform policies. These violent reprisals took place primarily in the capital city of Managua and in León, known as a University city. Students from these cities were the first to organize support for senior citizen protests soon after the violence started. During this time, student movements began to unify in Managua and León. On May 4th, 2018, Amaya Coppens, a fifth-year student of medicine at the National Autonomous University of Nicaragua (UNAN) in León, appeared in a video interview titled "Estudiantes de UNAN-León se rehusaron a reprimir las protestas ciudadanas[11]" (Students of UNAN-León refused to suppress citizen protests) for Confidencial.com.ni. Students immediately received backlash from the university administration, who threatened to take away student scholarships and dorm rights if they didn't comply. In response to the backlash, student protests intensified into the late night of April 18th and students demanded autonomy from the government as stated in the university's statutes.

In the early morning of April 19th, the student protests and anti-riot forces escalated violence in León and Managua, which led students from other cities to support protesters from various locations. Since that day, seventeen different student movements from different universities, technical trade schools and high schools formed in cities throughout Nicaragua. Facebook pages were created representing each city, where videos of local protests were

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[11] "Estudiantes de UNAN-León se rehusaron a reprimir las protestas ciudadanas"
https://confidencial.com.ni/estudiantes-de-unan-leon-se-rehusaron-a-reprimir-las-protestas-ciudadanas/

released. On May 26th, all independent movements came together to create what was to become known as the April 19th Student Movement (Tórrez, La Prensa).

The violence perpetrated by government supporters and the national police quickly unified individuals to movements. Hardt and Negri explain that "the multitude needs a political project to bring it into existence" (212). In this case, the civic protest grew when students, farmers, environmentalists, pensionists, Nicaraguans in diaspora, the Catholic Church, feminists and LGBTQ people began self-organizing, communicating, and cooperating all over the country.

On April 30th, the government cancelled the reform to the social security system in an attempt to stabilize their control over the country and it overwhelmingly failed. Protesters demanded justice for the crimes committed by the national police and the government, and the immediate resignation of President Daniel Ortega and his wife, Vice President Rosario Murillo.[12]

From the very start, the commons forming the Nicaraguan multitude "kept its unity and plurality" (Hardt and Negri 105). In other words, each movement expressed their differences but worked as a unit. Due to the cooperative nature of the network of commons, members tend to belong to more than one. Students can also identify as LGBTQ, for example, and an environmentalist can also be a part of the feminist common. Throughout the marches and protests, different artists and musicians shared their talents and street artists filled city walls with subversive images and graffiti opposing the government.

Nicaraguan artist, Marcos Agudelo, is one artist who in his work has participated in the Nicaraguan uprising. In 2013, Agudelo created a subversive piece against the government called

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[12] Since 2007, Rosario Murillo has served as the spokesperson for the Nicaraguan government as Daniel Ortega rarely made public appearances or press interviews prior to April 2018. She also serves as the Communications Coordinator of the Council on Communication and Citizenry.

"The Glow of Sandino as an advertising banner" (*¨El resplandor de Sandino como Pancarta Publicitaria¨)*, in which he took a famous Nicaraguan statue of Sandino and added thousands of LED lights, mimicking the psychedelic aesthetic that defines the Sandinista government since 2007[13].

Figure 2: "The glow of Sandino as an advertisement ad" at the Institute of History of Nicaragua and Central America IHNCA at the Central American University, Managua, Nic. 2014.[14]

More recently, in late 2018, Agudelo created a memorial wall made with 448 blocks, like the ones used in roadblocks and barricades. He explains, "my piece honours the people murdered by Nicaragua's current dictatorship;" each block represents one person killed since the violent repression started in April 2018 (Viveros-Fauné).

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[13] Since Ortega took office again in 2007, the red and black colours of the FSLN flag took a second stand and fucsia, yellow and turquoise were predominant colours in the government's official activities (Baltodano). Managua was decorated with bright christmas-like lights all year round and over a hundred *trees of life* were installed to light up the city at night (Montenegro).

[14] Image and information taken from Agudelo's artist website http://marcosagudelo.com/cv/

Figure 3: Marcos Agudelo's 448 block memorial. Photo: Guillermo González

Agudelo's artistic practice is a form of communication observed in the common, it is an example of a singularity that is mobilized to create an aesthetic network and critique: "the common marks a new form of sovereignty...or, more precisely, a form of social organization that displaces sovereignty" (Hardt and Negri 208). Protesters communicated on the street and through social media. Official Facebook Pages were created by groups who identified with each other's swarm like activity. For example, student movement pages released updates as they unfolded and would then receive feedback from social media followers. This would then inspire further engagements from other commons. News organizations would later comment on statements made on social media, and television talk shows would even invite and interview prolific social media activists, who put their bodies on the line, and used all forums of communication despite the risks.

Protesters also use their network of communication and cooperation to call for participation inmarches. LGBTQ+, feminist and Catholic church flags were easy to spot during the marches and protests, next to the national blue and white flag and banners from the farmers and transportation movements. The multitude is "at the same time many and one...composed of innumerable elements that remain different, one from the other, and yet communicate, collaborate, and act in common" (Hardt and Negri 140).

Resistance in the Diaspora and Collaboration

For Nicaraguans it is not necessary to be inside the country to join the network of activism and advocacy. The Nicaraguan diaspora gained visibility in cities like Madrid, Washington and San José (Costa Rica). Nicaraguans organized and had rallies in public parks in order to bring attention to the international press about the situation in the country. Active members of the student movement started travelling abroad in the hopes of raising international awareness about Nicaragua. The desire to mobilize outside of Nicaragua was sparked within the network as protesters volunteered to travel and expose the situation happening in the country, and as Hardt and Negri describe, to "infect" others (214) to mobilize in the diaspora. The first "caravan for solidarity" included students Madelaine Caracas, Jessica Cisneros y Yerling Aguilera who visited 23 cities in Europe (Salazar) (Villavicencio). In an interview in August 2018 with Nicaraguan newspaper *Confidencial*, Caracas explained (Salazar):

> "In May (2018), not much was known about the situation in Nicaragua. We started in Denmark and from there more and more journalists, media, human rights organizations, politicians, came and opened the door. We have had contact with the Federation of Human Rights in France. We have gone to all the parliaments of the ten countries that we visited, including the headquarters of the European Union parliament that is Brussels"

A second caravan travelled to South America in which Ariana McGuire, member of the University Coordinator for Democracy and Justice (CUDJ) initiative travelled to South America

on August 8, 2018 with an itinerary to travel to five countries for interviews and forums at different universities, funded through donations and invitations from international organizations and Nicaraguans in diaspora. In an interview for SocialistWorker.org published in January 2019,[15] McGuire explained she and the other members of the caravans realized that returning to Nicaragua was not an option anymore since the government was using their videos in the official press and accusing them of terrorism (How the Ortega Regime Turned on the People).

The Nicaraguan diaspora mobilized to organize rallies in different cities On June 30th, 50 cities around the world organized rallies demanding justice. Barcelona, Madrid, London, Toronto, Ottawa, Buenos Aires, Copenhagen, San José, Los Angeles, Mexico City, Milan, Rome, and Washington (Espinoza A. El Nuevo Diario) are a few of the cities that organized June 30 2018 activities through the network of the commons.

Social media, many in the Nicaraguan diaspora, myself included, showed an active interest in supporting the resistance. The collaborations in support of the resistance included participation in The Amaya AR Project. The cast of voice actors includes members of the Nicaraguan diaspora who lent their voices to say and scream what they were unable to in Nicaragua.

Activism and the Carnivalesque

In *Multitude, War and Democracy in the Age of Empire*, Hardt and Negri reference Mikhail Bakhtin, a Russian literary scholar who analyzed literary forms of the carnivalesque, which Hardt and Negri view as an important characteristic of resistance against oppression. Hardt and Negri describe this network of communication as production "on the basis of

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[15] Socialistworker.org interviews Nicaraguan activist Ariana McGuire https://socialistworker.org/2019/01/09/how-the-ortega-regime-turned-on-the-people

languages, symbols, ideas, and relationships we share in common, and in turn the results of our communication are new common languages symbols, ideas and relationships…the common is produced and it is also productive" (197). The singularities of the multitude express themselves freely and together through persistent dialogues that create narrative structures that are performative and theatrical. Even when violent, these protests are theatrical, for example in "...street festivals in which the anger of the protesters coexists with their joy in the carnival. The protests are carnivalesque, however, not only in their atmosphere but also in their organization" (210). Carnivalesque performance occurred throughout the marches and protests. Some of the chants and popular phrases are translated and used in the voice-overs of The Amaya AR Project. Marches and protests in Nicaragua included comic performances by people mocking Vice President Rosario Murillo with humorous songs and slogans, even dressing up like Murillo does, in eccentric outfits and excessive jewelry.[16]

The carnivalesque is formed within decentralized networks, which appear monstrous to those in a position of power as they cannot find one specific leader or organizer to punitively target. In *The Encyclopedia of Humor Studies* (2014), Martha Bayless, drawing from the work of anthropologists including Victor Turner, explains that the carnivalesque as Bakhtin conceptualized it involved a "social or personal transformation that takes place by means of a ritual temporary inversion of norms, a kind of structured mini-carnival" (2).

One example of protest turned into a celebration is the taking down of the Trees of Life, the multicolored metal tree-like structures, fifteen to twenty meters tall and over six meters wide, that were installed by the Nicaraguan government throughout Managua beginning in 2013.

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[16] "The march of mockery" took place on July 28th in Sutiaba, León, where protesters came up with "the chayo challenge" (Chayo a short way of calling women named Rosario). https://100noticias.com.ni/nacionales/91917-leoneses-realizan-marcha-de-la-burla/

Figure 4: Image of Trees of Life in Managua. Associated Press - Moises Castillo

Information regarding the cost of the Trees has never been publicly disclosed by the Ortega-Murillo Government, but it is estimated that the trees cost between 25,000 and 40,000 USD each (Moncada et al) (Calero et al) (Salazar). In an article titled "The Violent End to Ortega's Decade of Quiet", *The Economist* reported that the Trees of Life "consume $1m worth of electricity a year" (The violent end of Daniel Ortega's…). These structures were the first public symbols to be toppled in the Ortega-Murillo regime. Poet and former FSLN revolutionary, Daisy Zamora wrote:

> ...the millions of dollars used in the useless the trees of life, it should have been invested in improving public school's infrastructure or in building a hospital in each department of the country, or in support programs for farmers (Zamora).

Figure 5: A Tree of life is destroyed by protesters in Managua on 21 April. Jorge Torres/EPA

Every time a Tree of Life was taken down there was a celebration full of euphoria and danger. Protesters would spend hours trying to take them down using electric saws and burning them. Once the Tree had fallen, people would scream, sing, and jump on the ruins as a sign of victory. Journalist and social researcher Sofia Montenegro predicted this would happen in 2013 "It can be understood then that the (Trees of Life) have been set to be overthrown at the time by latent popular anger and in process of accumulation" (Montenegro).

In a performative and carnivalesque way, protesters used and still use the colours of the national flag, white and cobalt blue, as a way to identify themselves as part of the resistance. The Ortega-Murillo government supporters identify themselves by carrying the FSLN political party flag colours, red and black, which are also used by the official government. Another example of the carnivalesque and temporary inversion of norms is in the display of the Nicaraguan flag, upside down. Beyond an aesthetic choice, the upside-down flag symbolizes a direct undoing of

national stability, order and cohesion. Here, the carnival expresses a reversal of norms. A similar reversal took place with bandanas that covered people's faces: the government supporters used black and red bandanas, while the multitude supporting the resistance used blue and white, or bandanas from the movements they identified with. In this case, the bandanas had a double use: to protect the identity of the activist and to declare what movement they identified or supported. Besides the blue and white bandanas, there were all multi-coloured ones representing the LGBTQ+ community and purple bandanas representing the feminist movement. The necessity of covering one's face and protecting one's identity was a recurring theme during the protests and marches.

The masks used during the 2018 uprising in Nicaragua also pay homage to the localized specificity of each region of the country. An example of carnivalesque acts linked to a specific region is the use of masks by people in the towns of the Pacific side of the country. Notably, in the province of Masaya, protestors wore masks referring to different traditional mestizo dances originating from areas like Los Agüizotes, El Viejo y la Vieja and El Toro Huaco, to hide their faces and avoid being recognized by the police.[17]

In the late 1970s, during the People's Revolution, men and women also covered their faces with these traditional folkloric masks as they fought against the Somoza dictatorship and supported the Sandinista guerrillas. The use of the same masks through the Sandinista revolution and the current resistance is linked to the geographic location of the towns, as Masaya and León are towns with local artisanal and folkloric traditional cultures (Agüero) (Protestas y Homenajes Al Estilo Nicaragüense). The use of masks also references images by photojournalists taken in the late 1970s that circulated and went viral, such as those by photographer Susan Meiselas that

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[17] Mestizo race is the result of Spanish and indigenous mix (Bolaños Davis 45)

were distributed by Magnum Photos, an international photographic cooperative and distribution agency.
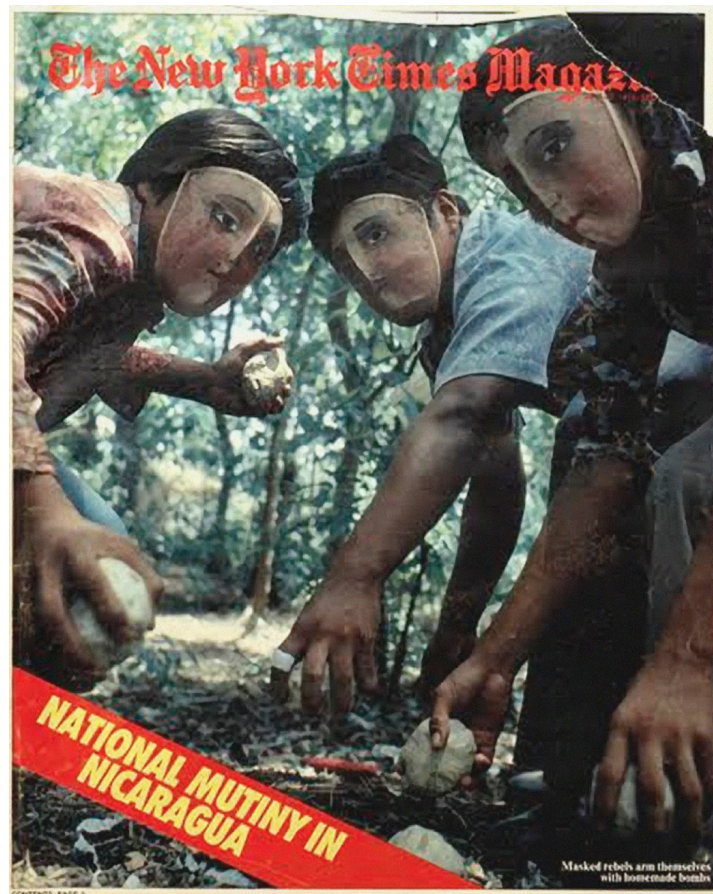
Figure 6: The New York Times Magazine cover featuring a photo of revolutionary from Masaya wearing traditional masks and practicing throwing contact bombs. Nicaragua. July 30, 1978. Credit Susan Meiselas/Magnum Photos.

The masks are part of the traditions of Indigenous people and mestizos, who visually mock the Spanish colonizers. One of the masks used throughout towns along the Pacific side of Nicaragua is from El Güegüense, a seventeenth century play that incorporates dance, music and traditional theater of the province of Carazo[18]. El Güegüense was described by UNESCO in 2005 as "a forceful expression of protest against colonial rule" (UNESCO). According to the

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[18] It is not known when El Güegüense was originally written and performed, or who might have authored it. (El Güegüense) https://www.laprensa.com.ni/2012/09/16/suplemento/la-prensa-domingo/1078654-8617

Nicaraguan historian, writer and artist Alejandro Bolaños Davis, El Güegüense "documents the

central conflict of the seventeenth and eighteenth centuries in the society of the province" (El

Nicaragüegënse, la Incultura de Nuestra Cultura 49); the play "is located at the very center of the

conflict. It records it and expresses it, or rather, represents it" (50). El Güegüense expresses a

central issue of that time period: the struggle between Mestizo-natives and the Spanish provincial

bureaucracy, which demanded more taxes to maintain its privileges.

