### Documenting the Practice of Live Coding Performance

An Interactive Qualifying Project submitted to the faculty of Worcester Polytechnic Institute in partial fulfillment of the requirements for the Degree of Bachelor of Science

Submitted on April 27, 2023

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This report represents the work of WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review.

### **Abstract**

This project provides insight into the live coding community from a perspective different from what other documentaries on the topic have portrayed. We created a documentary film with the premise of exploring the Algorave community as it exists in different parts of the world. We interviewed members of the Algorave community in the United States, India, Argentina, and Taiwan to hear how their communities differ from others. We then edited the interview footage into a documentary focused on our journey to discover what makes these communities and performers unique, and what they add to the larger community as a whole. This paper focuses on our process of making the documentary.

### Acknowledgements

We would first like to thank Professor Charles Roberts for being our project advisor, source of many of our connections for interviews, and guide throughout the live coding community. His guidance along the way was crucial to us discovering the wonders of live coding and navigating the field.

We would like to thank our interviewees for helping us learn about the Algorave community in many different parts of the world: Eris Fairbanks, Darren Cole, Abhinay Khoparzi, Ritchse, and Yude Lin. These interviews were integral to us learning about the greater Algorave community, and these interviewees were extremely generous in lending their time to help us create this documentary.

We would like to thank Renick Bell for help in putting us in touch with members of the Algorave community in Taiwan and Japan. Without his help, we would have struggled to find interviewees in these areas.

We would also like to thank Ellen Lincourt for helping us obtain filming equipment and helping with legal knowledge regarding distribution of video footage.

Finally, we would like to thank Zuzu in Cambridge, MA and Thomas Brown for letting us film an Algorave performance there on October 12, 2022 and use the footage in our documentary.

# **Authorship**

All three team members contributed equally to the overall documentary production, but through different parts of the progress. Anthony DiRuzza was responsible for compiling footage from the interviews and editing the final documentary. Jaden Smith-Borne was responsible for writing the documentary's script and recording the voiceover for the documentary. Joseph Baliestiero was responsible for writing the final report and communicating with interviewees via email. All three members contributed equally to the interviews.

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### **1** Executive Summary

With our project, our primary goal was to explore the lesser known sub-communities in the live coding scene and put their unique features on display via the creation of a documentary. We also created our documentary with the goal of introducing the live coding scene to brand new audiences.

In order to achieve our primary goal, we began by researching the live coding and Algorave scenes and making some of our own music from live coding software. This involved us watching several documentaries and short videos introducing live coding to viewers new to the field. We then filmed an Algorave event held in Cambridge, MA, and made connections there with performers willing to send us footage from the event and participate in interviews. After the event we sent emails to members of the Algorave scene in various parts of the world and scheduled interviews with them. These interviews were conducted through Zoom and, with their permission, we recorded the interviews to add to the visual aspect of the documentary, along with allowing the interviewees to share their experiences in the scene through their own voices. The questions we asked the interviewees highlighted unique aspects of both their community and their own history in the scene.

We then created our documentary with the use of footage from our interviews, the Algorave in Cambridge, and other footage from Algoraves around

the world that was generously provided to us by interview participants. We recorded and added a voiceover to guide viewers through our journey in the live coding space and also explain the scene in a welcoming way to viewers new to the field. We made sure to highlight the answers our interviewees had to our questions regarding their unique aspects compared to other communities around the world. The documentary was edited on Adobe Premiere Pro 23 and Reaper, and was published alongside this report.

#### 1.1 Appendices

This report also contains a list of the questions we asked our interviewees. These questions are listed under the Appendix A. These questions range from introductions to asking them how their community differs from other communities in the live coding scene.

### 2 Introduction

Live coding is a (mostly) musical practice where performers use computers and specific music based coding languages to create music in front of a live audience. Typically there is a screen behind the performer showing their screen and what code they are using to create the music. It is unique in computerized music because sounds are added and removed during performances, so the music is constantly changing while you are listening to it.

