The Netherlands Coding Live - Community Report

Timo Hoogland
HKU University of the Arts Utrecht
info@timohoogland.com

Joana Chicau
Independent
web@joanachicau.com

Rafaele Andrade
Independent
rafaelemandrade2014@gmail.com

Francesco Corvi
Institute of Sonology
ffra237@gmail.com

Jonathan Reus
instrument inventors initiative / University of Sussex
j.reus@sussex.ac.uk

Fabian van Sluijs
Creative Coding Utrecht
fs@creativecodingutrecht.nl

Felipe Ignacio Noriega
Independent
contact@felipeignacio.info

Klasien van de Zandschulp
Live Coding Sessions
contact@klasien.nl

Saskia Freeke
Live Coding Sessions
info@sasj.nl

Sabrina Verhage
Live Coding Sessions
sabrinaverhage@gmail.com

Iván Paz
Toplap Barcelona
ivanpaz@cs.upc.edu

SUMMARY

The Netherlands Coding Live a.k.a. NL_CL is a "pop-up" phygital space for engaging with live coding through practice, experimentation, openness, discussions and performance. Series of live coding sessions, discussions, workshops and more have been organized by live coders based in The Netherlands and hosted in various cities across the country. Many members of NL_CL are also employed or in close contact with other platforms, foundations or institutes such as the instrument inventors initiative (iii) in The Hague, Creative Coding Utrecht (CCU), Varia in Rotterdam, Creative Coding Amsterdam (CCA), The Institute of Sonology in The Hague, The HKU University of the Arts Utrecht and the Conservatory of Amsterdam (CvA). By applying for subsidy at different funds like Creative Industries Fund NL (SCI) and Fund Performing Arts (FPK) NL_CL has been able to organize many events such as concerts and workshops in collaboration or via these parties. NL_CL is an open community where everyone with an interest in coding is welcome to join. The community has a diverse practice of disciplines in which live coding is applied. These disciplines range from programming music (in the broadest definition possible) and visuals to working with choreography and embodiment or building, augmenting and designing acoustic and physical instruments. Much of the tools and research by the community are also published and shared. Furthermore the community is quite diverse in nationalities with members from for example Brazil, Argentina, Slovenia, USA, Mexico, Portugal, Italy and of course The Netherlands.

1 Introduction

The Netherlands Coding Live (NL_CL) is a "phygital" (physical/digital) space for engaging with live coding through practice, experimentation and discussions (NL_CL 2022). A series of events have been organized by members of NL_CL and hosted in cities across the country, drawing upon their diverse practices including music and visual programming, choreographic and embodied programming and physical instrument design. The community is culturally diverse, with members from Portugal, Brazil, Mexico, Argentina, Slovenia, USA, Italy and, of course, The Netherlands.

2 Meetups

NL_CL organized their first meetup in April of 2018 titled "Parse to Fail" (NL_CL 2018) at the former STEIM (Studio for Electro-Instrumental Music) in Amsterdam. During this gathering the goal was helping each other to overcome the fear of the unknown, to experiment and fail together collectively. No prior experience was then (or is now) a must, the only requirement was willingness to code, even if your first time. All meetups since have continued this attitude: share and explore together: hands-on instead of show & tell.

Since early 2019 we have organized monthly meetups to explore live-coding ideas and make plans for the community. We established two rules for these gatherings: 1. Every newcomer has to type some code, and 2. At the end of every meetup we pick a date for the next one. The meetups continued mainly in the "Randstad" (the central-west part of the Netherlands, including The Hague, Rotterdam, Amsterdam and Utrecht) at locations such as the Conservatory of Amsterdam (CvA), The Instrument Inventors Initiative (iii), Varia in Rotterdam, Creative Coding Utrecht and STEIM. Since the Netherlands is small and well-connected by public transport, we experimented with moving the meetup to different cities outside of the Randstad, such as Eindhoven. The idea was to bring the meetup closer to others around the country, inviting them to join the community. An interesting discussion at this point was if the meetups should continue in this nomadic style or if we should instead start independent communities at different locations but be all under the same NL_CL umbrella. This initiative stopped due to the covid pandemic in 2020. At that time, in-person meetups were completely replaced by online meetups over jitsi video-calls (NL_CL 2020). Besides the meetups, both individual members and NL_CL as a collective have organized concerts, algoraves and workshops and published articles, software tools and other online media, often in collaboration with cultural venues and institutions. A selection of these activities are highlighted in the following chapter.