The performative and carnivalesque acts of the multitude show the desires and wants the

multitude cannot get in real life: "the unbelievable becomes real, as in a carnivalesque ritual, and

the suffering of life is exposed to the laughter and tears of the spectator" (Hardt and Negri 210).

This subversive humour is proposed by Bakhtin, where the multitude releases their fears and

desires in a humorous way. At times the carnivalesque acts performed by the multitude may

seem crude or even ridiculous, but they reflect the social and political contexts in which they take

place. This is exemplified by the photos and made-up stories of what came to be known as the

protestor dog *firulaís*. *Firulaís* is an informal and playful Nicaraguan term for a street dog.

Throughout the initial protests, street dogs appeared in viral images; protestors and people

supporting the resistance responded by making memes on social media about *firulaís* protesting

in different Nicaraguan cities. The idea of the *firulaís* protestor dog took off to the point where

people took their own dogs to the marches and dressed them with the Nicaraguan flag as a cape,

even painting the national colours on the dogs.

On December 2018, a Firulaís inspired song described the Nicaraguan resistance from the

point of view of a dog.[19] The video, composed and produced by the band *Los Minúsculos,* is

composed of a mix of viral images of marches and protests as well as stock images featuring

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[19] "El Firulaís" - Music video by Los Minúsculos https://www.youtube.com/watch?v=Xm3ayepvVh4

dogs. *Los Minúsculos* was formed after April 19th, 2018; the name of the band refers to one of the many adjectives used by Vice President Murillo to describe protestors.[20] Since their formation they have uploaded songs and videos on their YouTube channel, all inspired by government repression and resistance in Nicaragua. Their videos prominently feature viral images shared on social media. Some of these carnivalesque details in the Nicaraguan resistance will be included as images and sounds in The Amaya AR Project.

Bayless explains Bakhtin's conception of "the carnivalesque as a refuge of the oppressed classes, a way of sustaining resistance until the forces of history result[ed] in the overthrow of oppression and the liberation of the oppressed" (*The Encyclopedia of Humor Studies* 2). Whether the multitude is violent or peaceful in their resistance, they are always "highly theatrical...The protests, in other words, are also street festivals in which the anger of the protesters coexists with their joy in the carnival"[21] (211). For example, protesters now identify themselves as "the minuscules" as a way to appropriate the words of Vice President Murillo and to take pride in their part in the resistance.

Repression of Dissent

The Office of the United Nations High Commissioner for Human Rights (OHCHR) published the *Human rights violations and abuses in the context of protests in Nicaragua 18 April – 18 August 2018*, dividing the social and political situation into different stages and analyzing the government repression and civic resistance after April 18th. The first stage was characterized by

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[20] On a special edition televised phone call on April 20th, Murillo denied any deaths during the protests and referred to protestors as "Those minuscule, petty and insignificant mediocre beings, those beings full of hatred have the impudence of making up deaths." https://www.el19digital.com/articulos/ver/titulo:76084-rosario-en-multinoticias-edicion-especial-19-de-abril-del-2018

[21] Hardt and Negri notes on: On the carnivalesque nature of the protest movements, we are Everywhere (London: Verso, 2003), 173-301.

the government's brutal response to public demonstrations (13). Protesters erected barricades and roadblocks to protect neighbourhoods and close down roads to the cities. The second stage of the national crisis, which took place from mid-June until mid-July, was coined "Operation Clean-up" by Nicaraguan media (Gobierno en feróz persecución). During this stage, the government ordered the police and paramilitary to clean up the streets of all the cities with roadblocks and barricades. The removal of the barricades and road blocks was the beginning of the third and current stage of state repression, called "The witch-hunt" by Nicaraguan news outlets opposing the government, marked by the criminalization and persecution of those who participated in the demonstrations (24 muertos dejó "operación limpieza") (Redacción Central 100% Noticias).

These different stages show the level of repression protesters faced since April 2018. In the report, the OHCHR described "the level of persecution is such that many of those who have participated in the protests, defended the rights of the protesters, or simply expressed dissenting opinion, have been forced to hide, have left Nicaragua or are trying to do so" (8). During this stage of repression, the national police stopped civilians randomly throughout the country to check if they had photos, conversations, Facebook or Twitter posts that would implicate them in any sort of activity deemed to be in opposition to the government. As safety suggestions to protesters or people opposing the government, the national press published articles on what privacy and security measurements to take on social media, suggesting that people keep profiles private and avoid public statements on Facebook and Twitter.

Those arrested were first taken to the Judicial Assistance Department (DAJ) also known as "El Chipote" in the capital city of Managua. El Chipote is known as a place of torture for political prisoners. Most of the arrests were illegal with no arrest orders and in most cases, arrests were carried out by paramilitary groups of masked, unidentified armed men in unidentified vehicles.

Family members of those arrested would not be notified of where the arrested person was, and once they knew, they would not be able to see the imprisoned for several days.

Of those arrested, some were later taken to one of two prisons: La Modelo for male inmates, or La Esperanza for female inmates, both located in Managua. There are reports of ill-treatment and torture from detainees and prisoners, "physical torture including through burnings with Taser guns and/or cigarettes, use of barbed wires, beatings with fists and tubes and attempted strangulation – as well as psychological torture, including death threats" (OHCHR 29).

On October 2018, the government made any type of protest or public gathering illegal (Daniel Ortega quiere "matar"). This oppression and persecution did not stop people from expressing their opposition to the government. Protestors provided testimonials of state abuse to national and international presses and legal testimonies to national human rights organizations and the OAS and UN, as acts of political resistance against the government (OHCHR 31). Political prisoners continued to resist even from prison, sending open letters to the Nicaraguan people encouraging them to keep resisting (K. Romero).

Amaya Eva Coppens Zamora

Amaya was born in Belgium to a Belgian father and a Nicaraguan mother. Her family moved to Nicaragua, to the city of Estelí, in the northern part of the country. After high school in Estelí, Amaya enrolled in the United World Colleges in Hong Kong, where she did an international high school program. On her return, she began studying medicine in the city of León. As a medical student, Amaya provided medical aid in rural areas of the country (Uriel Velásquez).

In 2018, Amaya began her fifth year of medicine at UNAN-León and quickly gained notoriety in León due to her constant participation in protests and for organizing and inviting

other students to participate in marches. She gained notoriety among other students in León and other cities in the country for defending student rights and giving interviews to the press. She became known nationwide after her arrest when members of Movimiento Estudiantil 19 de Abril UNAN-León and members of the community in León shared information over her arrest on social media. On October 2nd, 2018, a short documentary on Amaya's activism in the student movement in León was released through the Movimiento Estudiantil 19 de Abril UNAN-León Facebook page. The short documentary was shot on August 25th and in it Amaya explains how she became active in the resistance by volunteering medical aid:

> Most of us medicine students were volunteering in the different
> barricades and roadblocks...On the barricades and roadblocks I had to
> assist by giving stitches, cleaned wounds and burnt skin.

Amaya continues to receive substantial national and international press attention: newspaper articles, television interviews and petition websites demanding the liberation of all political prisoners are available in Spanish, English and French. In an interview, her mother, Tamara Zamora said "We want to draw attention not only to Amaya's case but to those who are less visible ("Mother of student held over Ortega protest in a global plea for help")[22]. It is important to clarify Amaya is not the only university student who spoke out during marches or to the press: other students including Lesther Alemán and Madeline Caracas also gained notoriety.[23] Prior to her arrest, Amaya's testimonials and opinions were recorded in several interviews with national newspapers, television shows and a short documentary. In the short documentary released the Movimiento Estudiantil 19 de Abril UNAN-León Facebook page, Amaya describes her motives and feelings about what it was like to become a student activist:

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[22] See footnote number 2.

[23] Alemán and Caracas are exiled and have reported the human rights violations at the OAS and UN, travelling constantly to international forums. http://www.oas.org/en/iachr/media_center/PReleases/2018/116.asp

> I think we stopped feeling fear a long time ago. Seeing young people killed in the news I think it was a shock that woke up people in Nicaragua. I have taken a fairly public image with what I am doing here in León. At this point I am one of the representatives of the movement. People give me drive, they look for me and have grown fond of me, they look for me when the march is over, they come to ask "what do we do now?". From there we worked on getting what people need. We are collaborating with self-organized citizens from other movements like the transit movement, the feminist movement and the LGBTQ community, these groups have taken a stand to join this fight to demand justice and democracy. [24]

On the Facebook page of Movimiento Estudiantil 19 de Abril UNAN-León, Amaya appears in several of the videos organizing students and inviting them to peaceful marches while giving short speeches over megaphones. On May 5th, she gave her first nationwide interview to *Confidencial* in which she explained how the government attacked senior protestors on April 18th, leading to the uprising that began in León (Salinas Confidencial).

On September 10th, 2018, Amaya was arrested without charge or warrant by national police agents in the company of government support groups. It took the police 48 hours to formally announce her detention. She has been accused of terrorism, obstruction of public services, illegal possession of weapons and aggravated robbery (Sandino El 19 Digital). In her defense, Amaya is supported by a volunteer group of human rights lawyers, and her case is being followed by the Nicaraguan Center for Human Rights (CENIDH). Since her arrest, she has not been allowed to consult with lawyers nor has her family been granted access to see her.

A month after she was illegally arrested, Amaya sent a letter from prison to the Nicaraguan resistance. This letter was released on social media and quickly went viral. Amaya's trial was scheduled for December 2018 and has been postponed until 2019. The European

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[24] Micro Documentary – Amaya Coppens. Published by Hora Cero on social media and YouTube channel https://www.youtube.com/watch?v=B0oiFSwYKdU

Commission in Nicaragua offered to make a special case for her. However, she refused and said she would only leave prison when all political prisoners are released, in a gesture of support to other political prisoners and to the resistance. In doing so, she also chose to forego the privileges of her European citizenship.

For this thesis, I have researched and collected Amaya's interviews with the national and international press, and photos and videos uploaded by Movimiento Estudiantil 19 de Abril UNAN-León Facebook page, and I have gathered information from her parents' interviews. I also watched hours of videos posted to social media from the protests in León in an attempt to find Amaya in the background or hear her voice even when her face is not on screen. This material from the Nicaraguan multitude is the grounding of The Amaya Project, which includes tracking Amaya's activism and testimonials and sharing this with a Toronto audience. While I have never met or interacted with Amaya, I highly respect her organizational efforts in León. Based on my research, I believe that Amaya's activism and behaviour tell a story of political struggle that demands justice for all who are being persecuted in Nicaragua. The example of her refusal to be released from jail is a case in point as to how this uprising comes from below, from students volunteering at the barricades, participating in marches and actively denouncing oppression on social media.

Through the narration based on Amaya's testimonials, people in Toronto will learn more about the situation in Nicaragua, as well as gaining a sense of immediate encounter with Nicaraguan events. To this end, I created and developed The Amaya AR Project, in which participants wear headphones and use mobile handheld devices. Through Augmented Reality, images of the resistance are revealed as participants walk through Lisgar Park in Toronto. The audio includes a voice-over that interprets Amaya's experience as a protester and student leader.

Though Amaya is voiced by an actor, her words are inspired by interviews, a letter, and speeches published in the Nicaraguan press, translated from Spanish to English.

Chapter 3 - AR Technology as a Storytelling Medium

My experience as a reporter in Nicaragua has provided me with an understanding of storytelling as a key component in the creation of critical and social content. I am passionate about telling real-life stories while experimenting with non-traditional mediums, such as Augmented Reality (AR), as it has the potential to provide an opportunity for users and participants to experience Nicaragua in Toronto's physical world, through digital media

Augmented Reality Documentary

The use of the term Augmented Reality in the Amaya Project conforms to an early definition provided by Paul Milgram and Fumio Kishino in their 1994 "Virtuality Continuum." The following diagram (fig. 7) describes the degrees of interaction between virtual and real-world experiences (Milgram and Kishino 3).
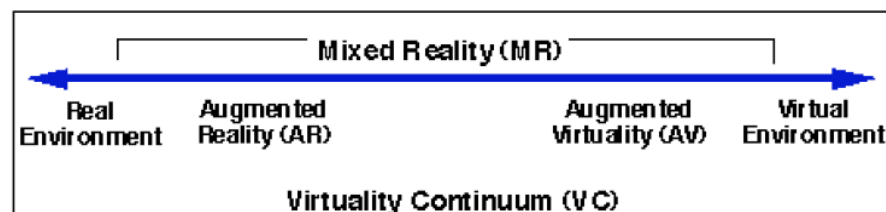
Figure 7: Simplified representation of the Virtuality Continuum

At one end, in Virtual Reality, users are completely immersed in a synthetic world and are able to interact with the elements within it (Milgram and Kishino 2). AR allows us to experience the physical real-world along with computer-generated information. Mixed Reality

presents "real world and virtual world objects… together within a single display" (Milgram and Kishino 3). Milgram and Kishino's taxonomy provides a broad overview of what options are available for designing a story.

During the initial stage of formulating this research and creation project, the main goal was to bring images and sounds of resistance from Nicaragua, to Toronto. I first considered using VR to recreate and simulate the resistance in Nicaragua. Though it would have allowed the recreation of the situation in Nicaragua, it also excludes Nicaraguan people: few people in Nicaragua have access to VR devices, and hand-held mobile devices are far more accessible.

In *The Augmented Human* (2017), Helen Papagiannis explains the overlaying of digital information as the first wave of AR. This evolved when it became possible to add context to the digital information or space where the AR is experienced. In the "entryway," as Papagiannis calls this second wave of AR, context has the power to "transform the AR experience and content because it now moves from an experience that is the same for every user to one that is specific to you, your location, your interests, and your needs" (4). The entryway allows creators and developers to create meaningful and personalized experiences, which is what I wanted to do.

In The Amaya Project, AR takes the form of a hand-held mobile device and audio that together create an audio/visual experience of resistance in Nicaragua, but in the physical space of Toronto. Participants experience the physical space of Lisgar Park and, through AR, encounter a digital space that represents my creative engagement with a Nicaraguan multitude. I felt like I was experiencing two spaces and realities at the same time in my everyday life in that park, and AR allowed me to creatively bring these two worlds together into the same space and at the same time, evoking this personal experience.

Using a hand-held mobile device and headphones, participants see 2D images onscreen and hear sounds from the resistance in Nicaragua, sourced from the media archive I collected. Participants also see 3D models including fire animations and smoke to complement the 2D images and recreating the environment of the images from Nicaragua. Three different voices tell the story. One narrates my reaction and feelings regarding the attacks and resistance from Nicaragua. The second is inspired by Amaya's testimonials. The third set of voices are the voices of the multitude, recorded by the Nicaraguan diaspora and translated into English. These selected phrases gained popularity and went viral during marches and social media exchanges.

The setting for the Amaya Project is Lisgar Park, the park where I take my dog out for walks every day. On many occasions, I would sit on a bench and read the news of what was happening in Nicaragua. Lisgar Park is one place where I felt my life most divided: I saw people walking their dogs, kids playing in the playground, people coming and going from work or from running errands, as I sat there, in safety. Everything was seemingly OK, while my friends in Nicaragua posted messages along the lines of "today I survived a march but someone died next to me."

In the second wave of AR, Papagiannis asserts that the AR experience is all about context. The contradictory context of being in Lisgar Park while reading and watching what my friends and acquaintances were going through, inspired me to build The Amaya AR Project.