The live coding scene is quite new compared to other music and performance-based art fields, with the most popular form of live coding - known as Algorave - being created in 2011. The algorave scene first emerged in the United Kingdom, with performances now occurring all across the world: in the United States, India, Argentina, Taiwan, Japan, etc. [1]

We initially were tasked with creating a documentary that would bring the live coding field to a new audience by Professor Charlie Roberts. After doing some initial research by watching other documentaries about the field, we all came out with one question: Where is the diversity in these documentaries? These documentaries, though not intentionally made to silence diverse voices in the field, focussed only on European and USA-based performers. The Algorave website lists many performances from across the world, yet these diverse communities were not often recognized by larger publications.

From this initial research, we shifted our main goal from bringing new members to the field to highlighting diverse aspects of the field. We feel that these subcommunities should be highlighted for their unique algorave performances, and in the process of highlighting these communities, we will show viewers new to the field that live coding is more than what is shown in more popular documentaries and publications.

# 3 Background

#### 3.1 The History of Live Coding

With the introduction of smaller computers in the 1980s that could fit on a stage, musical performers began to wonder if computer programs could mimic musical performances. In 1984, interactive composition was brought to STEIM, a musical performance organization in Amsterdam, The Netherlands directed by Michel Waisvisz. This STEIM symposium introduced many people in the music field to algorithm-based and interactive compositions through talks by speakers from Universities across the world. [2][3]



Figure 3.1.1: Michel Waisvisz performing with his 1984 invention *The Hands*. Source: https://www.digitalcanon.nl/?artworks=michel-waisvisz#list

During this symposium, David Wessel spoke about the work he had done at IRCAM on small systems research. In his talk, he discussed work he had done using an Apple Macintosh for sound mixing, mentioning algorithmic composition briefly when he simulated Andre Hodeir's jazz style. Then, Wessel played Barry Vercoe's "synthetic performer," which showed Vercoe coaching a violinist and a DiGiugno 4X machine being controlled by the "synthetic performer" software.



Figure 3.1.2: Barry Vercoe and a violinist in his "synthetic performer." Source: https://www.youtube.com/watch?v=vF2cYkZcBhY (27:05)

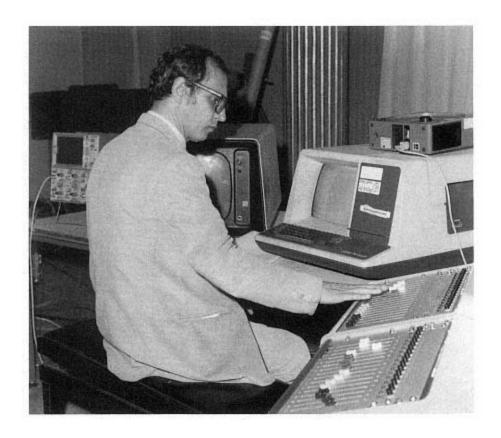


Figure 3.1.3: A DiGiugno 4X machine in use. Source: https://www.musicainformatica.org/topics/4x.php

However, some members of the audience expressed opposition to this demonstration, expressing that they did not see the value in the work being produced. Wessel argued for the performance, saying that it showed a step in the interaction between musician and machine. [2]

After the speeches came the first concert. This concert included many musicians demonstrating compositions created using computers and music by instruments being augmented by computers. These performances displayed some issues though, with the first performance by Joel Ryan having extremely quiet music and a mistake that caused the composer to lose the flow of the music. [2]

The symposium continued the next day, beginning with more talks from researchers in the field, continuing with another concert afterward. The second performer of the concert, Ronald Kuivila, is credited with the earliest known live coding performance. Compared to other performances before him, Kuivila's performance involved his Apple II computer creating music defined by a program Kuivila created. Kuivila's performance, while impressive in scope, ultimately fell to technical and system limitations which ended the performance prematurely. [2][3]



Figure 3.1.4: Ron Kuivila at Roulette 1985. Source: https://roulette.org/event/ron-kuivula/

This early STEIM symposium introduced many people to algorithm-based musical performances, showing many of the limitations that technology at the time had at creating music. As computers continued to improve in the following decades, computer programs and computer capabilities continued to grow as well, allowing for improved live coding performances. By the late 1990s, computers and computer programs, along with interpreted languages, had improved considerably so that code could be fed to computers in real-time to generate audio and video. Live coding performances utilized programs such as SuperCollider to produce source code on a screen. [3]