3 Algo-Rhythms

Algo-Rhythms was a series of live coding events that happened between November 2017 and November 2019 co-organised by Joana Chicau and Worm Rotterdam (Worm Rotterdam 2022). The series aimed at reflecting on gender balance and diversity as well as to serve as a meeting point for practitioners, and to grow and strengthen the connections in the local community. Each session hosted performances by live coders based in The Netherlands and abroad. Different formats were tried out during the two years, such as a combination of remote and in-situ performances, performances followed by a Q&A, workshop prior to the performance program and performances followed by a jam session. The above mentioned allowed for experimenting with different possibilities for audience engagement, participation and experience. Some examples that help illustrate this are described below.

In the first session, Mariette Groot from the New Emergences Foundation (New Emergences 2017), a platform for advocating diversity within digital media culture, electronic music, and sound art, facilitated a Q&A session. The discussion focussed on live coding practices "behind the scenes", both in terms of artistic processes as well as on tactics for diversity and inclusion by the artists and community. The latter helped contextualising and situating live coding that for many in the audience was less known. In the 2nd session, in May 2018, during the jam session, a microphone was passed around, having some of the audience members sing and improvise to the live coding music. In the 4th session, in September 2019, the workshop by Olivia Jack on her live coding tool Hydra, proved a successful strategy in inviting workshop participants to join the jam session that same evening.

The curation of the event series also focussed on presenting diverse approaches to live coding practices, from using laptops to DIY gestural interfaces to mixing analogue and digital instruments. The programs and languages in use differed from performer to performer as well as the genres and styles in audio and visual composition. These series included performances by Marije Baalman, Joanne Armitage & the Female Laptop Orchestra (OFFAL), Joana Chicau, CodeKlavier (Felipe Ignacio Noriega and Anne Veinberg), Alexandra Cárdenas, The Yorkshire Programming Ensemble (T.Y.P.E), Timo Hoogland, Raphael Sousa Santos, Sabrina Verhage, Carolien Teunisse, Olivia Jack, Renick Bell, Saskia Freeke, Jonathan Reus, Eerie_ear, Rafaele Andrade, Miri Kat, Giovanni Muzio, Jobi, Ulysses Popple, Noemi Biro, Craig Latta, Trammell Hudson and various ad-hoc contributions by audience members.

4 Creative Coding Utrecht

Creative Coding Utrecht (CCU) is a community founded in 2017 by Carolien Teunisse and Fabian van Sluijs with the goal to stimulate digital creativity and creative coding in Utrecht and beyond (Creative Coding Utrecht 2022a). They aim to bring together a community of makers to share knowledge and collectively explore self-made expressions. Their vision overlaps with the live coding community and therefore they were very interested and open to collaborate in organizing various events and pushing live coding and creative coding to a wider audience.

Figure 1: *Joana Chicau, Mariette Groot and Joanne Armitage (photo by Florian Cramer, Courtesy of WORM, Rotterdam.)*