Art and Design Practice in Activist AR

John V. Pavlik and Frank Bridges provide an interesting example of the use of location in AR for journalism purposes. They explain that AR "has the potential to actively engage citizens in news content by enabling interactive on-demand access to layers of additional content in

various formats" (45). In their research, they present the situated documentary as a format that leverages the geographical affordances of AR, allowing users to walk around a determined location with the aid of smartphones to add information from past events that occurred in the same location. Pavlik and Bridges' project can be defined as a first-person participatory documentary with journalistic purposes; it used the Global Positioning System (GPS) and location-tag affordances of AR, both features I was interested in applying to my project. Though these features are helpful in creating wayfinding applications, the affordances offered are not reliable for the type of project I created.

For The Amaya AR Project, GPS and location-tags features are not used, as it is necessary to connect GPS coordinates, which have a margin of error,[25] or to location-tag the AR assets to an address. The location-tag features require tagging the AR content to a specific address. Though Lisgar Park is located at 60 Lisgar Street according to the City of Toronto website, the assets of The Amaya AR Project are located in different areas of the park, which means the address is not essential for the purpose of this project. The Amaya Project can be presented in different parks or locations in the future, so the GPS tagging of the specific park is not a priority.

An interesting example of using AR for covering news from a different location is the Mixed Reality experience released by *The New York Times* on June 19th, 2018, initially available through their mobile app and later through the Magic Leap One head-mounted device. The

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[25] In the case of the GPS coordinates there is a margin of error called the User Range Error (URE) which according to the Official U.S. government information about the GPS and related topics website, "as of May 11, 2016, the global average URE was ≤0.715 m (2.3 ft.), 95% of the time". This became problematic for the creation of my project, as the GPS feature is not reliable to keep the AR assets in the exact location every time the participants experience the project. Though the global average URE seems to be insignificant, one must remember GPS calculates its position based on the distance of multiple GPS satellites and its relation at the moment with the location. This means it is out of the developer's control.

experience invites users to explore the damage caused by the eruption of the Guatemalan Volcano of Fuego in the San Miguel de Los Lotes village on June 3rd, 2018. It brought a life-sized and detailed 3D image of the situation in Guatemala to the user's physical location. Users could see specific details captured through photogrammetry, a method which requires many photos from different angles of a specific object or real-world space. For the recreation, 727 photos were necessary to make the 3D photogrammetry model (Koppel), in which the NYT team had to teach a photographer in Guatemala the process of taking photos for photogrammetry. Though the process of taking the photos and creating a 3D model from the photogrammetry is not complicated, the experience was released 16 days after the eruption. The NYT had already published several articles regarding the disaster in Guatemala which shows that, as this moment, AR can be used as complimentary technology with the news.

This new approach employed by *The New York Times* to report the situation in Guatemala opens the door for readers and users to get a better perspective of the situation and the damage caused by the volcano. The user is able to see the scene at a scale, in their own physical location, seeing dirt and debris on the same floor the user is standing on. This is quite powerful and I'd like to pursue this platform in the future. For the Amaya Project, the power of storytelling and testimonials is primary content for building a sensory experience for audiences.

According to Krishna Duddumpudi, Jules Moloney and Tane Moleta in their paper "Whispering Walls: Cultural augmentation with augmented reality at a range of scales," the approach of layering information from one location onto another is referred to as Cultural Augmentation. The term was first used during the 31st International Conference on Education and Research in Computer Aided Architectural Design in Europe, in 2013. These affordances of Augmented Reality provide cultural content for existing buildings and enhance the experience of

a physical world through "the use of mobile AR as the means to enhance the experience of a physical context...Mobile AR applications seem particularly relevant when used to enhance cultural understanding" (Duddumpudi et al 509).

This conference paper exposes how AR opens up a complementary field of research within a cultural context of physical architectural space. The authors use the term "cultural augmentation" to describe the potential of AR to bring cultural knowledge across class and distance barriers. For example, they used AR to bring the highly ornate architecture and design of South Indian temples to the temples in New Zealand, where the budget and lack of craftsmanship might not be available.

In 2017, artist Asad J. Malik used a cultural augmentation strategy in his artwork *Holograms from Syria*, an AR installation which allows users to experience holographic images of the Syrian war in different locations across the US. Due to the realities of the war in Syria, the context does not exist in a physical location where those images could be depicted. The entire piece is based on presenting images that might not otherwise be relatable without AR.

Asad's project resonated and influenced my work, as I like the idea of bringing the image of an event to places where the situation of the image does not exist. In the context of this approach, most of the content available for The Amaya AR Project are 2D images; the project brings to Toronto's physical space social media images that I curated. In other words, digital images of Nicaragua's commons can exist through AR in Toronto's physical space. A head-mounted display is not necessary and AR is powerful as a medium to connect divergent spaces. Using an experimental approach of testing how to edit images, the treatment for the voice-overs and extracting sound from the videos in the archive to use them as sound effects for the scenes in The Amaya AR Project.

Interactive documentaries and experiences in AR and MR can come in different formats: they can be situated documentaries which give additional information or stage a narrative in the context of a specific location like the one presented by Pavlik and Bridges, or they can include only one 3D image giving additional information placed wherever the users decide, like the AR feature by *The New York Times*.

Papagiannis explains that AR can be seen "as an annotated experience about narration and walking through an event or place, whether it's with visual cues, or vocal guidance" (Papagiannis 125). Redesigning the images and sounds from the Nicaraguan resistance and making them available in Toronto offers a different sensory perspective about Nicaragua's current uprising and digitally transports these sensations to a city park.

The Amaya AR Project was developed using Unity, a cross-platform game engine, Vuforia SDK[26] which is available through Unity at no cost, and Xcode, an integrated app development software. In this format, the project can be shared with other Nicaraguans in the diaspora so as to create awareness about the situation there. Other devices for AR and MR (VR headsets with stereoscopic cameras or head-mount displays like HoloLens or Magic Leap) are more complicated and expensive to set up, and are not within the economic means of most Nicaraguan citizens.

Methodology

Viral Images / Poor Images

My live tracking of Nicaraguan news feeds and social media required gleaning through thick data of existing interviews, daily consumption of news articles, images, illustrations,

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[26] An SDK, or a Software Developer's Kit, is a set of tools for developers to build applications.

screenshots, videos and audio notes. My research practice focused on capturing the affects of

viral content, specifically texts, phrases, and chants used in marches and protests. It also included

experimenting with these sources, turning text into audio, translating Spanish march chants to

English, transmitting the context, deconstructing photos, zooming in videos and taking

screenshots, adding effects to voices, and adding layers of audio.

Many live videos on Facebook and Twitter were shaky and blurry due to the fast

movements of bodies in public protests. The internet reception and the cell phone quality were

rarely clear. Audio often sounded broken and delayed and the images were pixelated and glitchy.

Through a research creation process, I explored the aesthetics and affects of the images

and sounds gleaned from the unstructured media archive. The viral images and videos on social

media served as abundant evidence of the abuses committed by the national police, anti-riot

forces, government supporters and parapolice forces throughout the country. They were also

proof of the networks created and the resistance of the multitude, identifiable by their chants and

by the flags,banners and props they carried. Through the images and sounds, the energy of

crowds becomes perceptible, which I believe is the most compelling part of The Amaya AR

Project as those elements carry an emotional response to the audience. The diversity of the

resistance is shown in the mix of people's emotions, some crying and some very angry, and

whether they wore masks or bandanas to cover their faces or decided to risk their safety by

revealing themselves.

In 2017, the Nicaraguan government implemented free access to Wifi signals in some

public parks of the country and public universities. This enabled people to become impromptu

reporters through their Facebook and Twitter accounts. As a result, the free Wifi connection was

later restricted to users on April 23rd, 2018 (Munguía Argeñal), but videos and photos had already been shared in all their blurriness and delayed sound.

My use of viral, low-quality, low-resolution images is informed by the work of artist, filmmaker and writer, Hito Steyerl. Steyerl explains how "poor images show the rare, the obvious, and the unbelievable - that is, if we still manage to decipher them" (1), and these "poor" images tell stories. The images grasp the moment captured; they portray both the violence and organized resistance. In doing so, they hint at the situation of the person who captured the image: Was the person running? What was the quality of the device? Was it taken with a cellphone or a professional camera? Image quality can even suggest the type of internet connection the person had when they uploaded their material to the web. It also tells us something about the journey of the image, whether it was shared by thousands or was an original version.

Each viral photo and video became "a copy in motion" (Steyerl 1) of itself. Images went viral on Facebook, Twitter, Instagram, and through messaging apps like WhatsApp, Signal and Telegraph. Thus, poor images can hold the affective impact of the struggle in the commons, "where they are associated with urgency, immediacy, and catastrophe - and are extremely valuable" (Steyerl 9). The shakiness, the blurriness and the out-of-focus, transmits sensations. Instead of viewing screenshots of videos, grainy and pixelated photos and videos as trash or a problem, the visual form of the images in the thesis project leans into that affect and even aesthetically exaggerates it, not only visually but also audibly.

Collaboration and Participation Network

The sound design of The Amaya AR Project is the result of collaboration with Kiersten Depina, a sound designer, situated in Toronto. I started experimenting by recording my own

voice-overs, then editing them by adding echoes, reverb, and repetition-- creating layers. I played with how my thoughts would sound and the very personal questions and contradictions that arose. I wondered if my family and friends were alright, and I considered travelling to Nicaragua to *do something*: I didn't know what, but something. I was afraid of going, guilty for living in a relatively innocuous city like Toronto and also grateful I was not in Nicaragua. After some consideration and reflection, I decided to stay in Canada and focus on creating a project that could be used for advocacy purposes.

As a way to make sense of the world I was living in, and also to provide transparency regarding the use of images and videos, I created tables including citations as a tracking process of the source files used for The Amaya AR Project. The tables explain the content of the video, the date (if the information was available), details of publication if available, and the name of the outlet if the source material was anonymous or a link if the video was published by the press (See Appendix 6).

Excel tables were used for each scene, including voice-over scripts, sound effects, durations and file names (see Appendix 5). These tables served as a container for the data, also providing the Sound Designer with an overview of the sound archive, special effects, and creative treatment of the voice-overs. Additionally, the scene tables proved extremely useful in the voice-over recording process. It allowed me to document and pay attention to emotion in each phrase of the different voice-overs. Kiersten suggested recording guide tracks in my own voice, to be used by the Nicaraguans in diaspora who would read this material aloud, as most of them did not have experience recording voice-overs.

The soundtrack in the Amaya AR Project is based on collaboration between Nicaraguans in the diaspora, the sound designer and myself. The testimonials that inspired the project are from citizens who chose to use their experience to narrate their survival and agency, and to demand political action in Nicaragua. These testimonials are a form of resistance given to the national and international press and/or to human rights organizations like the Nicaraguan Human Rights Centre (CENIDH), the National Association for Human Rights (ANPDH), the American States Organization's Permanent Commission for Human Rights (CPDH), or the Office of the United Nations High Commissioner for Human Rights (OHCHR). Those who gave testimonials within these parameters know that their personal safety is already at risk, since they have been identified by the national police and government supporters.

Amaya's story is public as she gave many interviews to the national and international press prior to her arrest. Besides her Nicaraguan nationality she is also a Belgian national; her family advocates for justice in Nicaragua, in the European press[27] and the European Parliament[28] showing what Amaya and over 700 other political prisoners are going through. In many cases, the international organizations provided safety, as was the case with Amaya's parents who have been extremely vocal and public about Amaya's detention. Though Amaya is in a privileged position as her family pursues her liberation internationally, this privilege does not negate her activism work in the barricades, marches and protests.

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[27] Links to European news about Amaya's situation in Nicaragua https://www.rtbf.be/info/monde/detail_bruxelles-manifestation-de-soutien-a-amaya-coppens-emprisonnee-au-nicaragua?id=10040022 https://www.rtbf.be/info/belgique/detail_amaya-coppens-une-leadeuse-etudiante-belge-arretee-au-nicaragua?id=10015923 https://www.rtl.be/info/monde/international/amaya-coppens-une-etudiante-belge-de-23-ans-incarceree-au-nicaragua-des-deputes-europeens-sur-place-1094856.aspx

[28] Ana Gomes, member of the European Parliament sent a letter on January 14th, 2019, to Federica Mogherini, High Representative of the European Union for Foreign Affairs and Security Policy and Vice-President of the European Commission requesting a follow up on the cases of Amaya and the other political prisoners: https://www.anagomes.eu/PublicDocs/a9f47ad1-f840-4cbe-8bdf-2f7db18d75cb.pdf

For The Amaya AR Project, I wanted Nicaraguans in the diaspora to participate by lending their voices to the project. It was important that they not be planning on going to Nicaragua so as to make sure their participation would not put them at risk of retaliation from Nicaraguan police or government supporters. They had to have been vocal against the Nicaraguan government actions since April 2018 or before. In the case of Nicaraguans who sought exile after April 19th, I wanted to include people who had participated in marches and protests. It was important for me to ask people who had actually been resisting, to lend their voices for this project.

Creating the Narrative

The April 19th Student Movement - UNAN León - published videos of Amaya giving speeches in different rallies in León in April 2018. I did not use the content of the videos as direct source material for creating the script but rather to get an idea of who she was and learn more about her. In transcribing and translating interviews and articles from Spanish to English, I intended to place the language translation in context, creating a story-timeline based on the evolution of events and Amaya's connection to them.

Designing AR Experiences

As part of my research creation approach, I researched methods and methodologies that could give me insights on how to experiment when creating an AR experience. Drawing from Helen Papagiannis' 2017 book *The Augmented Human* and the work of Asad J. Malik's, I understand AR as being all about context of and location. AR can bring stories to our physical reality through a digital world and The Amaya AR Project creates audio/visual connections between digital and physical space.

I also draw my methodology from Mike Pell's *Envisioning Holograms - Design Breakthrough Experiences for Mixed Reality*. Pell is the lead designer for The Microsoft Garage, Microsoft's experimental projects company. He created a methodology called envisioning which is based on an ideation process to conceptualize ideas (142), framing boundaries of what the experience will and will not do or achieve (143); creating a prototype, the faster and easiest approach (144), informal testing to get people's opinions and insights (146), refining, which is described as a learning from the feedback received (148) and restarting the iteration process (149). In each stage of envisioning, Pell recommends tools and techniques specific to designing an experience for MR[29] or AR. He specifies that the methodology is intended for Microsoft HoloLens and the Windows Mixed Reality platform, but it can also apply to hand-held devices (xix).

Some of Pell's recommendations, considerations and techniques for creating AR experiences were relevant for designing The Amaya AR Project. Pell writes about Spatial Thinking and recommends "embracing space as your canvas" (23); by this he means to use space as a stage, identifying where what is seen and heard interacts with said space. He prompts developers to ask: is there a relation? Are there visuals or sounds above or behind you? If so, are those triggers to make the user look at specific creations? Lisgar Park was used like a stage, where 2D low-resolution images were digitally manipulated to tell a story.

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[29] M. Pell's definition of Mixed Reality is different from Milgram and Kishino's definition of MR. For Pell "MR blends holograms (digital actors) seamlessly into the physical world in a way that appears natural. The key aspect of mixed reality is the ability to stay grounded to the real world, as opposed to being completely immersed in a digital space" (Pell xvii)

Chapter 4 - Studio-based Creation

The project development for The Amaya AR Project involved scriptwriting for an AR experience, experimenting with audio, creating visuals mostly from 2D images and low-resolution content, and fine-tuning the User Experience (UX). The Amaya AR Project required several iterations with different approaches.

In the first prototype, the archival materials appeared in AR in Toronto - events were translated in the script as if they had happened in Toronto. The intent was to make the audience question how it would feel and how they would react if their family and friends were living in a social and political context like the one in Nicaragua. I mapped out the locations in Managua and downtown Toronto with an Augmented Reality feature which consisted of a transparency sheet with meaningful icons related to the 2018 Nicaraguan resistance. The icons explained the Trees of Life, marked an attack, or indicated a specific situation without telling a continuous story. The transparency sheet was first overlaid on top of the Nicaraguan location and then, the same events were mapped as if they happened in Toronto.