To this day, programs like SuperCollider continue to be used in live coding performances, showing the usefulness of programs to create live performances. Newer programs like Hydra, TidalCycles, and Gibber have emerged to give performers options for their coding environment, each giving performers alternative tools to aid their performances. [4] [5]

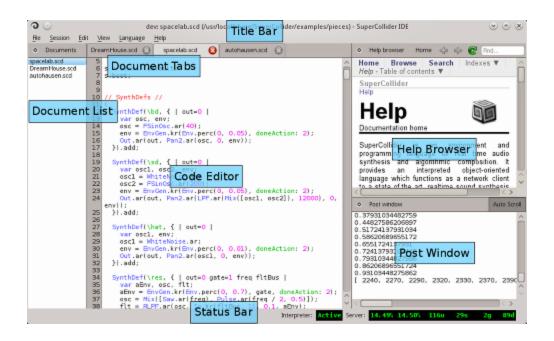


Figure 3.1.5: A breakdown of SuperCollider's interface. Source: https://doc.sccode.org/Guides/SCIde.html

#### 3.2 Algorave's Emergence

In the history of live coding, Algorave is a much newer concept. The term "Algorave" refers to a specific type of live coding performance that follows closely to raves with traditional dance music, with performances intending to create music that invigorates an audience.

Algoraves first began in 2012 in London, United Kingdom, at nnnnn Studios in London. The term was created by Alex McLean and Nick Collins, who pioneered the algorave space as an extension of live coding. Despite being fairly new, Algoraves closely resemble traditional live coding performances, with performers usually projecting their real-time code on a screen in front of an

audience, with audio and visuals being created from the code being displayed.

[1][6][7]



Figure 3.2.1: SuperCollider warmup for the March 17, 2012 algorave. Code is being shown to the audience on the wall to the left. Source: https://www.youtube.com/watch?v=PHpAlp4 fjs (2:10)

The Algorave scene has continued to expand from the United Kingdom, spreading to almost all corners of the world since then. These countries have developed their own algorave scenes tailored to their respective cultures and populations, which often results in different performances from place to place.

With the rising use of technology, live coding has begun to enter the public eye and garner more attention than ever before. Popular publications like the New York Times have written articles about the scene, shedding light on independent live coders in popular live coding regions like the U.S. and U.K. These

publications have also reported on live coders who don't perform as part of Algoraves, such as a man who uses a 3-D printer to make music through commands he gives the machine. [7]

#### 3.3 Problems and Issues in the Live Coding and Algorave Space

Despite the live coding and Algorave scenes being fairly new, they have not existed free of problems. Since the term's inception, the definition of "live coding" has been up for debate. Some define live coding as any use of programming to create a work in real-time, others specify the definition by only including performances that use code. The specific definition of the term has brought up the question: What qualifies as live coding? The most popular live coding works are musical in nature, with algorithms being used to create sounds from code created by a performer in real time. Some of these musical works include visuals as well, with performers including code that creates visual art that compliments the music. Popular live coding platforms like Hydra utilize visual art to create bizarre imagery. [8]



Figure 3.3.1: A screenshot of code in Hydra accompanied by visual imagery created in a layer behind the code. Source: https://hydra.ojack.xyz/docs/#/

The definition of live coding extends to unique works of art according to some performers. As long as performances include code being created alongside performers, with the performers reacting to the code in real-time, many argue these performances are examples of live coding as well. Artists such as Kate Sicchio have demonstrated this broadened definition of live coding through performances involving dancers that dance according rules she codes from her computer. [9]



Figure 3.3.2: A performance by Kate Sicchio (pictured to the far right), where she controls two dancers with code. Source: https://www.youtube.com/watch?v=PHpAlp4 fjs

Though these differing opinions about live coding may produce tensions within the community, these definitions lead to broader performances in the field and contribute to a more diverse field of performances.