4.1 Code Jams and Concerts

In November 2018 an Algorave was held at the venue Ekko in Utrecht, curated by Fabian van Sluijs and organized together with the HKU University of the Arts Utrecht and Uncloud (a non-profit contemporary art & music organisation (Uncloud 2022)) with performances by Miri Kat, Shelly Knotts, Chris Kiefer, Marcel Wierckx, Jaromir Mulders, Roald van Dillewijn, Ward Slager, Harold Groenenboom and Timo Hoogland. Panda Zooicide was also on the lineup but were not able to perform due to technical difficulties. After the Algorave Timo Hoogland contacted Fabian van Sluijs and started to organize various live coding jam sessions at the end of CCU meetups (Creative Coding Utrecht 2018). The jam session format was inspired by the "mexican style", a from-scratch session in your environment of choice, where the performers are given a short amount of time (in this case six minutes, but later changed to ten). When the timer finishes the program must go out with a crash (remeniscent of the first performance considered as live coding from Ron Kuivila at STEIM in 1985 that also crashed at the end). During the jam sessions many creative coders were introduced to live coding for the first time and they were encouraged to try live coding for the first time. Some members of NL_CL did their first performance during a jam session and have continued with live coding ever since.

From 2019 onwards CCU and NL_CL began organizing concerts like Algoraves or make connections between live coding and other disciplines and cultures. These events were also used as experiments to push the boundaries of creative coding. For example the Urban Dance & Digital Art event at the Neude in Utrecht. This event contrasted the live coding of shaders (shader showdown) as a competition with the Urban dance culture and the dancestyle Krumping. The event closed with a concert of the Hip-Hop live coding group Panda Zooicide (coded by Felipe Ignacio Noriega). CCU has curated in collaboration with NL_CL members many other live coding events such as Drop The Milk (with HKU) and Art Machines (Utrecht), Github Satellite (Online) (Creative Coding Utrecht 2022b), The Overkill Festival (Enschede), Going Downstairs at the Grey Space (The Hague), ALGOMA5 at Gaudeamus (Utrecht), Registers of Code at the Orgelpark (Amsterdam) and 10 Years of Algorave at the former Pieter Baan Centrum (Utrecht) (NL_CL CCU Uncloud 2022).

4.2 Behind the Screens

At the start of the pandemic Timo Hoogland, Fabian van Sluijs and Anne-Linde Munsterman (CCU) started the online interview series "Behind the Screens" combined with an online "10 minute from-scratch session" (Creative Coding Utrecht 2020). The first season was published in July 2020 with written interviews from many coders of the NL_CL

Figure 2: *Timo Hoogland and Carolien Teunisse (photo by Creative Coding Utrecht)*

Figure 3: *Panda Zooicide (photo by Fabian van Sluijs)*

Figure 4: *10 Years of Algorave (photo by Guillaume Versteeg)*

community. In the series the artists reflected on questions such as how they started with live coding, if live coding had influenced their workprocess and artistic practice, and how their practice has changed since the pandemic started. The series continued for a total of three seasons. In the second season artists from the European community were invited and in the third season artists from all over the world. Following is a list of all participants in order of publication: Timo Hoogland, Sonologico, Narcode, Jonathan Reus, Jobi, Joana Chicau, Saskia Freeke, Roald van Dillewijn, Marije Baalman, Rafaele Andrade, Sabrina Verhage, Carolien Teunisse, Anne Veinberg, Olbos, Digital Selves, Maja Karljic, Alexandra Cardenás, Luka Princic, Patrick Borgeat, Eloi el Bon Noi, Alfonsofonso, Nesso, Jia Liu, Heavy Lifting, Kate Sicchio, Earth to Abigail, Aliceffekt, Hellocatfood, Raphaël Bastide, AFALFL, CNDSD, Illestpreacha, Chiho Oka and Char Stiles.

4.3   Education

With the aim to expand and diversify the live coding and creative coding scene, CCU has organised several live coding workshops. In 2021, highschool children in the age of 12 to 14 joined us for seven 1,5-hour sessions to learn live coding music and visuals. A workshop made possible in collaboration with De Creatieve Code (House 2022). The languages used were Sonic Pi for music and for Hydra for visuals. The workshop programme concluded with the students performing their experiments using either of these tools. From September to October 2022, Timo Hoogland taught Mercury in a 4-session workshop for ages 16 and up. During an event from Sterk Techniekonderwijs (a government-supported educational partnership organisation) Utrecht region, Saskia Freeke and Timo Hoogland presented both Mercury and Hydra with the aim for these tools to be used in the classroom. At the moment CCU organizes the Playground, an open meeting place where makers of all ages can come in and experiment with different programming languages, ask questions and learn from eachother.