In the second prototype I experimented with a location-based event available in the media archive. After reading several stories from news articles and gathering information from Facebook Live videos, I mapped some of the information that had gone viral a few days before when a violent offensive from the police and paramilitary forces that started at the National Autonomous University (UNAN-Managua) and turned into a 19-hour siege at the Church of the Divine Mercy.

Figure 8: Prototype map of the Church of the Divine Mercy.

I selected one story so as to get a glimpse of what that person experienced from the moment the siege started until it ended. Through these prototypes, I decided that the narrative and project should focus on the resistance instead of the human rights violations and the violence perpetrated by the national police and government supporters.

The Amaya AR Project

My early drafts included multiple stories but, in the end, it proved clearer and more compelling to focus on one: Amaya's. This allows the audience to identify with one person, prompting an immediate sense of intimacy with her point of view.

Scriptwriting Process

The script is a combination of Amaya's testimonials and my feelings and emotions which combined into a series of scenes to tell the audience the situation in Nicaragua. The scriptwriting

process was inspired by the Chicana/Latina testimonios methodology as explained by scholars Dolores Delgado Bernal, Rebeca Burciaga and Judith Flores Carmona in their book *Chicana/Latina Testimonios as Pedagogical, Methodological, and Activist Approaches to Social Justice,* where they present a series of examples of projects ranging from effects and responses to microaggressions to reflections on lived experiences using this methodology. The traditional testimonial methodology process includes "an outside activist and/or ally to record, transcribe, edit, and prepare a manuscript for publication" (Bernal Delgado at el 3). Since interviewing Amaya was not an option, as she is in jail, the scriptwriting process was based on interviews and speeches that had been published by the national and international press.

Several versions of the script were written; the process was very emotional. First, I gathered all of Amaya's interviews, speeches and the letter she sent from jail. I transcribed word for word what she said. The translation followed the Testimonios Methodology, translating conceptually instead of literally and paying close attention to culturally specific knowledge and terminology (Bernal Delgado at el 3). Once the translations were finished, I read them aloud several times, highlighting what I felt was most important, looking for phrases that could give an emotional impact.

The first script included 13 scenes, all of them Amaya's. The script was written in the first-person, like an autobiographical essay. It took sixteen minutes to read the entire script with barely any pauses. This original draft of the script read like a news report and transmitted little emotion. AR is created for a real-world context; therefore, I needed to find a connection that would highlight the context of images and sounds from the Nicaraguan resistance in Toronto.

The revisions included a new script with two main characters: Amaya and myself. The structure was simple – Amaya's character and mine would talk. The visuals and sound were

directly connected to creating the script and dialogues. I revisited the initial images I saw in April 2018 including my journal and Facebook posts. It was painful to revisit the content but at the same time it was inspiring, and it provided insight on the treatment for the voice-overs and how to envision AR images for affective impact.

The script consists of six scenes, in which I relate my feelings about unfolding events, and Amaya explains the situation in Nicaragua. It includes chants from marches, phrases from protests and pieces of advice from social media gone viral, voiced by Nicaraguans in the diaspora.

The background sound design incorporated phrases from directives for Nicaraguan protesters that were shared virally on social media. Two particular recommendations were shared widely: The first was to take a full-body photo of yourself right before you leave your house and send it to your family and friends so that there would be a recent photo of you to provide a record of your current physical description in case there is a need to identify a body. The second was to scream your full name when government supporters or the national police take you, so that people around you know who you are and can report you missing. The second directive is heard in the voice-over of the Amaya Project, providing important information about how people in Nicaragua were affected and dealt with the situation.

Audio Experimentation and Collaboration

Some initial voice-overs were recorded using a smartphone, as it is a device that has significance in this project. Photos and videos captured using cellphones are key to The Amaya Project. These recordings included what I referred to as "my thoughts." I created several examples of this voice-over treatment and played them for peers.

Amaya's voice over was recorded using a smartphone. I have never met Amaya and my only connection to her is through online media, photos, and videos I encountered digitally, mostly through the use of my smartphone. To me, as a Nicaraguan living in the diaspora, the use of the smartphone was a direct expression of how I experienced the resistance and virtually met the many activists. We decided to record my voice overs in a studio instead of a smartphone to be able to edit the effects in a more nuanced way. Amaya's words would be performed by a Nicaraguan woman who had been vocal against the government and lived in the diaspora. I used sound effects from original audios in Nicaragua that I thought had affective resonance, iconic phrases spoken during the protests and marches, and readings of written phrases that went viral on social media. This resulted in the project including three sets of voices - Amaya's, mine, and those of the multitude (spoken by people from the Nicaraguan diaspora).

To organize the material for Kiersten, we created a Google Team Drive to upload the content she would be editing. We defined a Google SpreadSheet template for each scene of the script. The descriptions included a numerical layout of scenes, the voice-over script for each, characters, sound effects, and some notes about treatment and duration. Our next step was to upload the video content from which to extract the audio. My unstructured media archive was an issue for a collaborative process, drawing upon over 10Gb of videos to choose audio from. I had to sort through this material, recognize the location, estimate the period of the uprising it was from, and recognize what the context of the content was as a Spanish speaker. I created a table using Google Sheets including the most relevant and useful videos for the sound design of The Amaya AR Project identifying, for example, if the soundtrack included gunshots, screams, or marching chants. The table also estimated my download date and the source of the video - if it was published on a news channel or on Facebook Live or from an Official Facebook Page from

an organization, movement or news outlet, and file name. This table provided enough information for Kiersten to extract original audio for use as sound effects and background noise for the voice overs according to the script of each scene.

Once I had the final script, I sent it to different women who met the parameters I had set - they were not professional voice actors, which meant I did video calls to describe that an emotional performance was important but wanted them to feel free to improvise as we went through the script with them. Initially, we tried to do the entire script with the performers over the phone. The women performing the voice-overs were emotional about the content which made their participation all the more meaningful, and as such, it was important to provide plenty of time for breaks. Most Nicaraguans, including those in the diaspora, know who Amaya Coppens is and therefore relayed their own impressions and interpretations of how she talked.

Finally, we decided that performers would do the voice-overs on their own time and give their own emphasis as to what they thought represented Amaya's voice. This resulted in imperfect, glitchy sound recordings, as discussed by Hito Steyerl and as encountered in my everyday connections with Nicaragua in Toronto.

The voices of the multitude in Nicaragua include screams and phrases that went viral and generated affects of distress, anger, and fear. From the start I specified they could remain anonymous if they chose to. Without knowing at the time, I had activated a Nicaraguan diasporic common. I asked people I knew in exile from Nicaragua who had participated in the marches; most did not want to participate. I posted a quick note on my Instagram account, calling for Nicaraguans living outside Nicaragua to lend their voices for a project related to the resistance. Shortly after, I received messages from acquaintances I hadn't spoken to in a long time. Many said they wanted to help, as they have been living outside Nicaragua for several years and this

was an opportunity to scream and say all the things they couldn't because they were not in Nicaragua and to communicate and cooperate as part of the diaspora, to connect with others who understand the pain and sorrow of witnessing the government's violation of human rights. In connecting with these people, I activated a Nicaraguan common in the diaspora.

A PDF document explained the project with simple instructions on how to record voice-overs with a smartphone, requesting two audio files, the first one in which they would place the smartphone on a table and step 2-3 steps back from it, then proceed to follow the instructions on rhythm and tone. The second audio file included the same phrases and instructions, but this time with the smartphone placed on the table but speaking 4-5 steps away from the device. These are recommendations Kiersten gave me, as we were looking for how to experiment with layers and distance in the voiceovers. This provided us with important depth in the audio recordings for AR. We also recorded my voice to create examples of how to chant the phrases and slogans from the uprising in English.

Soon, I started receiving the audio files from many Nicaraguans willing to be participants, after I had sent the email with the PDF document and audio examples. Many of the recordings include voices with heavy accents. Most people told me it was truly meaningful and emotional for them to scream and vocalize the march chants and protest phrases. In a way, they formed a virtual protest, participating individually without knowing who else was involved, yet connected through their interest in doing something to support the Nicaraguan resistance. In this way, the project supports giving voice to the network.

Experimenting with Visuals

The script provided a guide of the images that I could use for The Amaya AR Project. The archive created in April 2018 was a rich source of photos, illustrations and videos. To create the sound tables, it was necessary to watch the videos in the media archive and simultaneously make screen captures of the images to experiment with.

The images selected were diverse in size, blurriness and clarity; some were viral and some extracted from the press, some had watermarks with the name of the photographer and some were just screen captures of text on social media that went viral. I spent time studying the images, not the content but the visual language they had, exaggerating the errors and distorting protestors' faces while also blurring content that was too violent in order to create my own visual language.

Photoshop was the primary tool I used to experiment with image effects and filters. As most of the images were taken with mobile phone cameras, glitch editing apps were also used as secondary tools for the experimentation process.[30]

Through a visual language, I wanted to communicate information. To portray the violence perpetrated by the Nicaraguan national police I experimented with modifying the colour channels and breaking the image. This represented the police as broken and covered in blood.

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[30] As a secondary tool I used the mobile app Glitché to create interesting visual effects on the images.

Figure 9: Collage of edited images of the Nicaraguan National Police.

For raw and violent images, I experimented with filters that would distort the images. In most cases, the image was already pixelated since it was low resolution. When I started working on this project I decided not to use images of wounded people or photos with blood. The experimentation process allowed me to see if these violent images could be used and if so, to make sure the audience could understand what the image is without having to see details. For shocking and violent images, different visual treatments were tested.

Figure 10: Edit tests of graphic material.

In images of protestors, the faces were masked and distorted to protect their identities.

Figure 11: Edit image test of protestors at barricade.

Once the images were selected and edited, some tests were run on Unity Engine for the 2D images to share space with 3D assets from the Unity Asset Store. The assets include fire, smoke, debris on the ground and other effects which correspond to the script narration and images in the scene.

During experimentation, I added a Glitch Effect script to Unity's AR Camera. This Glitch script gave a motion effect to everything the camera on the hand-held device captured, including the physical location of Lisgar Park. By adding colours, distortion and movement to the already edited images, and applying the on-and-off effect on Vuforia's AR Camera, I was able to intercut movement and glitchiness with static interludes.

Figure 12: Glitch script test with 3D assets.

Figure 13: Test with cropped image of police at Lisgar Park.

Experimenting with the User Experience

From the narrative script, a storyboard was created, with a title for each of the seven sections, and a mood/word describing the scene and what the audience would see and hear. Once the scenes were defined, I developed a user experience navigation map of where each scene would be individually placed, where the participant of the experience would walk, and stop to see and hear each scene.
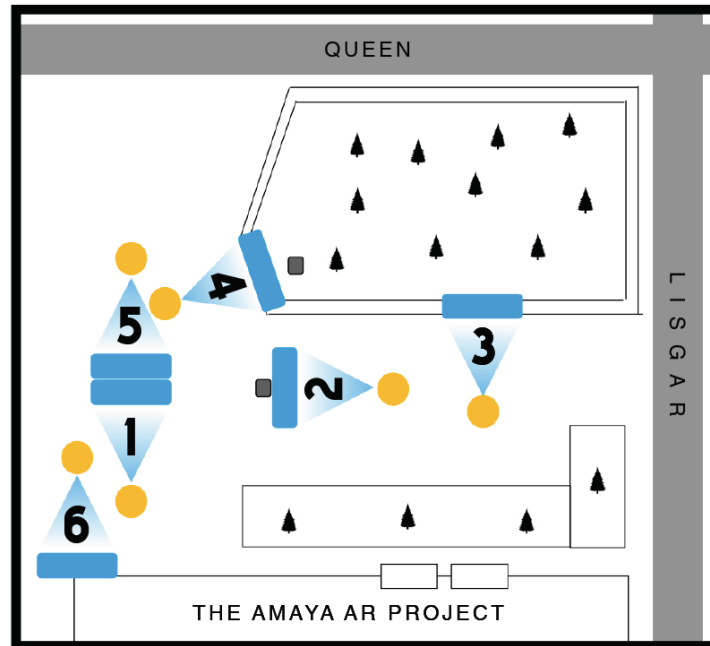
Figure 14: Navigation Map of Lisgar Park.

Once the user experience navigation map was created, marker-based tracking is used to activate the scenes. These image tracks include a community mural, graffiti and other images situated in the park. AR is still a new technology for many people; I didn't want to create additional distractions from the voice-over narration and story. Instead, the UX was designed to encourage movement throughout the physical space of Lisgar Park, allowing users to observe the visual assets from many different angles. On the Google website the developer's blog has an article suggesting Environmental Considerations to determine how digital objects "should react or scale to the constraints of the user's mobile play space" (Unpingco). Different user experience navigation maps were tested within my programming skills and budget, where the participant would be required to make as little arm movement as possible while experiencing the sound and images.

The 2D images and 3D assets are close to real-physical scale, which means the participant stands at a certain distance to see them. The distance was a key element to deciding the image track used for the hand-held device in the detection of the scene. Technological experimentation included testing mark-based tracking, image tracking and object tracking. Markless-tracking was also tested using geolocation specific coordinates but due to the margin of error, it was unstable and the location of the visual asset would change in every test.

Scene Recognition was also tested using the Wikitude SDK, for which I took photos of the park from different angles creating a sort of photogrammetry model of the entire location. The location model allowed Wikitude SDK to recognize the location of an asset from whatever angle of the location model. The main issue with Scene Recognition is that my testing and prototyping period was during winter so the way the park looked changed every day due to the weather. Snow made it look different every day, as one day there were significant amounts of snow and the next day it would melt; at moments the trees were all covered, or partially covered or had no snow at all. This made the colours and surface of the model look different every day and the Wikitude SDK would not identify the angles of the model. Another problem with Scene Recognition is the amount of light. The appearance of the park changes from daytime with natural light and nighttime with its bright electrical lights. The location model would only work during the time of day it was created.

Simultaneous Localization And Mapping (SLAM) tracking was also tested and was only successful in specific areas of the park, as the surfaces are plain which is not recommended. Initially, a mix of different types of tracking were considered. As I became interested in turning this project into an app to share with other people around the world to download, I decided to use simpler tracking technology. The Amaya AR Project uses the Unity Engine and Vuforia because

they offer support for most devices; we use image tracking, so that images can be easily sent as part of a material package for replicating and sharing the project. If another Nicaraguan in the diaspora wants to show the project in their community, they won't need to edit the Unity project; instead, they can print out images and set them around the outdoor space they have selected.

Reflection

The process of designing an AR experience that leverages voice-overs, sound effects and 2D images previously recorded or published was interesting as it required a lot of creativity, but it also presented a series of challenges. Initially, I thought my experience in writing scripts for the television show I worked on as a reporter in Nicaragua would be a helpful asset. Instead, I had to forget this prior experience in reporting facts and lean towards affect and a more abstract script. By focusing on how to emphasize affect through the use of sound, I achieved the desired outcome through collaborative sound design. The collaboration process with the sound designer was enriching and vital to achieving this. We both experimented on how these affects were translated into sound, including organizing the sound library using the sound tables created.

Though The Amaya AR Project relies on sound to emphasize the affective values of the experience, audio is not the only element. The visual experimentation with 2D and low-quality images through Hito Steyerl's "In Defense of the Poor Image" was gratifying and challenging. Though the glitch effects and exaggerations of the errors the images already contained were interesting, I had to fight myself to stay on track so the images would still be identifiable. My choices in visual effects include my own biases and experiences, for example, my decision to depict the national police as corrupt, broken and covered in blood. Using the glitch effect represents how I watched Facebook Live, in pieces, with broken images and sounds; that is the

way I wanted participants and the audience to encounter the content of this experience. There were moments where there was an overflow of images, and others where no images could be seen, this mirrors my own privilege in which I had the option to turn off my social media and not see anything.