The live coding field has always struggled with gender representation, since its inception and initial performances, with most being done by men. While many performers within the live coding and Algorave spaces praise the spaces for being inclusive to people of any background and gender, yet this diversity is not often represented in the makeup of performers. Until around 2016, when Algorave was already an established field, many women did not create live coding performances. One of the reasons for this lack of women and non-binary representation in

Algorave is that historically coding has been a male-dominated field, which extends into the technology used in live coding. [10]

In an effort to increase the number of women live coders, all-women live coding sessions have been held that have proven to be quite successful. Algorave's approach to coding as a source of entertainment has helped bring the idea of coding for fun to many audiences that might not have known its benefits. Women have felt the algorave scene draws them in socially as well, with many of the current performers in the scene being inclusive and welcoming to new performers. Algoraves have given performers the ability to express their performing selves, offering opportunities to groups that might not be included in other code-based disciplines. [11]

Despite the wide range of algorave across the world, many of these subcommunities remain underrepresented in discussions about the algorave field. Documentaries have started to appear in the past few years that provide an introduction to the field to a new audience, and many of them cover the field quite well to some extent. However, almost all of these documentaries are eurocentric or U.S.-based, focusing mainly on the larger communities in algorave. This makes logical sense since not only did algorave originate in the United Kingdom, but also these populations provide the most performers that could be interviewed. However, newer, smaller parts of the algorave scene go unnoticed and unrecognized in these

introductions. This also includes educational platforms like TEDx Talks, where speakers are often from Europe or the United States. [11][12][13]

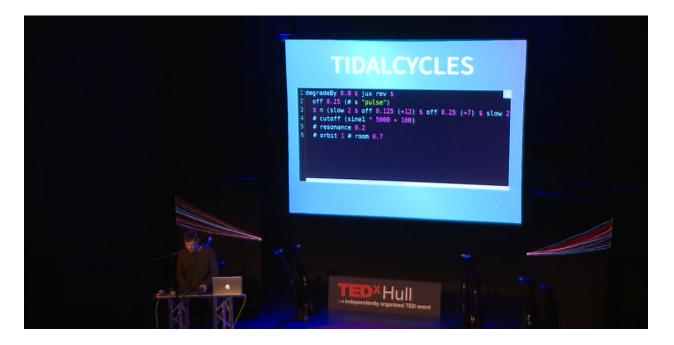


Figure 3.3.3: Alex McLean, co-founder of TOPLAP and Algorave, giving a presentation about Algorave in a TEDx Talk. Source: https://www.youtube.com/watch?v=nAGjTYa95HM

Especially due to the lack of representation of small live coding communities in popular avenues, we were determined to explore these subcommunities in our documentary. It is important for people new to live coding to know that the field is widely diverse and that each subcommunity expresses unique aspects of their culture in their performances.

## **4** Filming Process + Interviews

#### 4.1 Gathering Live Algorave Footage

We began our research and film-gathering process in October 2022. To get footage of algoraves for our documentary, we sought out a local algorave that we could attend and film. Luckily, a local algorave was happening on October 12 at Zuzu in Cambridge, MA. We contacted Thomas Brown and asked them if we could attend the event and record performances. They reached back out to us and gave us permission to film at the event, and said they would even send us a recording of the music performed straight from the mixer without audience noise.

We reached out to the ATC at WPI and got in touch with Ellen Lincourt to obtain cameras and audio equipment. She gave us advice about what equipment to borrow that would enable us to film the algorave, and even gave us advice about getting permission from future interviewees to include their likeness in our documentary. After talking with her, we borrowed two handheld cameras and two tripods to film with, along with a couple of extra camera batteries.

On October 12, 2022, we traveled to Zuzu in Cambridge to attend the algorave. We arrived early to the venue to set up our tripods, initially intending on setting up one behind the audience and one to the side of the performers, in order to get two different angles of the performances. However, upon arriving at the

venue, we realized one of the tripods was broken, making it impossible to set up both tripods in the orientation we intended. Instead, we decided to set up the working tripod behind the audience like we intended and use the second camera in handheld mode to get shots from within the crowd and behind the performers. These shots allowed for more diversity in our B-roll footage for the documentary.

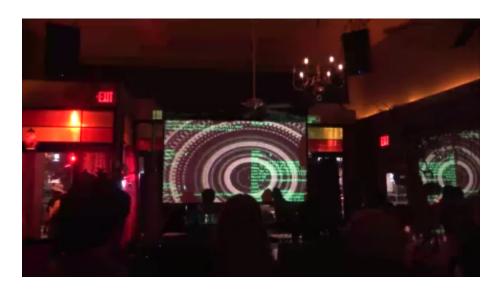


Figure 4.1.1: A still frame from the footage captured at Zuzu's Algorave.