5   iii and NL_CL

In 2020 the Instrument Inventors Initiative (iii) in The Hague partnered with NL_CL to present a year-long series of events, with the goal of exploring diversity of practice within live coding. The series was initiated by Jonathan Reus, member of both iii and NL_CL, who was eventually joined by Rafaele Andrade as co-organiser. The series consisted

of four events, each one presenting a perspective on live coding formulated by a guest curator (Instrument Inventors Initiative 2020c). The four themes in order of appearance were: "The Future of Music" (curator: Felipe Ignacio Noriega) (Instrument Inventors Initiative 2020d), "Flesh" (curator: Joana Chicau) (Instrument Inventors Initiative 2020e), "Algorave" (curator: Timo Hoogland) (Instrument Inventors Initiative 2020f) and "Other Screens" (curator: Rafaele Andrade) (Instrument Inventors Initiative 2021). Due to the lockdowns of the COVID pandemic, the first two concerts were quickly moved online in the format of an audiovisual radio show with a host moderating discussions with the artists in between performances. For "The Future of Music", Felipe Ignacio Noriega served as the host together with Anne Veinberg. For "Flesh" the host was Marije Baalman.

For the "Algorave" event, we combined a concert with workshops on audiovisual live coding led by Saskia Freeke and Timo Hoogland at the workspace of iii. Lockdown restrictions eased after the first wave of the pandemic, allowing this to be a hybrid format with limited in-person attendance. The evening concert was organised with only workshop attendees and performers in-person at the iii performance space, while the concert was video-mixed and broadcast live. This small, performers-only in-person format created a fun yet intimate environment that felt like a much-needed release after months under strict lockdowns (Instrument Inventors Initiative 2020f). As lockdowns returned under the second wave, , "Other Screens" again moved to the livestream radio format hosted by Rafaele Andrade.

In total the iii + NL_CL series included performances by Rafaele Andrade, Kofi Oduro, Raphael Sousa Santos, Shelly Knotts, Robert van Heumen, Naoto Hieda, Angeliki Diakrousi, Jonathan Reus, Timo Hoogland, Saskia Freeke, Flood Comics, Digital Selves, Jobi, Sabrina Verhage, Hogobogobogo, Eerie_ear, Craig Latta, Joana Chicau, Renick Bell, Alice Eldridge and Chris Kiefer. Most concerts are archived online. This series was funded partly by the Dutch Performing Arts Fund, and all artists were paid a fair fee according to the values of iii (Instrument Inventors Initiative 2020a).

5.1   Algo-Rhythm Dance Workout

As lockdown exhaustion wore on in 2020, iii and NL_CL explored a new format for live coding: the aerobic workout. After a successful series of online "Luya-Rhythm Workouts" during the pandemic, dancer Harold Luya was invited to collaborate on a flash residency with Jobi (Jo Kroese), known for their up-beat live coded pop mashups. The residency aim was to explore the combination of live coding and guided exercise in a format that could be live-streamed to people in their living rooms. The result was the "Algo-Rhythm Dance Workout" in late November that was streamed from Club Guy & Roni dance studio in Groningen (in the North). Two workouts were scheduled to allow people from different time zones to attend, and many participants brought their own unique body and face filters to the workout, adding their own augmented persona to the visible grid of people exercising. Audience feedback was overwhelmingly positive, with some saying it was the first time they actually felt connected to others on a zoom call (Instrument Inventors Initiative 2020b).