The UX experimentation provided a simplified experience where the participant can pay attention to the content instead of the technology, which might be a distraction. I chose to design a shareable experience, so that those in the Nicaraguan diaspora can access the project and create awareness in other locations beyond Toronto.

Chapter 5 - Conclusion

The inspiration behind this project and support document was my personal interest in showing people around me what has been going on in Nicaragua since April 2018; though I am a Canadian citizen, I am also in diaspora. Instead of focusing on the human rights violations, the Amaya AR Project aims to attend to the resistance of the multitude. For those like myself in the diaspora, events in Nicaragua are made available through the press and social media. Thus, the diasporic reality is divided in two, the physical world away from Nicaragua and the digital world experienced through social media. This digital platform is personal as it sustains the ability for connection not just in staying informed, but also in sharing, reposting and creating a network for collaboration outside of Nicaragua.

In my research, I asked: how might written and verbal testimonials be used to create an embodied experience for an Augmented Reality documentary, once these experiences and witnessing have been published in television, radio, newspapers and social media platforms? And how might media archive materials, 2D and low-resolution content from these various

communications be effectively included in Augmented Reality, so as to provide a rich source of experience and perspective?

To address these questions, an understanding of how the resistance in Nicaragua manifested at this historical juncture was important. It was necessary to identify how resistance was being articulated. Michael Hardt and Antonio Negri's theories of resistance supported my analysis. Unpacking the network of communication and cooperation included a presentation of *habits* in carnivalesque forms of resistance, like the sparks that ignited the toppling of the Trees of Life. More importantly, identifying the commons in a network led to a collaborative project with other Nicaraguans in the diaspora. This developed an AR project that would be accessible and shareable in the future.

AR as a technology is still in its early days and to use it as a tool for storytelling opens the door for new political possibilities and creative experimentations. In the case of The Amaya AR Project, experimenting with 2D and low-resolution images while playing with the affective qualities of images and sound was an enriching and creative endeavor.

Envisioning the location as a stage where the sound effects, voice-overs, and images are actors intervening in the space, creates the effect of a virtual installation. This was possible through the use of various methods of overlapping and layering, by collaborating with a sound design expert and Nicaraguan voices of global resistance. The project also engaged with 2D images that are often considered "useless" for AR because they lack volume. If used in the right context, 2D and low-res images can be used to animate physical space in unexpected ways.

The Amaya AR Project was designed to be shareable. With the design and development of a website platform to download the triggers, instructions and app, The Amaya AR Project could be used as a subversive format for advocacy purposes. The website could inform more

people about the Nicaraguan Resistance, providing detailed, up to date information about events, including a timeline with links to the national and international press. In a website, a thorough explanation about the resistance of the multitude could be included. A video and photo gallery could be available as well, protecting the anonymity of masked participants.

The website could also make sharing the AR Project possible with a platform for downloading instructions and the app, and the AR development materials, including integrated visuals, sound design, and the image tracking files to print out and place on location. This way, if a Nicaraguan in the diaspora wants to show The Amaya AR Project in their city, they would only need to place the images for tracking in a suitable park to make the experience available. This model of development and creation of The Amaya AR Project could be used by other activists or advocacy groups who want to use AR to create experimental documentary formats for raising consciousness and awareness.

The installation of the Amaya Project in Lisgar Park evoked an embodied experience that fosters solidarity between locations through the medium of AR. By creatively bringing two radically different worlds together, I signal my own position in the Nicaraguan diaspora. Technologies can tell stories of those who decide what they are for. The Amaya AR Project can be understood as a subversive application of the technology. Instead of being positioned as an app for personal experiences with commercial purposes, The Amaya AR Project provides a documentary experience of Nicaraguan resistance, created through a methodology of collaboration, participation and inclusion of the imperfections of images and sounds. AR is used for advocacy, to create a hybrid space where the commons in the diaspora are empowered in their networks, as events unfold.

The Amaya AR Project was presented during the What The Futures - Digital Futures Graduate Thesis Exhibition which took place at Toronto Media Arts Centre (TMAC) from April 12th to April 14th, 2019. TMAC is located next to Lisgar Park, the location chosen for The AMAYA AR project. The outdoor experience on Lisgar Park was accompanied by an indoor installation on the ground floor of TMAC. This installation served to ground the AR elements in the park, providing an introduction and context.
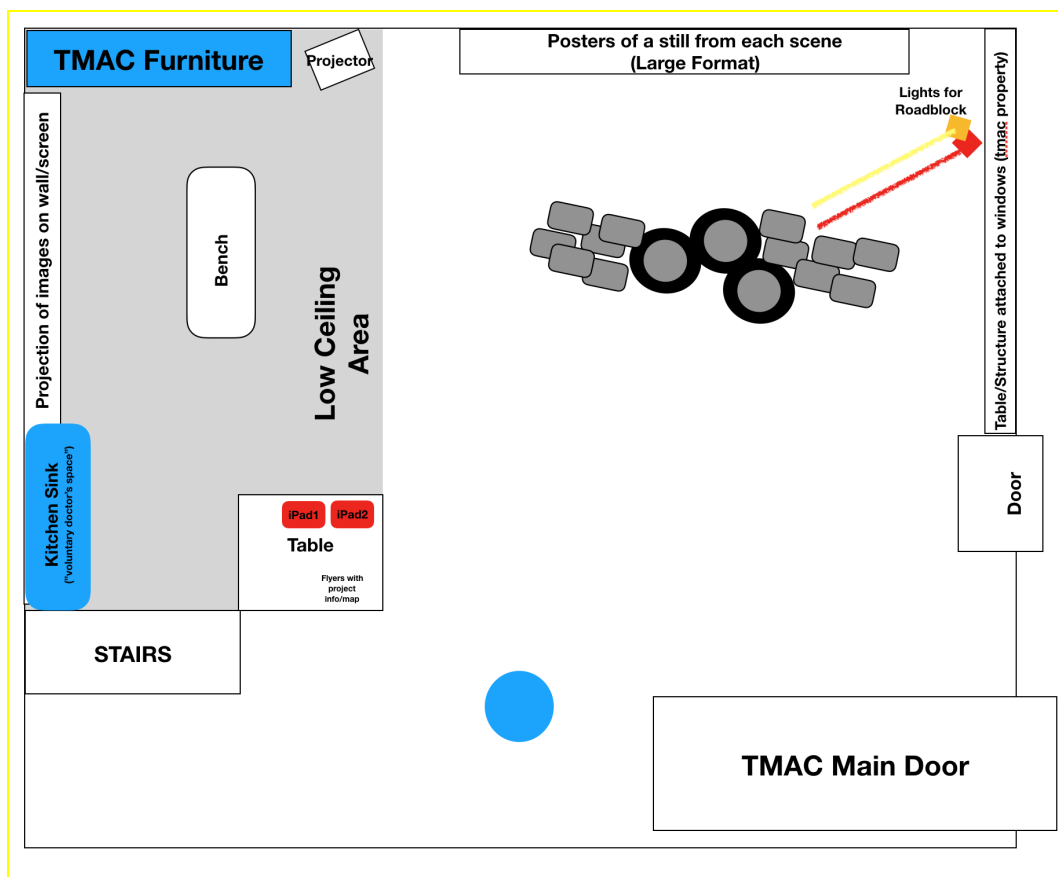
Figure 15: Installation plan inside TMAC.

The installation included a small roadblock built with cement cinder blocks and three car tires. Nearby, a medical emergency station with first aid supplies was constructed for participants to walk around (See Appendix 7). A seven-minute video of the complete Amaya AR Project

walkthrough in Lisgar Park was screened with headphones for the audio, so visitors could view

the AR experience indoors. A sitting area made with three wood pallets and cushions for people

to sit down, was set-up and large-format posters of the different scenes in the project were

mounted on the wall (See Appendix 8). Prints with information about the project and a map of

instructions of the AR experience were available for participants to take with them (See

Appendix 9).

Each supporting element selected for the installation provided a physical presence and

gave participants a sense of the social and political context of the uprising and resistance in

Nicaragua. Also, I entered into dialogue with people interested in the project, starting with a brief

introduction of what the project is about and how it came to be. From my personal observations,

participants became more interested in experiencing the AR project once they had an

introduction to the situation in Nicaragua.

Due to weather conditions, participants had the option of going to the park with the tablet

and headphones to experience The Amaya AR Project, or if they preferred, they could stay

indoors and watch the pre-recorded screen capture video. I noticed both experiences had a

different effect on participants, influencing the type of questions they asked me. Participants

experiencing the AR project in Lisgar Park would ask questions about the situation in Nicaragua

and about Amaya's well-being.

The roadblock, emergency medical station and large-format prints gave me the

opportunity to show participants how events during the uprising unfolded, by pointing to the

roadblock, first-aid supplies or large images, as I discussed resistance in Nicaragua. I perceived

participants were drawn to walk around the installation without fully understanding what it was

about, once they participated through the AR experience in Lisgar Park or by watching the video indoors, they would understand the story constructed through the installation.

An additional element that contributed to the experience was the use of audio splitters to connect headphones to the tablet and to the video projection. The audio splitters allowed two participants to experience the project simultaneously in Lisgar Park or when watching the video indoors. The use of audio splitters for the AR experience in the park changed the dynamic from a one-person activity to a shared experience. People engaged in conversations between the scenes and discussed the instructions of the walkthrough detailed on the printed maps.

The AR experience in the park was impacted by rain and wind. I planned for the spot where participants would stand in front of the signs be marked by a sticker on the ground. Instead, numbered sandbags were used. Due to their weight, the wind did not move them and the rain did not cause any damage. They were an easy solution and participants had no problem in understanding the mechanics of the experience.

The installation and supporting elements enriched the AR experience for the participants and myself as the artist and designer, creating an engaging project. The use of a contextual installation including video, stills and personal interaction was crucial to the shared approach of presenting the AR experience. Participation, discussion, and installation together form a social context, which differentiates AR media activism from an individualized activity, that uses a hand-held mobile device.

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Appendix Section

<u>Appendix A: Table of Testimonials</u>

Table of testimonials and testimonies to decide the main story of the project.

Profile	Name	Type of Risk	Current Status	Method	Story
Government worker	N/A	N/A	N/A	Information taken from traditional media research. Information also available on UN Human Rights violations report and OAS human rights violations report.	Most government and public service workers are under surveillance. Them and their families can't comment publicly, including social media, if they disagree with the government. It has been like this for many years. If anyone disagrees they are immediately fired and experience constant harassment. It is important to understand these are mostly low-income people, they can't afford to quit their jobs. The government forces them into going to marches and protests against the opposition. They are forced to go during their work hours, meaning the public offices close during those demonstrations.
Land Squatter	N/A	N/A	N/A	Information taken from traditional media research. Information also available on UN Human Rights violations report and OAS human rights violations report.	There are so many testimonials from the land squatters but I've chosen to fictionize it to keep them anonymous. Since the government doesn't have many supporters, they hired people from the poorest neighbourhoods of the country and paid them to go to the marches and demonstrations, harass the participants and in return they would get free land. To pressure the private sector, the government started giving the private land to squatters. Seems like the government and the private sector have (again) a secret pact because the government sent the police to destroy the little houses created by the squatters. The videos are so horrible. The police were

					laughing as they were destroying the possessions. The government has used poor people again and again. The government manipulated those who have nothing into doing horrible things to give them land and they disposed them as if they are objects.
Intimacy during Civic insurrection	N/A	N/A	N/A	Published in a culture magazine	A young single woman talks how the civic insurrection has affected her intimacy and how her male partners are dealing with it.
10-year-old girl who migrated to CR	N/A	N/A	Exiled	Testimonial from NGO (Asociación de Ticos y Nicas)	Her family is from León and her uncle was part of the University Commission before the insurrection started. Her uncle was murdered and because he used to take photos with Sofia and posted them on Facebook, her family and her decided to run away to CR to seek protection and refuge.
Police officer who resigned	"Walter"	High	Exiled	Testimony from Nicaraguan human rights organization. National and International press	"Walter" was a police officer. The police went through his phone and found messages saying he didn't approve the national police actions and he wanted to resign. He was taken to Chipote, torture prison in Nicaragua. He was released with the help of CENIDH (human rights NGO in Nic). Through CENIDH he was able to resign, he fled the country with his family and left his badge, gun and uniform with CENIDH.
Paramilitary member	(Not sharing his name at the moment)	Very High	Exiled	Given to national and international press	Ex paramilitary explaining who were giving them weapons and how they would take them from city to city to kill and capture protestors.
Mother of baby	N/A	High	In Nicaragua	Taken from the testimony given to the Nicaraguan Human Rights Commission. The legal testimony was filmed by the national press.	This testimony is very important, as it was one of the sparks that ignited the insurrection. People from all over the country started protesting because of this case. Paramilitary forces and the police do aggressive and violent harassment rounds in neighborhoods. They shoot to the air with the purpose of scaring people. The parents of

					the baby were running on the streets, running away from the paramilitary forces. Once of the gunshots bounced from a wall and shot the baby. The baby was taken to the hospital and was called deceased immediately. By government orders, the decease document specifies the baby's cause of death was "suicide".
Young men falsely accused of killing journalist	Brandon and Glen	High	In Prison	Letter written from jail published national press	Two young men from the Atlantic Coast of the country. They have been falsely accused of shooting the journalist and killing him. They were not there. They were illegally detained and the trialed happened in Spanish without the presence of a defense lawyer. The main language in the Atlantic Coast is English and Creole, not Spanish therefore they didn't even understand what was going on.
Student taken to Jail	Edwin Carcache	High	In prison	Different press interviews	Student who used to go to protests and marches. Detained and is in jailed. Waiting on trial. He is accused of terrorism
Medicine student accused of Terrorism	Amaya Coppens	High	In Prison	Letter written from jail published national press	Double nationality, her story is available in Spanish, English and French. Her family has contacted national and international press to bring a lot of attention to the case. There is a small documentary about her work in León. She gave a radio interview the day before she was kidnapped. The Student Movement of León recognize her as their representative. Medical student and volunteer at different barricades.
Farmer's movement Leader	Medardo Mairena	Very High	In prison	Different press interviews / Letter written from jail	One of the farm leaders. He has been taken to prison and started a hunger strike. He has been tortured.
Transgender activist taken to prison	Victoria Obando	High	In prison	Different press interviews and articles	She is a trans activist. She was taken to jailed and has been tortured.
Farmer's movement Leader	Francisca Ramirez	Very High	Exiled	Different press interviews	The main leader of the farmers. This lady has been the most powerful figure representing Nicaragua inside the country.

					She has received so many death threats.
Young protestor with cancer	Nahomy Doris Urbina aka Comandante "Macha"	High	Exiled	Different press interviews	Student from Carazo. She was protesting and defending the barricades in her neighbourhood in between chemotherapy. Her family and her had to seek refuge and abandon their house as they were being harassed by paramilitary forces. In an occasion they went to their home and stole her personal documents, including her passport. Her 75-year-old grandmother was held at gunpoint and they beat her mother. They left the country recently.
Giving birth in a barricade	N/A	N/A	In Nicaragua	Information taken from traditional media research	Several women gave birth in barricades. The streets were closed. All barricades, even the ones of under gunfire attack had volunteer medical students. These volunteers assisted several births. Nicaraguan press published several articles about this.
Runner for justice	Alex Vanega Maratonista	High	In Nicaragua	Different press interviews	This man runs as a political stance against the Nicaraguan government. This is his way of doing a peaceful protest. He has been taken to jail illegally 4 different just because he runs and carries the national flag of Nicaragua with him. The national flag is a symbol of protest.
Red Lipstick activist	Marlen Chow	Very High	In Nicaragua	Different press interviews	Marlen has been an activist and a leader of feminist groups since the 1970s. She was peacefully protesting and was illegally detained by the police. She was taken to the political prison El Chipote were they interrogated her for several hours on three different occasions. During the interrogations the police kept asking her "who is paying you?" "what organization is financing this insurrection?", "what organization do you belong to?" She replied, in a sarcastic and ironic way, she belonged to the terrorist

					association of independent women with red lips. Once she was released she gave an interview telling her experience. Immediately women across the country started wearing red lipstick and saying they are members of this terrorist association, even men all over Nicaragua and from different social background started uploading photos wearing red lipstick. Two days later the government prohibited their female workers to wear red lipstick. Now, red lips are a symbol of resistance throughout the country.
First teenager murdered while protesting	Alvaro Conrado	N/A	Deceased	Information taken from traditional media research. Alvaro Conrado's case is explained and detailed in the OAS and UN Human rights violations Reports	He was a 15-year-old who went to a protest in the early days of the insurrection. He got shot in the neck. He was rushed to a hospital where he was denied attention because he was protesting. The government issued orders to hospitals to not accept people injured during marches or protests.
Lady providing free water to protestors	Doña Coco	High	In Nicaragua	Different Press interviews	Paramilitary forces attacked peaceful marches since April. This lady sales bags of water, during the marches she was giving her little bags of water to the marchers as a symbol of support. She became an active member of the opposition groups of the government and now she is an activist who gives interviews all over the country. She has been taken to jail three.