We ended up enjoying the Algorave more than we thought we would before it started, coming out of the event feeling more passion for the field. The performers ranged from new performers to veterans of Algorave, and this range of experience yielded a wide range of performances.

#### 4.2 Gathering Interviews

To gather interviewees, we first began by reaching out to performers at the Zuzu Algorave. These performers would be the easiest to reach out to, since they all understood English and had close communication with Professor Roberts. We decided ahead of any interviews that all of our interviews would be filmed remotely over Zoom. We decided on this approach so that all interviews would fit next to each other in the documentary - both interviews with people nearby and with people in other countries.

We first reached out to Eris Fairbanks and asked them for an interview, to which they agreed to. Eris was relatively new to the algorave field and their performance at the Zuzu algorave was one of their first live performances, having just a few performances over the past few years dating back to 2018. We planned to hold the interview in late November, and the interview went very well.



Figure 4.2.1: Eris Fairbanks in our interview with them.

Next, we reached out to Darren Cole for an interview, and he agreed as well. It took a little while to plan the interview with him since we reached out before going on winter break, but he was willing to stick with us until we returned to campus in January. Darren was very new to live coding as well as Eris, with the Zuzu algorave being his first performance ever. He has had experience with filming throughout his life, so we also took the opportunity to ask him for advice about creating our documentary during our interview with him.



Figure 4.2.2: Darren Cole in our interview with him.

Then, we decided to reach out to performers outside of the United States. We first reached out to Abhinay Khoparzi, who lives in India, and after a bit of talk, we decided to hold our interview with him in late January. It was a challenge to find a time that worked well for both of us because of time zone differences, but once we did find a time, we were able to jump straight into the interview. Abhinay, in

contrast to our previous interviewees, was a long-time member of the algorave scene, and recently has been helping other new performers in algoraves, such as the one in Bangalore. The interview with Abhinay was plagued with internet issues, but both sides stuck with the interview to its end.



Figure 4.2.3: Abhinay Khoparzi in our interview with him.

While trying to schedule the interview with Abhinay, we also reached out to Ritchse, a performer in Argentina. After some initial communication troubles through email, the interview with Ritchse was quite easy to schedule despite time zone differences. Ritchse is not new to the live coding scene, but most of his work had been done remotely during the COVID-19 pandemic by the time of our interview. The Argentina live coding scene is much newer than scenes in the United States and United Kingdom, and Ritchse explained to us how the field was

beginning to bloom in Argentina, with many new performers entering in the past year.



Figure 4.2.4: Ritchse in our interview with them.

We finally reached out to Renick Bell, with the hopes that he would be able to put us in touch with performers in Taiwan and Japan. Renick lives in Taiwan, but since he is not originally from there, we decided that interviewing members of the Taiwan and Japan live coding scenes from those countries would be more authentic and allow for more unique perspectives compared to our previous interviewees. He gave us contact information for Yude Lin, a live coder in Taiwan.

Yude Lin works closely with theater and music design for theater productions. He's assisted live coding software developers and musicians on their release of music in the past, and has assisted in live coding and algorave workshops. He's worked closely with TidalCycles on the TidalCycles website

(<a href="https://tidalcycles.org/">https://tidalcycles.org/</a>) to create tutorials in Chinese. These tutorials provide live coders in Taiwan and China avenues to learn how to live code in TidalCycles. Our interview with Yude was filmed independently after we sent him the questions we were going to ask him. This was done to allow for him to finalize his thoughts and not feel pressure if his responses came out wrong if we filmed in real-time.



Figure 4.2.5: Yude Lin in our pre-recorded interview with him.

Overall, the interviews we had with live coding performers were huge successes and greatly aided our documentary. Our interviewees all shared similar - yet unique - perspectives on the field of live coding. Most of our interviewees praised the field for its inclusivity and welcoming performers, with all of them feeling included within their subcommunities. They all believe live coding will continue to increase in size over the next decade, and emerging subcommunities in places like Argentina will add to the worldwide influence of the field.

