

COVID-19 and How it Affected Theatre/Programming

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## Abstract

The research I've done covers the effects that COVID-19 had on how people entertained themselves and how several entertainment industries had to change because of the pandemic. Because of COVID-19 inflicting mandates on social interactions, many adjustments had to be made to reduce the spread and make sure people stayed as safe as possible. By analyzing multiple statistics and reports on the matter, many people resorted to using strictly digital entertainment over the course of the COVID-19 pandemic because of mandates being enforced. Since being in public places wasn't safe, people had to resort to playing video games online with others, and theater companies had to move their services on to digital platforms. From the reports on how digital services in video games and streaming services has gone up since the pandemic began, digital entertainment has been rather satisfactory for both people and the companies providing the services. But with things slowly shifting back to the way they were before the pandemic, I don't think digital entertainment would be the option many people would resort to again. My senior project is a take on the COVID-19 situation but presented in a video game format. The user would be playing as a person going to an indoor theatre that features skits commenting about the situation. The project was created with the idea of combining my interests of both Theatre and Computer Programming into a single project.

Keywords: COVID-19; Programming; Theatre; Video Games; Quarantine;

## Chapter 1

My research stems around the COVID-19 virus and its impact on entertainment, specifically, digital entertainment. COVID-19, also called coronavirus or SARS-CoV-2 is a virus that was first discovered in Wuhan, China (WHO, n.d.). COVID-19 has symptoms like the flu, which include fever, dry cough, and fatigue. However, unlike the flu, COVID-19 has made quite the impact on the world in regard to infection rates and deaths. The numerous infection rates resulted in many hospitals being flooded with infected patients, and countless people died as well. The current death toll as of this writing being 5.2 million deaths worldwide.

As a result of COVID-19 sweeping through nations and resulting deaths left and right, the governments placed heavy restrictions on places where huge crowds would gather. Among these locations were restaurants, stores, theatres, school buildings and many more. As a result of this, limitations on the number of goods people could buy had to be enforced, and places that provided general entertainment for crowds were shut down or had to go digital. This worked for the most people, but some people miss the feeling of going out and enjoying company with others at restaurants and theatres.

For my research, I will study COVID-19 and its effects on how people relied on entertainment since the shut-down, and how people in the entertainment industry adapted to those changes with the use of technology and streaming services. I choose this specific topic because I am learning more about programming and how it assists people during these times. I've also used various forms of entertainment during the shutdown myself. I've learned of the various strategies developed to keep the entertainment industry running during these times and while they are effective, I've wondered what methods could be developed to help keep people entertained. From my research, the results of COVID-19 affecting how people entertained

themselves resulted in various shifts to online streaming, social distance protocols, and the usage of online video gaming. As of this time of writing, a good part of the restrictions have been lifted in the United States thanks to vaccines and time, but with the Omicron Variant now showing up and infecting people at a fast rate, we may return to how things were in 2020.

## Chapter 2

Due to COVID-19 shutting down many events and forcing people into their homes, people relied more on their entertainment to make sure they got through the abrupt change in how their daily lives functioned. Since going outside and interacting with other people would spread the virus, digital entertainment was one of the ways people had to cope with COVID-19 limiting their actions. “Some others like to spend their time with their friends and family members, and chat with them to get fun and entertainment indoor or outdoor. But during this pandemic, options of entertainment have shrunk, and it is limited to indoor options only.

We all are experiencing that entertainment has given massive psychological support to human kind in this tough time. There is flood of content on digital platforms, numerous daily soaps on television, movies to watch, and an ample number of music channels to energize life. People may agree or disagree but the fact is that entertainment is relieving our tension and diverting our mind considerably away from continuous negative news” (Broadcast & CableSat). With people being stuck inside and unable to interact with others publicly in risk of spreading the virus, people had to resort to digital entertainment such as television, movies, and music to distract themselves from the pandemic’s effects. Video Games are one of the forms of digital media that’s been affected over the course of the pandemic. “Video games are a source of distraction for people of all age groups and number of hours spent per day gaming has increased significantly with the onset of the disease pandemic. In the United States over 25% of consumers

plan to increase their spending on online games, while a sizable 63% voice intentions of not reducing planned spends. With lockdowns resulting in cancellations of live sporting events, there has been a rise in gamers playing online basketball and baseball games such as NBA 2K17 and Major League Baseball (MLB). Accelerating existing trends in the gaming industry, the first few weeks of the lockdown witnessed demand for Nintendo Switch console spike, leaving the company scrambling to keep up with demand” (NASDAQ OMX's News Release Distribution Channel). Because of the pandemic, more people are buying and playing video games, resulting an increase in sales for the production companies and a lot of online interactivity for games with online. With more people playing video games at home, it meant that less people were going outside for long periods of time and physically interacting with other people.