Appendix B: Letter from Amaya

Letter Amaya Coppens sent from prison to the Nicaraguan resistance.

Source: https://100noticias.com.ni/nacionales/93847-amaya-coppens-carcel-nota/

Letter from jail 10/10/18:

> *"It has been one month since I've been illegally detained by this genocidal government that continues to oppress us. This time they are keeping me isolated from everyone, my family, friends, lawyer, and even the rest of the inmates who are threatened and cannot get close to our cells. They treat us as if we are contagious, and they are right, every person who listens to us is infected by the fever of our cause, and for this reason they locked us up, but they will not silence us, from our cells we keep on screaming, let's shout all together, let's make sure we are heard everywhere, let's make sure the entire world hears our voices.*

> *This fever will not disappear until the people of Nicaragua get what they demand: FREEDOM!*

> *I have no regrets and a clean conscience. The price I am paying is insignificant compared to what many Nicaraguan families had to pay (referring to the deaths of loved ones). I am locked in this prison but I am well. I am now more sure than ever of our cause/fight and determined to continue in resistance.*

> *We, political prisoners, are united and we take care of each other it is thanks to you that we are well and that we continue in this fight, in our own way.*
> *We can't be bribed and we won't surrender.*
> *Nicaragua will be free!*
> *Amaya Coppens"*

Appendix C: Final Script for The Amaya AR Project

Scene 1:

Emilia: Nicaragua, April 2018: Civic uprising begins. I watch the news break from social media in Canada. The situation grows more and more violent.
They are killing protesters now?! I never thought I would see people dying on my phone screen / I never thought I would see so much blood on my facebook feed. I watch, I read over and over. The images are horrible. Are my friends alive? Is my family safe?

Additional voices:
"the police are shooting to kill"
"If they capture you SCREAM your full name. WE WILL LOOK FOR YOU!"
"They were students, not criminals"
"Take a photo before leaving home, in case we have to look for you!"

Start count of the number of people who have been murdered:
"One killed, two killed, three killed, four killed… Five, six, seven…"

Scene 2:

Emilia introduces Amaya:
University students were the driving force against government injustice. Government funded public universities threatened expulsion. This elevated the students protest, one of these students was Amaya Coppens.

Amaya: The Indio Maiz forest was on fire; the government wouldn't do anything. I protested I had to do something. The government reformed the social security system the protests were small and peaceful. We were attacked by government supporters and the police. I'm a fifth-year medicine student I am not the only one volunteering.

Additional Voices:
"People United chant" / Yelling
"They want to silence us"
"We are students, not criminals" (imitate the rhythm of the Spanish version)
"They will step down, we will make them step down" (work on rhythm)

Scene 3:

Emilia: Other citizens joined the protests. There are peaceful marches organized across the country, mothers and children marching for peace. I never thought this would happen, more violence from the government. I never thought the police would be capable of this. There are police, paramilitary and snipers everywhere. Attacks and blood everywhere.

I should be there but I am glad I'm not there. Why am I not there? I don't want to be there!

Additional Voices:
"They are shooting to kill"
"There are snipers"

Continue count of dead people

Scene 4:

Amaya: Every time a march or demonstration ends people come to me and ask me "and now what do we do?" I have taken a fairly public image with what I am doing here in León. We are self-organized students, self-organized citizens. Most of us medical students were volunteering int he different barricades and roadblocks, we were always carrying a backpack with whatever we could need.
The government ordered public hospitals not to take in any protesters (people died, children died.)
We are at the barricades, they protect us, protect the neighbourhoods and we organize ourselves to assist injured protesters. (stitches, wounds and burnt skin).
Now the barricades are everywhere, in every city and everybody is helping, everybody is taking part.

Additional Voices:
"We Resist!"
"They were students, not criminals!"

Scene 5:
Amaya: Protesters were not just students. Everybody was involved. Students the LGBTQ community, women, feminists, men, young and old people. We demanded justice and democracy, we want the government to stop killing us and we resist the way we can. We will not let all these deaths and corruption go unpunished. Let's not lose hope, faith, let's stay together strong.

Additional Voices:
"We want to live in a free nation!"
"We resist, we resist, we resist!"
"They will step down, we will take them down!"

Scene 6:

Emilia: The government started tracking down protesters, harassing, kidnapping, murdering and taking to jail. The police had been looking for Amaya for speaking up and mobilizing with other students. She hid in a safe house and a neighbour turned her in. On September 10th, 2018, the police and paramilitary took her away. We were all left to wonder if she would be tortured or murdered.

Additional Voices:
"There she is! There she is!"

Scene 7:

Amaya: When I was illegally detained, they kept me isolated from everyone, my family, friends and lawyer. Even the rest of the inmates who were threatened and cannot get close.

Now the police keep threatening us, one of us is very sick and they won't take her to the hospital. Masked men come at night and beat some of the older political prisoners.

I am determined to continue in resistance. I have a clean conscience and no regrets. The price I am paying is insignificant compared to the pain many other Nicaraguans feel after the death of loved ones. I am not leaving this prison until all political prisoners are liberated. Nicaragua will be free again, we will be free again.

Additional Voices:
"They will step down, we will take them down"
"Nicaragua will be free again, we will be free again!"

Appendix D: Message and instructions to Nicaraguans in Diaspora

Message and instructions sent to people participating in the voice overs.

Hola!

Estoy trabajando en mi tesis y estoy haciendo una experiencia/instalación sobre la situación del país. Quiero traducir algunas de las cosas que la gente gritaba en las marchas y ando buscando a nicas en el extranjero que me ayuden y me presten sus voces.

Pronunciación perfecta en inglés NO es necesaria. Lo único necesario es ponerle un poco de emoción.

Cuando hayas terminado de grabar, me podes enviar los audio files por
Correo o a mi número de Whatsapp

En mi tesis quiero dar agradecimiento y crédito a quienes quieran que comparta su nombre. En dado caso de preferir anonimato simplemente notificar al enviar los audio files.

Gracias :)

Instrucciones:

Grabar con el celular, pueden hacer una nota de audio o un video. Lo que salga más fácil.

Primera grabación:

Poner el celular en una mesa y dar de 2 a 3 pasos atrás y comenzar a grabar cada frase en un mismo audio/video clip.

Hacer pausa de 3-5 segundos entre cada frase.

Segunda grabación:

Poner el celular en una mesa y dar de 5 a 6 pasos atrás y comenzar a grabar cada frase en un mismo audio/video clip.

Hacer pausa de 3-5 segundos entre cada frase.

Adjunto algunos clips de audio que grabé con mi voz para que sigan la entonación y ritmo lo más cercano posible.

Frase a grabar en Español	Entonación
Eran estudiantes, no eran delincuentes! Eran estudiantes, no eran delincuentes! Eran estudiantes, no eran delincuentes! Eran estudiantes, no eran delincuentes! Eran estudiantes, no eran delincuentes!	A como lo gritaba la gente en las marchas
El Pueblo unido jamás será vencido! El Pueblo unido jamás será vencido! El Pueblo unido jamás será vencido! El Pueblo unido jamás será vencido!	A como lo gritaba la gente en las marchas
Noooooooooooooooo!!	Gritar varias veces.

Frase a grabar en Inglés	Entonación
The police are shooting to kill	Grito de advertencia
If they capture you SCREAM your full name. WE WILL LOOK FOR YOU!	Voz fuerte de aviso a un amigo
They were students not criminals! They were students not criminals! They were students not criminals! They were students not criminals! They were students not criminals!	Como si estas gritando en una marcha
People united!	Como si estas gritando en una marcha
They want to silence us	Grito enojado
We had to do something	Hablado normal
They will step down, we will make them step down	Como si estás gritando en una marcha
They are shooting to kill!!!!	Grito de advertencia en protesta.
THERE ARE SNIPERS!	Grito de advertencia
We resist!	Como si estás gritando en una marcha
They were students, not criminals	Como si estás gritando en una marcha
We want to live in a free nation!	Como si estás gritando en una marcha
We are self-organized / no one is paying us to do this	Voz fuerte de aviso
they will step down, we will take them down	Como si estás gritando en una marcha
There she is! there she is!	Grito de acusación, que ves a alguien y queres que más gente se de cuenta.

Nicaragua will be free again, we will be free again	Como si estás gritando en una marcha
I'm a journalist, I am doing my job!	Como si sos periodista y la policía te está tratando de arrestar.
AAAAHHH!! Let me go! Let me go!	Grita fuerte, como si paramilitares te están llevando.
NOOOOO! DON'T TAKE HIM!!	Grita fuerte, como si paramilitares se están llevando a alguien que conocés.
NOOOOO!! DON'T TAKE HER!	Grita fuerte, como si paramilitares se están llevando a alguien que conocés.
Cover your face! Don't let them see who you are!	Como que se lo estás diciendo a alguien que conoces y que no tiene puesta una máscara o bandana en la cara.

Appendix E: Scene Tables for Sound Design

Version: April 1ˢᵗ, 2019				Words: Attacks/fear			
Scene # 1							
Voice Over Script	Chara cter	SFX	Treatment	File Name	Where to find in the file?	Location in Google Drive
Nicaragua, April 2018: Civic uprising begins. I watch the news break from social media in Canada. The situation grows more and more violent.	Emilia			Scene1_Turb as desalojan a manifestantes en tranques_100 PORCIENT O	From: 0:18 to 1:18 We don't have to use the full minute but we can extract that part of the audio file and but it in the background here.	https://driv e.google.com/open?id =1pwr1dR Tz7pKc6L _ucUwjat5 40xI5jxRE
They are killing protestors now?!	Emilia	noise from protests and attacks	Thoughts, like an echo? how are VO for "thoughts" usually treated?	Scene1_Repr esión policial deja a varios manifestantes heridos en Matagalpa.m p4	The entire file could be used for part of the background of the VO	https://driv e.google.com/open?id =1InnUw5 rP_u5bBU U0bXdWK dwHSAg0 h1yP
"One killed, two killed, three"	Emilia	Gunshots	Counter. maybe repetition treatment? What suggestions do you have?	Scene1_Repr esión policial deja a varios manifestantes heridos en Matagalpa.m p4		https://driv e.google.com/open?id =1AXAXu BCE3- jqPHIugmp 8M_aDIBh hADKL
		Gunshots	The sound of the gunshot layered with the sound of the entire protest. Maybe repeated 4-5 times?	Scene1_Guns hots_Paramili taryAttackStu dents_UNAN - Managua_13J ulio2018_100 PORCIENT O.mp4	This video is 30 seconds long of only gunshots from paramilitary. We don't have to use the entire file but extract 3 gunshots, the ones you think sound the best. there are possible over 40 separate gunshots sound.	
"the police are shooting to kill"	Additio nal voices blende d	noise from protests and attacks	Screams from a protestor	Scene1_Repr esión policial deja a varios manifestantes heridos en		

	togethe r			Matagalpa.m p4		
"I never thought I would see people dying on my phone screen" / "I never thought I would see so much blood on my Facebook feed."	Emilia	noise from protests and attacks	Thoughts, like an echo? how are VO for "thoughts" usually treated?	Scene1_Repr esión policial deja a varios manifestantes heridos en Matagalpa.m p4		
"I watch, I read over and over"	Emilia	noise from protests and attacks	Thoughts, like an echo? how are VO for "thoughts" usually treated?	Scene1_Repr esión policial deja a varios manifestantes heridos en Matagalpa.m p4		
	Emilia	noise from protests and attacks	V.O	Scene1_Repr esión policial deja a varios manifestantes heridos en Matagalpa.m p4		
"If they capture you SCREAM your full name. WE WILL LOOK FOR YOU!"	Additio nal voices blende d togethe r	noise from protests and attacks	Screams from a protestor	Scene1_Repr esión policial deja a varios manifestantes heridos en Matagalpa.m p4		
I never thought the police would be capable of this...I should be there but I am glad I'm not there. Why am I not there? I don't want to be there! This was taken from SCENE 3 which got deleted except for this part of the VO	Emilia	noise from protests and attacks		Scene1_Repr esión policial deja a varios manifestantes heridos en Matagalpa.m p4		
		Blend this other noise of attacks with one of the background		Scene1_Initia lAttacks_Ma naguaCathedr al.mp4	37:54 to 38:08	https://driv e.google.co m/open?id =12X7Bp5 oC1fn- BSn2P8vi4 xasxBBC WsrL

"They were students not criminals"	Additional voices blended together	noise from protests and attacks	Chant during march	Scene1_Represión policial deja a varios manifestantes heridos en Matagalpa.mp4		
"Four, five, ten, twenty..."	Emilia	noise from protests and attacks	Counter. maybe repetition treatment? What suggestions do you have?	Scene1_Represión policial deja a varios manifestantes heridos en Matagalpa.mp4		
		Gunshot	The sound of the gunshot layered with the sound of the entire protest. Maybe repeated 4-5 times?	Scene1_Gunshots_ParamilitaryAttackStudents_UNAN-Managua_13Julio2018_100PORCIENTO.mp4	Use this file to extract the gunshots for all the counters in the different scenes.	
"Are my friends alive?"	Emilia	noise from protests and attacks	Thoughts	Scene1_Represión policial deja a varios manifestantes heridos en Matagalpa.mp4		
"Is my family safe?"	Emilia	noise from protests and attacks	Thoughts	Scene1_Represión policial deja a varios manifestantes heridos en Matagalpa.mp4		

Version: April 1st, 2019				Words: students / people being attacked and defending themselves		
Scene # 2						
Voice Over Script	Character	SFX	Treatment	File Name	Where to find the sound	Location in Google Drive
University students were the driving force against government injustice. One of these students was Amaya Coppens.	Emilia	Introduction to Amaya		Scene2_ForIntro.mp4	Use whatever part of the new audio for the intro :)	https://drive.google.com/open?id=1nwAV2teOMjEndMJk4CtKtk1BI0D2B_nV
"The government reformed the social security system."	Amaya	Sound of protest	V.O	Scene2_BackgroundAudioforScene.mp4	This audio can be used for the duration of the scene on loop	https://drive.google.com/open?id=17UlAGpniC7ov92PLT2TlA_Kc7DtQvZNY
"I protested, we had to do something"	Amaya	Sound of protest	V.O	Scene2_BackgroundAudioforScene.mp4	This audio can be used for the duration of the scene on loop	Same as above
"I'm a fifth-year medicine student"	Amaya	sound from protests	V.O	Scene2_BackgroundAudioforScene.mp4	This audio can be used for the duration of the scene on loop	Same as above
"People united"	Blend of additional voices	Sound of protest	Chant during march	Scene2_BackgroundAudioforScene.mp4	This audio can be used for the duration of the scene on loop	Same as above
"We were attacked by government supporters and the police"	Amaya	sound from attack	V.O	Scene2_AttackToStudents.mp4	From 0:00 to second 0:14 and 0:24 to 0:29	https://drive.google.com/open?id=1SJSiqf1r2jMlWWGNSBQka0HwWcR4iecJ
"They want to silence us"	Blend of additional voices	sound from attack	Screams from a protestor	Scene2_BackgroundAudioforScene.mp4	This audio can be used for the duration of the scene on loop	https://drive.google.com/open?id=17UlAGpniC7ov92PLT2TlA_Kc7DtQvZNY