#### 4.3 Gathering Footage for the Documentary

When it came to gathering footage for the documentary, we initially found a challenge in showing footage that accurately represents the various live coding communities we wished to highlight. While there is useful footage online of live coding events in places like the United States and Europe, many newer live coding communities don't have much footage readily available from sites like YouTube. To gather this footage, we would have to contact performers from these communities, and hope they recorded some of their performances. Luckily, our interviewees were willing to help.

During our interviews, we asked our interviewees if they had any footage we could use in our documentary in the background. We also asked them if they knew who we could contact to ask for permission in including the footage. Luckily, several of our interviewees recorded their own footage and were able to send the footage to us right after the interview. Since we were directly speaking to the people who captured the footage, we did not need to reach out to any additional people to receive permission to use the footage. This is also helped by the welcoming nature of Algorave communities, with many of our interviewees happily sending us footage to use, with the hopes that their footage could not only help our documentary but also exhibit performances in their region.

This footage proved to be crucial for our documentary, since the footage was exactly what we needed to help the audience visualize the diverse communities we spoke about.



Figure 4.3.1: Footage from an Algorave performance in the Centro Cultural Recoleta in October 2021, provided by Ritchse.



Figure 4.3.2: Footage from ISMIR x Music Hackspace x Algorave India, provided by Abhinay Khoparzi.

### **5 Editing Process**

To edit the documentary, we first needed to decide which editing software to use. The three of us all work on Windows computers, thus Apple Mac specific editing software, like iMovie and Final Cut Pro X were not available. We finally decided on using Adobe Premiere Pro to edit most of the video. Premiere gave us the most freedom with our edits and allowed us to have a smooth editing process. Since the software is quite expensive to pay for, we contacted the WPI Hub to ask for licenses to use the software, paid for by WPI. They granted us some licenses for the software, and we were able to begin editing.

We also decided to use Reaper to edit many of the clips and a majority of the audio. The footage we captured at the Zuzu algorave included very useful footage and some valuable music clips, but was drowned out by loud crowd noises. Reaper was used to isolate the audio desired from these videos.

Beginning the documentary editing process, we initially wished to have the three of us work together on the editing process. We researched how this would be possible through Adobe Premiere, and came across a collaborative option built into Adobe Creative Cloud to work collaboratively on projects. However, after testing this tool, we figured that working collaboratively on the editing process was too much of a hassle to figure out logistically. We decided going forward that one

person would edit the documentary, with the other two people checking in and providing their input on the edit.

With the footage gathered, the editing process began. The majority of the documentary was cut into clips that were edited separately and then compiled together in Reaper. This was mainly done to segment the whole documentary into more manageable sections, but also to mitigate program crashes that might hurt large sections of progress. After around a term of editing, the final documentary was complete.

### **6** Final Documentary

The final documentary begins with an introduction to live coding and algorave. This introduction to the scene of algorave, while brief, allows the audience to become familiar with the topic before members in the community talk about their involvement. Since the audience of the documentary most likely is not too knowledgeable of live coding and algorave, this introduction is very important to keep the audience informed and following along with the video. This introduction mirrors the introduction of this report, though to a much lesser scale. The introduction concludes with information about the main focus of the documentary: highlighting lesser-known algorave communities across the world.

This then leads into a section where the interviews are shown. The interviewees' footage is shown in sections according to the question asked, with their corresponding answers coming after each question described in the voiceover.

[A]

These questions were edited in a specific order to provide a better flow to the edit, with questions about the interviewees' personal introductions and introductions to the scene coming first to give the audience familiarity with the interviewees and their backgrounds. The questions become more specific as the documentary progresses, eventually ending on questions asking for the interviewees' favorite parts of the community and where they see the algorave

scene heading in the next several years. These last two questions, though yielding similar results across different interviewees, assures the audience that the scene is both exciting and inclusive currently and will continue to grow in years to come, hopefully enticing new viewers to the scene to participate.

This interview footage is edited in this way to compare the same question asked to each interviewee's answer to it, in order to find any similarities or differences between responses. The responses from interviewees were largely similar, which was evident by the closely-knit algorave community with performers all across the globe. However, some answers, most notably how each interviewee got introduced to the scene, yielded quite different responses, highlighting how even a smaller community such as algorave has the ability to attract performers and enjoyers from many different backgrounds. These differences and similarities were then summarized with the voiceover for that section.