While video games were an easy way of changing the way people enjoyed themselves, productions like theater which involved close contact with people had to drastically change to meet COVID-19 mandates. In early 2020, when COVID-19 was spread amongst the population, all theater productions had to delay, shut down their works, or move the completed productions to digital platforms to ensure the actors and the audience’s safety. “Movie theaters, Broadway theaters and concert venues all lie dormant as they wait for COVID-19 to end and for their patrons to return. Since entering this period of isolation more than a month ago, which most expect will last well into the summer, the entertainment industry has had to adapt from its traditional methods of engaging with its audience and pushing content into the digital world. But as entertainment faces this period of uncertainty, industry leaders are creating the blueprint for what can be our future well past COVID-19” (Korhesakis). COVID shutting down productions being developed and viewable at theaters, production companies had to change the way they developed their films and performances to make things safe for everyone involved. To adjust to

the sudden changes, production companies and actors had to use many different alternatives to make sure they filmed safely without spreading the virus. "Mays' "A Christmas Carol," which was filmed on a high-tech LED set, veers much more filmic than most other streaming theater options and is raising money for suffering regional theaters - one stage production helping others during the pandemic. Other green shoots include radio plays, virtual readings, online variety shows and drive-in experiences that combine live singing with movies. The cast of the musical "Diana" reunited on Broadway to film the show for Netflix before it opens on Broadway. The San Francisco Playhouse recently offered screenings of Yasmina Reza's play "Art," an onstage production captured live by multiple cameras, with a crucial wrestling scene re-imagined to keep social distancing. A musical version of the animated film "Ratatouille" is being explored on TikTok" (MARK KENNEDYAP). With various methods such as drive-in shows, radio plays, and virtual readings, the Theater industry is kept afloat during the earlier stages of the pandemic, and it also keeps both the audience and the actors involved safe.

### Chapter 3 Project Information

For my senior project, I made a video game where one would be able to listen to skits that reflected the pandemic in 2020. I used Unity for this project primarily because a video game is one of the best mediums to do a voice acted skit, and I had a bit of knowledge of how to use Unity as well. Unity was the best choice to help create this project because using it can create a world where a theatre place exists, and there players can listen to skits on the COVID-19 Pandemic. In addition to Unity, I used Blender to create models and objects for the game like chairs and tables to make it look like a real indoor building. For the skits, I used Audacity to

record and edit the audio, and then later implement them in Unity to play. For the games coding language, I used C# to give gameplay elements to the player and the audio.

For the skits, I wrote down plot points based on the general time frame of the COVID-19 Pandemic, from March 2020 when the news of it starting to spread within the US began up until pre-Omicron variant. I had planned on trying to find voice actors from campus who could help with this project, but didn't have the time to do so, so I did all the voice acting myself. I recorded the voices in Audacity and used the program to edit the voice clips to make the flow of the dialogue sound natural by merging all the voice clips into one big file for the skits. While I originally planned on using images and subtitles for the project, due to the pandemic and having remote learning, implementing those elements were not done in a constructive way because of limited resources.

For my project "Theatre World", I'm using Unity to create a game where players can interact with the environment in many ways. How I began to work at first was to set up the general layout of the map and some of the colliders to ensure that when users play the game they don't walk off the map to endless oblivion. That's what can be done so far but eventually once I finish making the other parts in Blender then I can add them and other colliders. In Unity, the general world of the game consists of objects such tables, chairs, NPC's and a stage where the NPC actors perform their skits. The building also has four different rooms to listen to four different voice-acted skits on COVID-19. The Player can walk around these rooms and listen to whatever skit they choose to with the press of a button when the game asks them to do so. Along with listening to the scripts there are various NPC's that players can interact with, making the game feel more alive.



When the game starts, the user is introduced to a title screen with the games title and two buttons that say “Enter Theatre” and “Quite Game”. The former takes you to the scene where you play the game and interact with others while the latter ends the game completely. Once you enter the game the Player will find themselves in a lounge. To both their left and their right there will be a set of tables with chairs and two stands with NPC employees. By walking up to them and entering their collider, a detection which an event or action to trigger, the NPC will speak. This general function also applies to the other parts of the game such as causing the skits audio to play. Except in case of the skits, the collider that causes the skit audio to activate is the set of chairs in the audience.

I used Blender to create and modify various objects in the game, specifically the tables, chairs, and the stage. Most of my work in Blender was from making the stage, which I made from following a tutorial on how to do it. The stage started from a cylinder with a hexagon shape, and eventually I had to stretch the faces, vertices, and edges of the cylinder to make the general shape of the stage. I also had to do various things like dissolve the edges of parts of the cylinder, and clone parts of the cylinder in order to give it a proper theatre stage layout. Afterwards, I applied the color and textures to the stage before it was finally ready to be imported into the game.