6   Sonology and Live Coding

The institute of Sonology of the Royal Conservatoire of the Hague presents a series of classes dedicated to computer music, lead by Bjarni Gunnarson. These classes primarily focus on the SuperCollider language and its live coding possibilities with the JITLib, ProxySpace and Steno libraries. In recent years more space has been devoted to live coding by introducing its philosophy, community and programming languages like TidalCycles and Hydra. Live coding in the Institute of Sonology coexists within a community that is very diverse in terms of artistic and cultural background and is often integrated within projects that partially employ it within a broader spectrum of possibilities. Often no particular emphasis is placed on the use of live coding specifically, making it difficult to determine which performances can be defined as live coding, computer music or laptop improvisation.

In recent years, a number of projects have strongly been influenced by the ideas and the practices behind live coding. These include but are not limited to: Operation Flows (Gunnarsson 2021) by Bjarni Gunnarson, a SuperCollider Quark focused on experimenting with synthesis and algorithmic pipelines of sound transformations based on the JITLib; Giulia Francavilla performances using JITLib and data-driven sound processes; the performances Time Debris (Corvi 2022b) and Live Coding with Adapt (Corvi 2022a) by Francesco Corvi, focused on experimenting machine listening and adaptive sound processing in live coding performance; the collaborative laptop performance Efflussi between Riccardo Ancona and Francesco Corvi employing live coding in SuperCollider and corpus based manipulations with FluComa; Farzaneh Nouri improvisations with Énacteur, a co-creative agent designed using SuperCollider.

7 Live Coding Sessions Amsterdam

In 2019 Saskia Freeke, Sabrina Verhage and Klasien van de Zandschulp started the first pilot of Live Coding Sessions at Doka, Volkshotel in Amsterdam (Live Coding Sessions 2022). As part of the "Broedplaats VKG" (artist studios located at Volkshotel) Saskia and Klasien saw an opportunity to organise events in the buildings' basement, known as Doka, a venue for epic parties: a dark basement with good vibes. They pitched "Live Coding Sessions", an evening where local live coders and enthusiasts get introduced to the scene. The pilot was a success and in agreement with the programmer of Doka, Axel van der Lugt, "Live Coding Sessions at Doka" became a regular event.

With Live Coding Sessions, Saskia, Sabrina and Klasien hope to provide a welcoming and low threshold environment for anyone interested in the scene as well as a regular meeting point for live coders to connect with (and expand) the local community. As a women-led organisation they strive to host as many wxmen live coders they can find and be aware about diversity in the line-up. Additionally Doka is proving to be the perfect location for live coding events, attracting many enthusiasts (from local creative coding communities), as well as the Doka regulars (people interested in experimental music and nightlife activities) and curious hotel guests.

So far there have been seven Live Coding Sessions, one as part of the Amsterdam Dance Event (ADE 2019) and one concluding the live coding summer school. This two-day summer school offered workshops in Hydra and Mercury and took place in August 2020 during the pandemic. As the Volkshotel was fairly empty they offered to host the summer school. Around the same time Live Coding Sessions was invited to a live stream event initiated by United We Stream, a live stream from Amsterdam's empty nightlife venues, offering performers the opportunity to play to an online audience (Live Coding Sessions 2020). Events like United We Stream and Amsterdam Dance Event are perfect opportunities for us to reach a wider and more international audience of interested people completely new to Live Coding. These opportunities helped us to grow the live coding community.

Live Coding Sessions hosted live coders such as Joana Chicau, Jobi, Timo Hoogland, Jonathan Reus, Eerie_ear, Flor De Fuego, Rafaele Andrade, Petra Eros, Naoto Hieda, Panda Zooicide, Roald van Dillewijn, Sonologico, Trammell Hudson, Niki Scheijen, Blaž Pavlica, Olbos and Wilbert Vogel. The local live coding community and general interest grew throughout the years, despite the two year pandemic. Returning guests also include new live coders, of which some participated in the summer school, who started their very first performance at Live Coding Sessions at Doka. Live Coding Sessions is currently supported by Amsterdam Fund for the Arts and Doka, Volkshotel.