"I had to do something, I had to do something"	Amaya	sound from protests	V.O	Scene2_BackgroundAudioforScene.mp4	This audio can be used for the duration of the scene on loop	
"I am not the only one"	Amaya	sound from protests	V.O	Scene2_BackgroundAudioforScene.mp4	This audio can be used for the duration of the scene on loop	
"we are students not criminals"	Blend of additional voices	sound from protests	Chant during march	Scene2_BackgroundAudioforScene.mp4	This audio can be used for the duration of the scene on loop	
				Scene2_ProtestorsCelebrating_TreesofLife_CarreteraaMasaya.mp4	Blend from here on the Scene2_Background file with a file from the cheers and trees of life falling... though I will only have 1 tree of life falling with its own sound, I think it would be interesting for the sound to appear a couple of times throughout the scene	https://drive.google.com/open?id=1bPEMdaAjXW1rj8M8GTfTkQRzZTInYYV2
"We had to do something"	Blend of additional voices	sound from protests	Layered	Scene2_BackgroundAudioforScene.mp4	Blend of protest sound and celebration noises from tree of life video	
"They will step down, we will make them step down"	Amaya and Blend of additional voices	sound from protests	Chant during march	Scene2_BackgroundAudioforScene.mp4	Blend of protest sound and celebration noises from tree of life video	

				Scene2_Back groundAudio forScene.mp4	Blend of protest sound and celebration noises from tree of life video	

Scene # 3			Version: April 1ˢᵗ, 2019		Words: Barricades/Resisting	
Voice Over Script	Charac ter	SFX	Treatment	File Name	Where to find in the file?	Location in Google Drive
Every time a march or demonstration ends people come to me and ask me "and now what should we do I have taken a fairly public image. Most of us medical students were volunteering in the different barricades and roadblocks.	Amaya	Sound of a lot of people, not marching but just a large group of people doing things. People building barricades: Sounds of people moving blocks and heavy things	V.O	Scene4_Ba ckground1 Atacan marcha Madres de Abril.mp4	Use the sound of this short video and blend with the one below. In this first video you can hear the sound of the nervous crowd and the ambulance	https://drive.g oogle.com/op en?id=1Xoa DeI62RpTl1 mSVK9G4qy PIowrSnyPA
"The government ordered public hospitals not to take in any protestors"	Amaya	Screaming, sound of people in a state of nervousness or histeria.	V.O	Scene4_M EDICINES TUDENTS - AlvaroNav arro_Aricul o66.mp4	From minute 1:30 to 1:36 a man asks about the ambulance and he is told it won't come. The doctor volunteering is requesting for medical supplies for someone to pass her medical gauze. blend with the sound of protest above, maybe turn down the protest sound a little and let this be on top?	https://drive.g oogle.com/op en?id=1Dix7 zJD- eIxvEzUUt5b HyAwamWtz g9Qw

"People died, children died"	Amaya	Sound of a lot of people, not marching but just a large group of people doing things. People building barricades: Sounds of people moving blocks and heavy things	eco / repetition hearing it far away, not the same treatment as the other VO	Scene4_Background1 Atacan marcha Madres de Abril.mp4 AND Scene4_Background2 Así reprimió la policía a estudiantes _100PORCIENTO	Would it be possible to to mix these two audiofiles from this soundbite on through the rest of the scene? noise of nervous crowd and also noise of protestors at the barricades.	https://drive.google.com/open?id=1XCALSDMVbIsP4oBIJyZnWNkSMNEzZ3xz
"The barricades protect us, protect the neighborhoods"	Amaya	Sound of a lot of people, not marching but just a large group of people doing things. People building barricades: Sounds of people moving blocks and heavy things	V.O	Scene4_BARRICADE2_Sound.mp4	over the background sound (the one from above, the mix of background1 and background2) add some of the barricades being built sound. The sound of the blocks are from second 0:00 to 0:06.	
"we organized ourselves to assist injured protesters"	Amaya	Sound of a lot of people, not marching but just a large group of people doing things. People building barricades: Sounds of people moving blocks and heavy things	V.O	Scene4_Background1 Atacan marcha Madres de Abril.mp4 AND Scene4_Background2 Así reprimió la policía a estudiantes _100PORCIENTO		
"stitches, wounds and burnt skin"	Amaya	Same as above	eco / repetition Echo / repetition hearing it far away, not the same treatment	Scene4_Background1 Atacan marcha Madres de Abril.mp4 AND Scene4_Background2		

			as the other VO	Así reprimió la policía a estudiantes _100PORCIENTO		
"Now the barricades are everywhere, in every city"	Amaya	Same as above	V.O	Scene4_Background1 Atacan marcha Madres de Abril.mp4 AND Scene4_Background2 Así reprimió la policía a estudiantes _100PORCIENTO		
"We resist!"	Blend of additional voices		Protestors screaming	Scene4_Background1 Atacan marcha Madres de Abril.mp4 AND Scene4_Background2 Así reprimió la policía a estudiantes _100PORCIENTO		
"They were students not criminals	Blend of additional voices	Same as above	Chant in Marches	Scene4_Background1 Atacan marcha Madres de Abril.mp4 AND Scene4_Background2 Así reprimió la policía a estudiantes _100PORCIENTO		
Everybody is helping. Everybody is taking part.	Amaya	Same as above	V.O	Scene4_Background1 Atacan marcha Madres de		

		Abril.mp4 AND Scene4_Background2 Así reprimió la policía a estudiantes_100PORCIENTO

| Words: Diversity | Version: April 1st, 2019 | Text from email I sent: Let's add the music from this video "Población autoconvocada realiza marcha en Scene5_Managua_22Julio_100PORCIENTO.mp4", the protests were like a carnival and my document talks a lot about that.

From this other video you can take the noises of the march, the were loud and everyone talking and didn't seemed very organized "Scene5_Pueblo pierde miedo y marcha pese a asedio de la policía_100PORCIENTO"

This scene is all about diversity. In this video "Scene5_Barricada cultural en solidaridad con las Madres del abril"
There are young people rapping? Would it make sense or is it even possible to add a few bites of the song? It doesn't matter which part. Maybe the rap to one song and maybe the national anthem or the part of "they were students, not criminals" in Spanish, you can find that in the video "Scene5_TheyWereStudentsNotCriminals.MP4" from second 56 to 1:07.

There is also a video with Nicaraguan traditional music, that's the name of the video that maybe could be incorporated. The reason Why i don't specify where in the script is because it depends on the voice over and how it sounds with the voice over. I believe you know what will work best in this case. |
|---|---|---|

Scene # 4						
Voice Over Script	**Character**	**SFX**	**Treatment**	**File Name**	**Where to find in the file?**	**Location in Google Drive**
Protestors were not just students. They were senior citizens, mothers, fathers, feminist groups, the LGBTQ community. People from all social and economic backgrounds.	Amaya	Sound of a March	V.O	Scene5_Pueblo pierde miedo y marcha pese a asedio de la policía_100PORCIENTO.mp4	from minute 35:45 to 41:50 that's pretty much the sound of a march, this was one of the many marches. There was music, people screaming and those awful vuvuzela horns that people also	https://drive.google.com/open?id=1_7Ru0liPsYrHhibh0VLe0SSJqLVSlQJs

					blow in stadiums.	
"Everybody was involved.	Amaya	Sound of a March	V.O			
"We demanded justice and democracy, we want the government to stop killing us"	Amaya	Sound of a March	V.O	Scene5_They WereStudents NotCriminals .MP4	From second 0:56 to 1:07	https://drive.google.com/open?id=16T6POVqA3evit0wZ-qb1QTlDyo6n9V6N
"We want to live in a free nation!"	Amaya and many	Sound of a March	Chant in March			
"We are self-organized / no one is paying us to do this"	Many people	Sound of a March	Protestors screaming during protest			
"resist, resist, resist the way we can"	Amaya	Sound of a March	V.O			
"We are not going to let all these deaths and corruption to go unpunished!"	Amaya	Sound of a March	V.O			
"they will step down, we will take them down"	Many people	Sound of a March	Chant in March			
"Let's not lose hope, faith, let's stay together, strong"	Amaya	Sound of a March	V.O			

Words: Amaya taken away		**Version: April 1st, 2019**				
Scene # 5						
Voice Over Script	**Character**	**SFX**	**Treatment**	**File Number/Name**	**Where to find in the file?**	**Location in Google Drive**
The government started tracking down protestors	Emilia	-	V.O	-	What do you think of not having background noise in this scene? make it quiet, with a sense of	

					sadness. The VO paused between each line? I	
They are hunting down protestors	Emilia	-	Thoughts, like an echo? how are VO for "thoughts" usually treated?	-		
harassing, kidnapping, murdering, imprisoning	Emilia	-	Thoughts, like an echo? how are VO for "thoughts" usually treated?	-		
		-		Scene6_Policía y paramilitares siguen imponiendo el terror en Managua,Nicaragua_100PORCIENTO.mp4	In the first 19 seconds of this video, you can hear gunshots and the voice of a girl crying and saying "I think they killed him...they are taking him with them...they killed him..." I know this is very long but is there a way you think we could incorporate this here?	https://drive.google.com/open?id=1Rnab6Qpymph1F7JNaprKGpBfBqPAL7am
I can't believe the police are acussing of terrorists people who only sang the national anthem	Emilia	-	Thoughts, like an echo? how are VO for "thoughts" usually treated?	-		
Counting deaths...since scene1 the counter stopped. continue here?	Emilia	Gunshots	Counting dead people	-		

"thousands missing"	Emilia	-	Thoughts, like an echo? how are VO for "thoughts" usually treated?	-		
"The police had been looking for Amaya, because she was a student leader."	Emilia	-	V.O	-		
"She hid in a safe house and a neighbor turned her in"	Emilia	-	V.O	-		
"There she is! there she is!"	Additional voices blended together	-	Like gossip, or accusing, pointing out	-		
"On September 10th, 2018, the police and paramilitary came to take her away."	Emilia	-	V.O	-		
"Will she be tortured? Will she be raped or murdered?	Emilia	-	Thoughts	-		

Words:	Version: April 1st, 2019				
Scene # 6					
Voice Over Script	**Character**	**Treatment**	**File Number/Name**	Where to find the sound	**Location in Google Drive**
When I was illegally detained, they kept me isolated from everyone	Amaya	V.O	Scene7_Importa ntSong_Nicarag uaNicaraguita_ Máscaras insurrectas de las marchas azul y blanco	Use as background just the sound of this song	https://drive.goo gle.com/open?id =1qKbwIYCGh EqpQ79n3QfZ1 QQ3eUHGYpw 1
my family, friends, lawyer	Amaya	V.O			
even the rest of the inmates who were threatened and cannot get close.	Amaya	V.O			
The police keep threatening us, one of us is very sick and they won't take her to the hospital.	Amaya	V.O			
Masked men come at night and they beat some of the older political prisoners.	Amaya	V.O			
I am determined to continue in resistance. I have a clean conscience and no regrets.	Amaya	V.O			
"they will step down, we will take them down"	Many People	Chant from a March			
The price I am paying is insignificant compared to the pain many Nicaraguan families feel after the death of loved ones.	Amaya	V.O			
I am not leaving this prison until all political prisoners are liberated.	Amaya	V.O			
"Nicaragua will be free again, we will be free again"	Amaya and other women	Citizens demand			

Appendix F: Video/Sound Citation Table

Table to keep track of SFX for sound design.

UPDATE: FEB 25, 2019					
Title	**Content**	**Possible use**	**Date**	**Source**	**Link**
Paramilitares disparando contra población de Masaya	Paramilitary shooting with live ammo and weapons to protestors from behind a barricade	Audio/Image	17_July_2018	100% Noticias	https://www.youtube.com/watch?v=D7r5qmMXWfA
Paramilitares encapuchados en camioneta Hilux Secuestran a jóvenes	Paramilitary are masked and are pointing their weapons at people outside a car	Image	14_July_2018	100% Noticias	https://youtu.be/m-PBuDx5jIs
Población autoconvocada realiza marcha en Managua	Peaceful protest with dancing and music	Audio/Image	22_July_2018	100% Noticias	https://www.youtube.com/watch?v=5YTXigAOAQ4
Marcha "Solo el pueblo, salva al pueblo"	Peaceful protest with dancing and music	Audio/Image	21_July_2018	100% Noticias	https://www.youtube.com/watch?v=a6AvAuEPf-A
Santa María en Nueva Segovia marchó este miércoles	March/Protest in small town. Sound of motorcycles and honking	Audio/Image	25-Julio_2018	100% Noticias	https://www.youtube.com/watch?v=KdOzMElVwM4
Continúa desobediencia estudiantil en León	Peaceful protest in Leon/ Lead by students	Audio/Image	31_Julio_2018	100% Noticias	https://youtu.be/YH_OJrsdF0s
Antimotines rescatan a Policia infiltrado	Anti-Riot police and sound of ambulance	Audio/Image	2-Sept_2018	100% Noticias	https://youtu.be/vgA0DlDaZ_U
Pueblo pierde miedo y marcha pese a asedio de la policía	Peaceful protest	Audio/Image	2-Sept_2018	100% Noticias	https://youtu.be/UA3aNsU5sA0
Marcha de los	Peaceful	Audio/Image	9_Sept_2018	100% Noticias	https://youtu.be/

globos	protest/march with balloons				J27Eeb0ROpA
Amaya Coppens una estudiante de medicina ejemplar	Interview with Tamara Zamora, Amaya's Mom. Images when amaya was presented by the national police as a terrorist	Image	12_Sept_2018	100% Noticias	https://youtu.be/ S6slHxjzZuY
Policía y paramilitares siguen imponiendo el terror en Managua, Nicaragua	The sound of shots, how people talked.	Audio	12_Jun_2018	100% Noticias	https://www.you tube.com/watch ?v=F2jlMQOigj Q
1 muerto tras ataque por parte de turbas del gobierno en Granada	Attacks of paramilitary to protestors in Granada	Audio	5_Jun-2018	100% Noticias	https://youtu.be/ AF_mTQokoz0
Turbas desalojan a manifestantes en tranques	Government supporters/para military attack protestors	Audio	23_May_2018	100% Noticias	https://www.you tube.com/watch ?v=VdhT_QfQ2 _A
Abuelita es bendecida tras regalar agua a manifestantes	Lady giving away bags of water to mothers. (Miriam Matus-77años)	Image	23_May_2018	100% Noticias	https://youtu.be/ 6Y89eSvl7lk
Pastores Evangélicos van al diálogo	Anti-Riot police against students	Image	27_April_2018	100% Noticias	https://www.you tube.com/watch ?v=ON0oy8aZA D8
Autoconvocados conmemoran masacre del 19 de abril	Peaceful protest/march	Audio/Image	19_May_2018	100% Noticias	https://youtu.be/ TkR856-J8O0
TICUANTEPE: Enfrentamientos entre pobladores y antimotines dejan lesionados	Anti-Riot police / attack to protestors in barricades	Audio/Image	20_April_2018	100% Noticias	https://www.you tube.com/watch ?v=sfsrz1-gBLA