All five interviewees had their introductions included in the documentary, in order to familiarize the audience with them and what their background is. From Eris's, Darren's, and Yude's interviews, we included footage of their responses to what they appreciated the most about the Algorave community. Eris and Darren described the inclusivity the community projects and their welcoming attitude to new live coders, while Yude discussed how there is not currently a community

online for performers in his area, instead helping each other and getting help from institutions for performances. Footage of Ritchse and Yude discussing their communities was also included, with Ritchse describing the smaller and low-key performances in Argentina and Yude describing the community and its performances as more relaxed and flowy compared to other Algorave communities. Footage of Ritchse discussing the future growth of Algorave in the Buenos Aires area and expressing his desire to see the scene reach a more mainstream audience was included. Footage of Abhinay's response to the future of the Algorave scene was included, since he has been in the scene the longest out of our interviewees and talked about how he looked forward to more collaboration in the scene in the coming future.

Throughout the whole documentary, clips showing algorave performances are played in the background to give both visual aid to the voiceover and to provide examples of performances. Some of these clips have audio of the music being performed, so these clips were placed in between sections of the voiceover in order to both space out voiceovers from each other and to give some variety to the video that would otherwise be missing.

The documentary concludes with a summary of the interviews and our final thoughts on our experience interviewing members of the live coding community and what we learned from them. We mention the diversity we noticed among

different communities, and how social and cultural differences played a key part in not just the musical aspect of performances but also where they are presented and how performers go about performing their craft. We also remark how despite the many differences between communities, each one appears to be equally welcoming and supportive of its performers, both new and old. All the interviewees we interviewed praised algorave for its inclusivity and welcoming culture, which we feel is important to highlight to the audience, in the hopes that it gives viewers the desire to learn more about live coding and algorave, and maybe even participate in a performance.

### 7 Conclusion

We believe we created a documentary that achieved our goal of highlighting the unique live coding communities all across the globe. The five live coders we interviewed gave us valuable accounts of their experiences in their communities, and without these interviews, our documentary would have missed crucial information.

Though we deem our documentary an overall success, there are a few aspects we would change if we were to make the documentary again. First, we would reach out to even more live coders to film more interviews. The five interviews we have for our documentary have been extremely useful, and we believe that even more documentation from more places around the world could improve our message. If we could re-film the documentary, we would also like to attend additional in-person algorave events to obtain more live footage. Though we were able to obtain some live footage of algoraves from our interviewees, we feel it would have been beneficial to both the documentary and ourselves to film additional events ourselves. By filming additional events, we would gather more knowledge of the Algorave scene and have a wider range of footage to include in the documentary. With more diverse footage, our message showing diversity among the scene would have been bolstered.

Overall, this IQP has been a success for the three of us. It has not only exposed us to a brand new community of creative and talented performers, but it will hopefully put these communities on display for an audience that might not otherwise be exposed to them. Without documentaries like ours, niche communities might go unnoticed and underappreciated to the general public, and while many niche communities thrive with little recognition, live coding offers a unique live experience that is not offered anywhere else.

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### **A** Interview Questions

Listed here are the questions we asked our interviewees. These questions may have been phrased slightly differently to different interviewees, but each interviewee was asked a variant of each of these questions. The order the interviewees were asked these questions may have differed slightly from the order listed, but most were asked in this order.

- 1. Introduce yourself. Who are you, what have you done in the live coding / Algorave community?
- 2. How / When did you begin live coding?
- 3. What type of tools / software do you use in your performances?
- 4. How do your live coding performances differ from other live coding performers?
- 5. What are live coding performances like in your region?
- 6. What types of live coding performances happen in your region?
- 7. In what ways does your live coding community differ from other live coding communities? / What makes your live coding community unique?
- 8. What makes live coding interesting to you?
- 9. Where do you see live coding going in the next five years / decade?

Some interviewees were also asked if they had any other contacts we could reach out to in order to interview. Some interviewees were also asked if they had footage we could use in our interview. The interviewees who sent us footage gave us permission to include their footage in our documentary.