8 On-the-fly, a European Collaboration

On-the-fly was a project initiated by Hangar in Barcelona in cooperation with Creative Coding Utrecht, Ljudmila Art and Science Laboratory in Ljubljana, and ZKM Center for Art and Media in Karlsruhe (On the fly 2020a). The project was co-funded by the Creative Europe Programme of the EU. It was focused on supporting local practices and their exchange among the live coding communities. It was designed with two main branches: live coding performance and research. In the research space we discussed, explored, identified, and imagined creative directions in the live coding practice. On the performative side we created spaces for live experimentation with new languages, techniques, and approaches to live coding. We recognized that most of us have spent extensive hours designing, understanding, or extending numerous languages or libraries before performing with them. But on the other hand it is during a live performance that the tools and designs are tested and experimented. By creating these performative spaces across the four partners in Europe, On-the-fly aimed to professionalize the creative coding practice, while building new and stronger networks between the practitioners and institutions interested or related to live coding.

Another important aspect of On-the-fly was audience research (On the fly 2020c). Custom surveys where prepared and distributed with the aim to better understand who are the people attending live coding performances, and how we could reach out to new audiences. We also conducted surveys aimed at the practitioners and institutions, as an aim to map the network and create a common online space where people and institutions interested in live coding could browse and explore this ever growing network (On the fly 2020b). This mapping of artists and institutions in the form of a website was a collaboration between Creative Coding Utrecht and designer-researcher Avital Barkai, funded by Creative Industries Fund NL. The development was done by Felipe Ignacio Noriega, Raphael Sousa Santos and Sietse van der Meer.

9 Tools, Research and Publications by the Community

Many live coders within the NL_CL community have worked on their own instruments, tools, live coding environments, extensions, papers, books and other forms of research. Below you can read a short selection of some of these projects published by NL_CL's members.
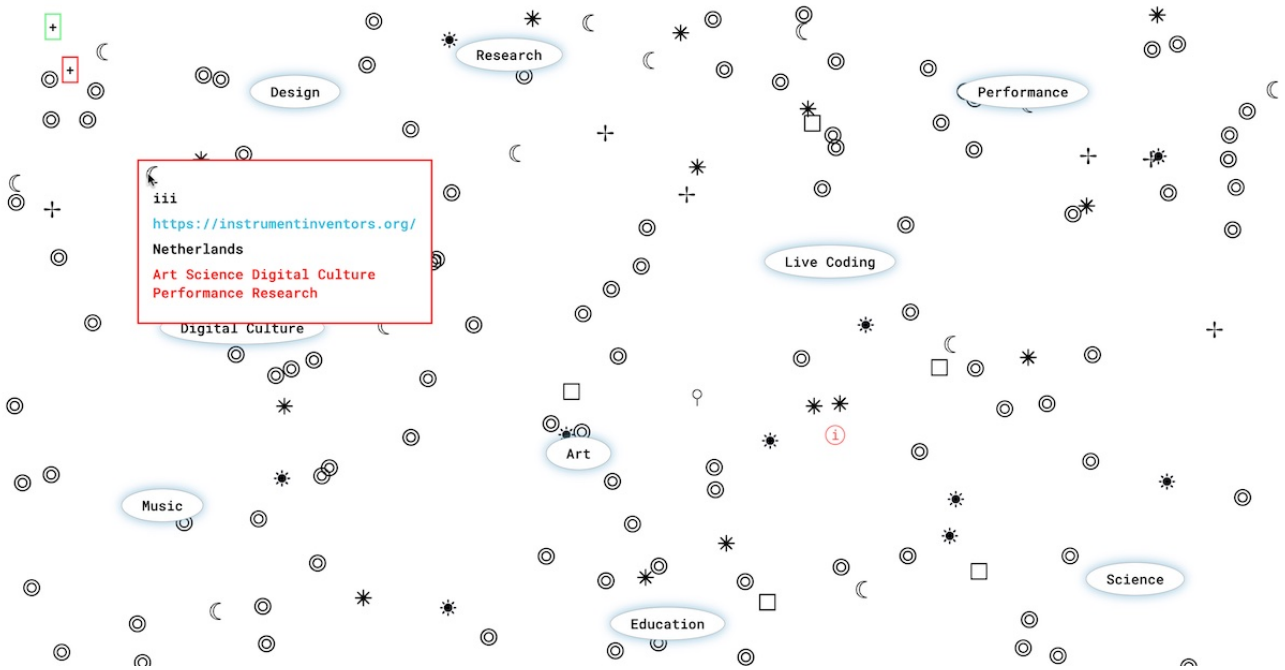
Figure 5: Ecologies web interface by Avital Barkai, Felipe Ignacio Noriega, Raphael Sousa Santos and Sietse van der Meer