ANTIMOTINES AGREDEN A JOVEN EN TICUANTEPE	This is the same as video above. Different camera angle and interview with the woman harassed	Images	20_April_2018	100% Noticias	https://www.youtube.com/watch?v=7XAzmt-BjiY
Así reprimió la policía a estudiantes	Anti-Riot police attack university students _UNI	Audio/Image	20_April_2018	100% Noticias	https://youtu.be/Vr1NzRlqOkQ
INDIO MAIZ. MIL 350 MILITARES EN LABORES DE APAGAR FUEGO	Photos of military _ Indio Maiz forest fire	Just archive	12_April_2018	100% Noticias	https://www.youtube.com/watch?v=YWnJJepw87M
Antímotines repliegan a jóvenes autoconvocados por Indio Maíz	Anti Riot police breaks peaceful protest requesting the government to take action over the Forest fire	Just archive	12_April_2018	100% Noticias	https://youtu.be/nYjJY0Urm-g
León: tension por manifestaciones en contra y a favor de reformas Inss	First images of government supporters attacking peaceful protests in Leon	Audio?	18_April-2018	100% Noticias	https://youtu.be/Nu2hXveaENQ
Atacan marcha Madres de Abril	Right after attack on the Mother's Day march	Audio/Image	30_Mayo_2018	El Nuevo Diario	https://youtu.be/wX_5Bd6R6Po
Al menos 15 muertos en la marcha de las madres en Nicaragua	Mother's Day march	Archive	31_Mayo_2018	El Pais	https://elpais.com/internacional/2018/05/31/america/1527729663_434755.html
Dia32_#SOSNicaragua Himno Nacional en Masaya	People sing national anthem in the town of Masaya_Peaceful Protest	Audio	28_May_2018	SOSNicaragu Youtube Channel	https://youtu.be/nPd1FzpREac
Dia43_#SOSNicaragua Barricada contra Ataques	Student and Anti Riot police crashes	Audio	1_Jun_2018	SOSNicaragu Youtube Channel	https://www.youtube.com/watch?v=YeSYK8G6zqw

Los disparates de la dictadura orteguista en seis meses de represión	Images of balloons	Images	18_Oct_2018	La Prensa TV	https://www.youtube.com/watch?v=R6HB6RlJMPg
Flor Ramírez, la señora del huipil azul y blanco que no falta en las marchas	Dancing in a traditional Nicaraguan dress she made with the colours of the national flag	Images	6_Oct_2018	La Prensa TV	https://youtu.be/JFGk0Xlq2Nw
Máscaras insurrectas de las marchas azul y blanco	Photos of people wearing masks to protect their identity when they participate in marches and protests. fotorreporteros de LA PRENSA Uriel Molina y Roberto Fonseca	Images	9_Sept_2018	La Prensa TV	https://www.youtube.com/watch?v=Mqa72bOBFIo
Graban en Monimbó el videoclip de la última canción de Carlos Mejía Godoy	Traditional dancing and music. Images of the Carlos Mejia Godoy music video, recorded at the Masaya Barricades...	Images	25_Jun_2018	La Prensa TV	https://youtu.be/byzIBeYl-Cg
Antimotines y paramilitares asesinan a una persona en Masaya	Woman crying for help after her husband was murdered by the paramilitary and anti-riot police	Audio?	19_Jun_2018	La Prensa TV	https://youtu.be/gbQ3hvVeuOU
Pobladores botan tres "árboles de la vida" en Carretera a Masaya	Sound of trees of life falling	Audio	28_May_2018	La Prensa TV	https://www.youtube.com/watch?v=n9SoXdVg3oo
4adultos2niños mueren en un incendio en el	Sound of a house burnt by government	Audio	16_Jun_2018	La Prensa TV	https://www.youtube.com/watch?v=h7T1rb9qO

barrio CarlosMarx	supporters. 4 adult and 2 babies died. Managua				Z0
Los llantos que se escuchan después de la matanza de Jinotega	Image of man killed. blood. his name was BENITO RODRIGUEZ	GRAPHIC CONTENT	6_Aug_2018	La Prensa TV	https://www.youtube.com/watch?v=sGGM9vxnMn8
Barricada cultural en solidaridad con las Madres del abril	Street concert, mini book barricade and stencil artists	Audio/Image	24_May_2018	La Prensa TV	https://youtu.be/xR2iIsN-LTk
Represión policial deja a varios manifestantes heridos en Matagalpa	Sound of attacks in Matagalpa	Audio	15_May_2018	La Prensa TV	https://youtu.be/OwirvljxRdI
Árboles de la vida", blanco de la furia ciudadana por represión gubernamental	Sounds of trees of life falling	Audio	24_April_2018	La Prensa TV	https://youtu.be/bm9NgDJvmrE
La Marcha de las Flores y la represión paramilitar	Sounds and images of marches / images of people wearing masks...very carnivalesque images and performatic resistance	Audio/Image	1_Jul_2018	Confidencial	https://youtu.be/yftovOAFefo
CitizenReport atacan Jinotega/ciudadanos y estudiantes marchan	Published images and videos from viral content. Confidencial calls it "The citizen report". They have a WhatsApp number so people can send the videos or	Audio/Image	24_Jul_2018	Confidencial	https://youtu.be/ER3niytUTuc

	photos they capture				
ArtistasUnidosporNicaragua - Yo vengo a ofrecer mi corazón	Más de 40 artistas nacionales han grabado una versión de la canción "YO VENGO A OFRECER MI CORAZÓN".	Song for Archive	26_May_2018	Confidencial	https://youtu.be/_puzsASH5c4
La rebelión estudiantil contra Unen en la UNAN Managua y la UNAN León	Interviews with UNAN students explaining why they took over the university and their thoughts against UNEN	Archive/not downloaded	14_May_2018	Confidencial	https://www.youtube.com/watch?v=nrNhlSA4gXE
Las imágenes históricas de los primeros 100 dias de la rebelion civica	Published images and videos from viral content	Audio/Image	30_Jul_2018	Confidencial	https://www.youtube.com/watch?v=B8BfLDQh-lw
Familiares denuncian "cacería" de jóvenes que son encerrados en El Chipote	Sandra Ramos and Lester aleman bytes	Archive/interviews	3_Jul_2018	Confidencial	https://youtu.be/ZSwUAwJsdzA

Appendix G: Image Citation Table

Due to the nature of the unstructured archive, some of the images come from screenshots from viral photos and videos. In some cases, not possible to trace who the author was.

Image used in The Amaya AR Project	Photographer	Source/Agency	Link
	Alfredo Zuniga	AP	https://www.apnews.com/afs:Content:1941080027/gallery/afs:Medium:1933700056
	Oswaldo Rivas	Reuters	https://www.infobae.com/america/america-latina/2018/08/13/la-cidh-exigio-a-nicaragua-que-los-actos-de-violencia-sean-investigados-con-imparcialidad/
	Unknown	Screenshot from Viral video	N/A
	Jader Flores	La Prensa	https://staging.laprensa.com.ni/magazine/reportaje/mi-foto-para-la-historia-dias-de-insurreccion-en-nicaragua/

	Unknown	La Prensa	https://www.laprensa.com.ni/2019/03/28/nacionales/2537453-reprograman-juicios-contra-presos-politicos-amaya-coppens-y-ricardo-baltodano
	Jairo Cajina	Screen Shot. The original photo has a watermark with the photographer's name.	N/A
	Unknown	Screenshot	N/A
	Unknown	Screenshot	N/A

	J. Flores	La Prensa	https://www.laprensa.com.ni/2018/04/29/nacionales/2411656-campesinos-salieron-de-managua-pero-prometen-regresar
	Jorge Mejía Peralta	Screenshot from Facebook	N/A
	Carlos Herrera	Niú	https://niu.com.ni/100-fotos-100-dias/
	Unknown	Screenshot	N/A

	Eddy López	La Prensa	https://www.laprensa.com.ni/2018/09/10/departamentales/2469380-paramilitares-secuestran-la-lider-estudiantil-amaya-eva-coppens-en-leon
	Unknown	Screenshot from YouTube video	https://www.youtube.com/watch?v=Xm3ayepvVh4&t=5s
	Unknown	Screenshot from Facebook	N/A
	Carlos Herrera	Confidencial	https://confidencial.com.ni/jinotepe-el-tranque-mas-incomodo-para-el-regimen/
	Unknown	Screenshot	N/A

	Unknown	Screenshot	N/A
	Unknown	Screenshot from viral video	N/A
	Unknown	Screenshot from viral video	N/A

	Unknown	Screenshot	N/A
	Unknown	Screenshot from Marcha a la Catedral 2018	N/A
C148119A.psd	Unknown	Screenshot	N/A
	Carlos Herrera	Niú	https://niu.com.ni/100-fotos-100-dias/

	Unknown	Screenshot from viral video	N/A
	Jader Flores	La Prensa	https://www.laprensa.com.ni/2018/04/21/imagenes/2407971-imagenes-del-enfrentamiento-en-la-upoli
	Unknown	Reuters	https://www.voanews.com/a/three-killed-nicaragua-protests/4358461.html
	Alfredo Zuniga	AP	https://apnews.com/fe89104ac4ce4113ab56b8080750f14a

	Oscar Navarrete	La Prensa	https://www.laprensa.com.ni/2018/04/29/suplemento/la-prensa-domingo/2411534-galeria-la-insurreccion-de-abril-2018
	Jorge Torres	La Prensa/EFE	https://www.laprensa.com.ni/2019/04/27/nacionales/2545297-mas-de-mil-agresiones-contra-el-periodismo-independiente-en-nicaragua-desde-abril-del-2018
	Unknown	Screenshot from viral video	N/A
	Unknown	Screenshot from viral video	N/A

|	Uriel Molina	La Prensa	https://staging.laprensa.com.ni/magazine/reportaje/mi-foto-para-la-historia-dias-de-insurreccion-en-nicaragua/
	Wilmer López	La Prensa	https://staging.laprensa.com.ni/magazine/reportaje/mi-foto-para-la-historia-dias-de-insurreccion-en-nicaragua/
	Unknown	La Prensa	https://www.laprensa.com.ni/2018/08/05/reportajes-especiales/2456444-los-llantos-que-se-escuchan-despues-de-la-matanza-de-jinotega

Appendix H: Installation

Documentation of installation presented with The Amaya AR Project at the Toronto Media Arts
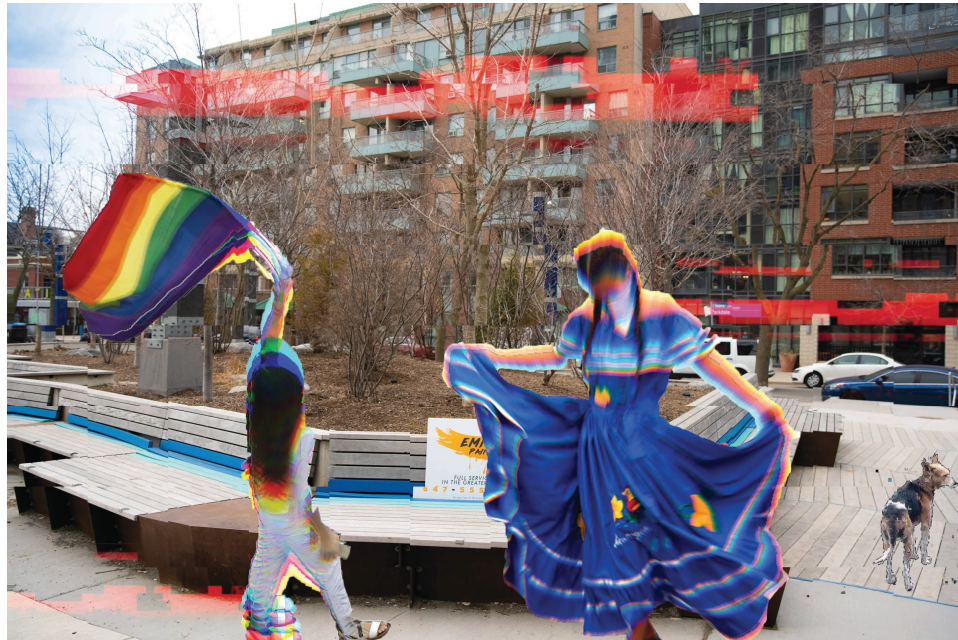
Centre from April 12th to April 14th, 2019.

Appendix I: Large-format prints
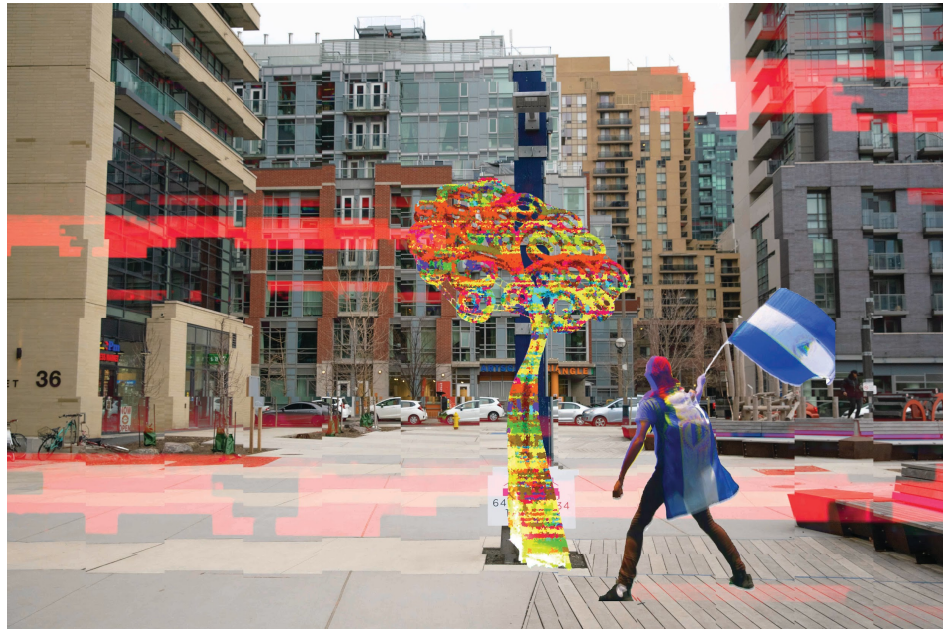
Appendix J: Printed Material

Printed material with project information and map with instructions for the AR experience on

Lisgar Park.

The Amaya AR Project is an Augmented Reality (AR) experience inspired by the Nicaraguan civic uprising.

Through the narrative, the audience learns about Amaya Coppens, a Belgian-Nicaraguan political prisoner, whose narration was constructed from published interviews. The voice-overs were recorded through cellphones by members of the Nicaraguan diaspora located outside Canada. Collaboration was an essential element of this project.

Participants experience manipulated images and sound design called from traditional and social media, leaning into the glitchiness, blurriness and low-quality of the content to express the affects of the situation in Nicaragua. AR is used to creatively bring radically different spaces together, the relatively innocuous physical space of Lisgar Park in Toronto and the digital space experienced through images and sounds from the Nicaraguan 2018 civic uprising.

EMILIA MASON : CONCEPT / DIRECTION / DESIGN | EMIMASON.COM
KIERSTEN DEPINA : SOUND DESIGNER | KIERSTENTDEPINA@GMAIL.COM
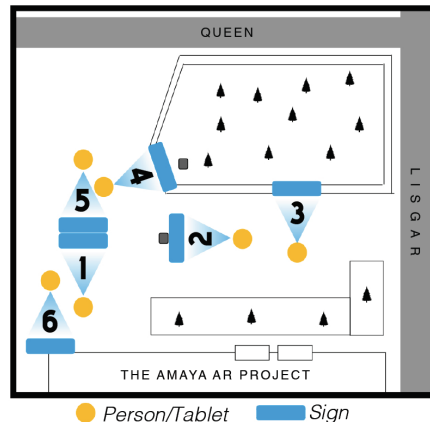
INSTRUCTIONS:

After receiving tablet and headphones, proceed outside.

Follow numbers and point tablet at sign.

Each sign will trigger images and sounds.

When you hear the beep, the scene is over.

Move onto the next scene.

Appendix K: Video Version "The Amaya AR Project"

In this repository, a copy of The Amaya AR Project video version is uploaded. The video shows the walkthrough of The Amaya AR Project.

Location: Lisgar Park, Toronto, Canada.

Screen capture taken from a 5th Generation iPad.