C# was used for the games coding, from how the Player moved, to how the skits would activate, to how the Player would interact with NPCs. Making the coding script where the Player could move was easy enough, as in my game it’s done by pressing the arrow keys. Another part that wasn’t hard was using the mouse to change wherever the player was looking in the game. However, what was hard about making the coding scripts was having the skits and interacting

with the NPCs activated by pressing a button. It took many changes to the code and workarounds to get a satisfactory result for my vision of the game.

What I hope for people to get out of from playing Theatre World is a bit of a laugh at how relatable the skits topics were about. I also wanted to lift peoples spirits up, and give a sense of things eventually getting better, because I know that some people have been isolated for a long amount of time because of the restrictions.

Here's me showing off the game: <https://youtu.be/J55KP06qae8>

Here's a link to the Google Drive with the game:

<https://drive.google.com/file/d/1P94Tz7hMalbwparN96g8oxvG5RTadzPW/view?usp=sharing>

Link to Game on itch.io: [Theatre World by MacSmitty\(Macreen\) \(itch.io\)](#)

## Chapter 4 Project Results

The Theatre World game is complete, with most of my designs of the game implemented in some form. I made a world where players can walk around and listen to voice acted skits, and they can also interact with some NPCs. I also made sure to add objects like tables, chairs, and a stage to make the game look more like an actual theatre. For the most part, the games presentation goes in line with what I originally intended to do when I came up with the idea back in Spring 2021.

However, I did have some issues across Unity, Blender, and C# while creating the game because of aspects of the programs I've had little knowledge about. In Blender, I had to redo the stage several times due to mistakes in dissolving an edge on the top of the stage, which caused parts of the model to stretch out in a weird way. Along with that, I've had to do multiple trial and errors with exporting the model into Unity because when I first exported the Stage Model, parts of it wouldn't render in Unity. In C#, no matter what I tried to do, I couldn't get the skits or talking to the NPCs to work by pressing a key on the keyboard. Running out of time and options, I was forced to just have them activate when the player enters the trigger area.

In addition, because of the troubling development, I had to scrap mechanics I planned to be in the game when I first came up with the idea for the project. I originally came up with an idea for the player to sit in the chairs that were in the game, but I couldn't find a way to accomplish that in time. I also was going to have subtitles play based on what's being said, but because I had to change the way the audio was being played, that also wasn't feasible.

## Chapter 5 Reflection

While creating the game, I'd ran into many problems, and one of them was making the models. I haven't used Blender all that much prior to this project, so I had to watch various

tutorials on how to make things like stages and chairs. I made so many errors while making the models and kept on getting frustrated by my lack of success. As a result, it took me longer than it should have to make the models, but then things got worse in that regard. One of the models I made in Blender, particularly the Stage, missed parts of the model whenever I tried importing it into Unity. After messing with the import settings multiple times and looking up multiple guides, I also managed to rectify that mistake.

During production of the skits, doing the voices weren't too difficult, however adding them and implementing them in the game was a challenge. I had to find a specific script to pull this off, and I also figured I should add subtitles to the project too, so that people can at least read what's being said. Adding subtitles within Unity itself is very tricky in regard to positioning, since you have to put the game on a 2D Plane and adjust it in order to make sure it appears on the screen as it would for a typical game.

Overall, while this topic may have come from my general interests, my lack of experience and overthinking some aspects of the project and paper resulted in it's not being as good as it could've been. If I had more time to give the project and paper more thought, it would have been an excellent project. But what I hope that people would take away from my project results was to have a good time and laugh at some the skits dialogue, as I tried to make some parts funny. I also tried to be uplifting as possible in a "We can get through this!" sort of message. I tried giving a performance that would be akin to the ones that would be done in real theatre with the material I had, and hope it was a good substitute for it. What I'd do in the future if I were to do this project again would be to bring more voice actors into the project to make it sound like I'm not just talking to myself. I would also try and implement more of the code I originally planned on using, such as making events happen when pressing a key.

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## Appendix

Code To Activate Voice Acted Skits

```
void OnTriggerEnter(Collider other)
{
    if (other.tag == "Skit1Audience")
    {
        reacting = true;
        audienceTrigger = other.gameObject;

        myAudioSource1.clip = Skit1;
        myAudioSource1.Play();
        question.SetActive(false);
    }
}
```

Code To Activate Interactions With NPCs

```
void OnTriggerEnter(Collider other)
```

```
{
  if(other.tag == "TicketNPC")
  {
    triggering = true;
    triggeringNPC = other.gameObject;
  }
}

void OnTriggerExit(Collider other)
{
  if (other.tag == "TicketNPC")
  {
    triggering = false;
    triggeringNPC = null;
  }
}
```