9.1 Knurl

Knurl is an instrument-interface exploring concepts of interactivity and polyphony in the practice of a bowed string instrument (Andrade 2022). It is created by the composer and cellist Rafaele Andrade. It runs and modifies live synthesized sounds while autonomous and interactive systems can influence it. Knurl can be considered as a sensor-based string instrument, a multiple voice control interface and a semi-autonomous instrument. As a sensor-based instrument the strings become a trigger to play, stop, plan or set controls for the sound. As multiple voice control interface it allows for the ability to determine different goals for each voice of a sound. The semi-autonomous mode opens up the ability to let knurl cooperate with other contexts and readapt outside its boundaries.

The instrument has features that allows itself to gain certain agency with machine listening mechanisms. In its interface, the performer can control and maintain up to 6 sounds channels by changing sliders and pressing the strings. In addition, it becomes a platform for communication with the audience and collaborators, since they also obtain the control of the instrument and its musical creative choices during its performance.

9.2 CodeKlavier

The CodeKlavier is a project developed by Felipe Ignacio Noriega and Anne Veinberg. In the project the piano is used as an interface for live coding (VEINBERG and NORIEGA 2022). They explore how code can be generated through idioms and musical expression as well as using the piano keyboard as a typing interface for code. With that they investigate if coding can become an "embodied experience" and if playing the piano can influence our understanding of computation (Veinberg and Noriega 2018).

9.3 Mercury

Mercury is a highly abstracted, human-readable language for live coding of electronic music, designed by Timo Hoogland (Hoogland 2019). It was originally designed to run on top of the MaxMSP visual programming environment, but recently it was ported to Javascript to run in the browser, making use of the ToneJS library. The language of Mercury is designed with two end-users in mind. Firstly the composer/performer, allowing them to quickly explore ideas and iterate in a live setting by providing them with a clear syntax and a large toolbox of algorithmic composition funtions and instruments for sampling and synthesis (Hoogland 2021). Secondly the audience is also considered. The highly

abstracted design of the language allows for more transparency and therefore comprehension of the code. Besides using Mercury as a performance tool it is also used as an environment to give workshops to introduce people to creative coding for music.

9.4   Composing Interactions

Composing Interactions is a book written by Marije Baalman about building expressive and interactive systems (Baalman 2022). Interactive technologies have become a part of many different artistic practices. Nowadays artists make use of sensors, electronic circuits, computation, and algorithms to create engaging aesthetic experiences. Marije Baalman applies her extensive experience as an artist and as an engineer (Baalman 2021) to guide the reader through the creation process of interactive digital artworks. She elaborates on different techniques for creating meaningful interactions and presents detailed case studies of a range of artistic work from the field to illustrate the techniques in practice. Composing Interactions brings together aesthetic considerations, practical guidelines for project development, and an overview of sensors, circuits, and processing algorithms.

9.5   Live Coded Cinema

Live Coded Cinema is an exploration by Sebastian Pappalardo, a.k.a. Eerie_ear. In contrast to Chion's audiovisual contract, in the live coded cinema experience the audience can follow the creation of syncretism by associating or recognizing the changes in code on the screen. Challenging the spectator to experience cinema literally through code. Experimentation in this project has been driven by the idea of interweaving the cinematic and live coding experiences. It involves multiple facets, firstly producing audiovisual materials to work with; moving image, captured or played as Hydra sources. Secondly sound, music and soundscapes created using tidalcycles for sampling and synthesis manipulation. Extensive testing of sound and image objects follows, the objective being to create a palette of resonating audiovisual elements.

Immersive and cinematic experiences were presented to a live audience. Guided by premises in themselves dealing with technology and communication. For the first presentation at CCU's Registers of Code in het Orgelpark Deleuze's concepts of Time and Movement image, for the third, "Diffract" in collaboration with Timo Hoogland, exploring light, particles and microscopic images. The project is an exploration of technological segmentation and composition in the audiovisual realm. It intersects cinema's semiotic, immersive experience with live coding's free, unpredictable and volatile improvisational spirit. It reflects on processes of research, experimentation and performance. As a live experience it projects a recursive generative force by manipulation of time, light, symbols and gestures, with the purpose of creating an abstract empathic connection with the audience.

10   Reflection

While it may be clear that many great things are happening in the Netherlands it is nevertheless important to be aware of things that can be improved or that will have to continue to be worked on by the community. The NL_CL meetups started out as monthly meetups, but since the pandemic the frequency of the meetups has dropped, and we've broken our self-imposed rule to set a new date for a next meetup after every previous meetup. Also the attendance of the meetups has dropped. While in the beginning we would have a group of around eight to ten people, after the pandemic this amount has dropped to fewer than eight. Also during the meetups the gender balance is still an important point of attention, with mostly males showing up. On the other hand the frequency of concerts has increased and at most of the concerts a gender balance close to 50/50 is reached. We do notice that at Algorave style concerts the music is mainly coded by males, while on the other hand most visual coding is done by females. Furthermore we observe that the skill and quality of live coding performances is increasing because the members of the community are progressing over time, coding more structured song-like music, rehearsing for performances and preparing more code instead of starting from-scratch. While this is on itself not a bad thing, it does raise the bar for beginners. Few to no jam sessions and from-scratch sessions have been organized in the past year; they were a great opportunity for beginners to join the stage and try out their first coding. We also notice that during Algoraves a push to more danceable music is made to make sounds more accessible to a broader audience. As fewer rhythmic (or poly/a-rhythmic) performances are added to the lineup, we notice that it is important to think of the order of the lineup. We will strive to continue making the community and lineups more balanced by organising workshops to pass on our skills. Bringing back the from-scratch sessions or opening up a slot for beginners will also be important to foster the community, the same way it did for many of us a couple years ago.

Figure 6: *Registers of Code (photo by Creative Coding Utrecht)*

11   Conclusion

In this community report the reader is introduced to The Netherlands Coding Live (a.k.a. NL_CL), a phygital space for engaging with live coding through practice, experimentation, openness, discussions and performance. Series of live coding sessions, discussions, workshops and more have been organized by an avid group of live coders based in The Netherlands and hosted in various cities across the country. We've seen that members of NL_CL collaborate with other platforms, foundations or institutes to bring live coding and its values to new audiences. Also these same members work on their own unique tools, instruments and publish their research in different formats to share their knowledge. Subsidies from different funds like Creative Industries Fund NL and Fund Performing Arts and collaborations with other parties such as CCU, iii, Worm, HKU, Sonology and Doka have allowed us to organize many events and professionalize the creative coding practice by paying a fair fee. Even though most of the events are organized by different people in different cities, we share the same values and vision. We've seen that concerts are aimed to showcase and reflect on the variety in practices, in terms of technological differences between tools used and disciplines combined in performances, but just as important in terms of gender balance and diversity. Meetups are organized to bring the community together, share knowledge and explore self-made expressions. At the same time meetups are also a safe space to overcome the fear of the uknown, try new things and fail together. Articles and discussions during events have given great insights in artistic processes, shifts in practices due to the pandemic and tactics for diversity and inclusion. In times of the pandemic we've seen that the community is resilient and finds alternative ways to come together and host performances. Lastly we've seen that education is important at many different levels and ages to further facilitate individual expressions and to foster the diversity of the community for the future.

12   Acknowledgments

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