

Decolonising Computabilities: Counter perspectives in Art and Design Pedagogy in Creative Arts (an introduction)

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Introduction

So often, artists and design leaders espouse sustainability, care, circular economies and encourage colleagues to decolonise the curriculum, but rarely are we enabled to acquire the tools to practice how this might occur daily. This paper will briefly examine alternative learning environments and higher education pedagogical practices and describe the epoch that led towards developing and constructing *Next Nature Networks*, a research-led studio for higher education students in art and design.

Invoking the position bell hooks (author, professor, feminist, and social activist) articulated in 'Choosing the Margin as a Space of Radical Openness' (1989), we may comprehend how the drive and push to 'return to normal' disingenuously extricates those who exist in peripheries (hooks 1989). In the effort to incorporate pre-defined communicative technologies in the academic sphere and beyond, the top-down approaches of proprietary software such as *Outlook* email client and *Teams* as part of the *Microsoft Automate Suite*, directed mainly towards expedient behavioural analysis through client data collection and marketing (Global Information Society Watch 2021), are accepted into the educational fabric of everyday life as givens.

While many of us have appreciated the various intimacies of teaching *anew* through our domestic spaces exposed publicly via the cameras in our computational devices, this implicit familiarity has not yet extended to the conversation around the infrastructures that educational and cultural institutions rely upon (Eckenhassen 2021). Rather than obliterating these idiosyncratic procedures in a futile attempt to return to the so-called 'normal', it is critical to note that these situations have enabled some people who were incapable of fitting the previous standard. (One example, among many, is regional students who often have to drop out of campus-based

course due to immediate caring obligations or cannot afford to commute regularly, nor live in a major city where many Australian university campuses are located). Not ever entirely appropriate for adequately existing and lowering development options at a reasonable chance of succeeding to live competently or sustainably. An in-depth discussion of this goes beyond the bounds of this article (but for further discussion on this topic, see Constant (2021).

Vernacular Computing and Low Carbon Communiqué

There is a clarion call to action on the grounds of our public ecosystem. By scrutinising how digital web server infrastructure is normalised, the research-led studio *Next Nature Networks* served not only as a prototype for what constitutes preeminent practice for future consumption of educational infrastructure but also as a conceptual proclamation and provocation that positions the post-colonial role of art and design pedagogy in an open deterritorialised online environment (Lewis 2020)—primarily focusing on the materiality of plain text computing for its non-committal and non-coercive formatting ability to support scalability, reuse, and re-formatting. The studio focused the onset of text-based algorithmic practices to a holistic mix of undergraduate and postgraduate art and digital design students. Alternative and counter perspectives in education move towards embodying software that uses internet communication as a more situated ecology, while designing for low carbon and producing expansive and expressive art and design (see figure 1).

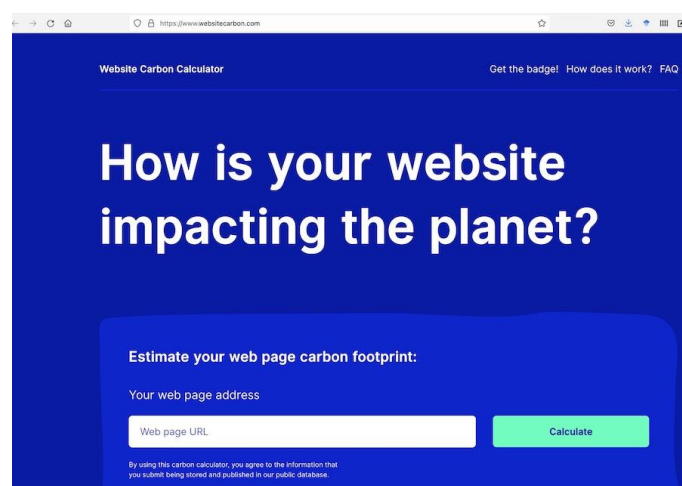
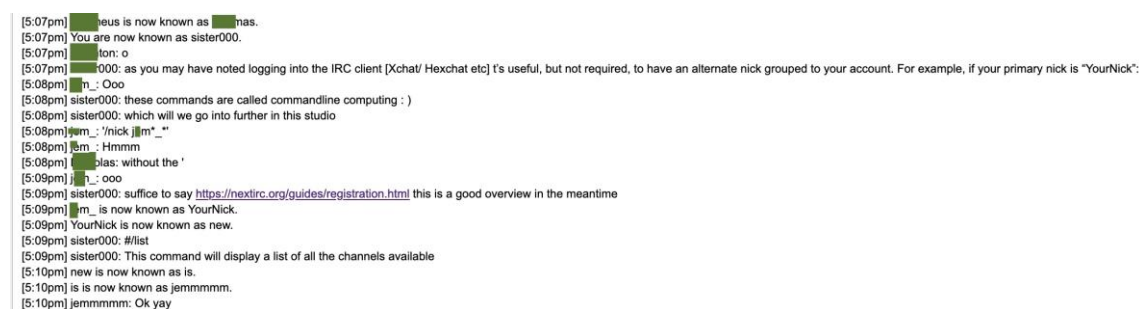


Figure 1: Working with emerging digital technologies in a critical way, students were asked to assess the carbon footprint of the Internet in assignment preparation and submission. Image Screen shot: Author.

The first step was to install an *Internet Relay Chat* (IRC) client (see figure 2). When a text message is transferred from one *IRC* server to another server, it frequently takes the shortest route through the network to reach its destination and thus uses less processing power and less carbon footprint, among other things. The tasks often required the student to be an active participant rather than a passive consumer in their use of the software. For instance, they install an *IRC* chat client to take part in text-based class communication and/ or use the terminal to create files and folders straight from the command line. *IRC* can also ‘run’ or ‘execute’ computational tasks and commands within the chat. Providing insight into how participants are learning scripting basics - use the command `#/` before their ‘name’ to execute a change of screen identity, the user can be fluid with their chosen identifier through handle/nickname or pseudonym—the ‘shortcut’ enabling ease of a flux of textual vernacular subjectivities. Figure 2 displays an abundance of messages and identities the students took pleasure in understanding in an experiential way, unveiling the techno-imbroglios we regularly navigate and are intertwined with, which may limit and form our perceptual realm when sensing, feeling, and acting.



```

[5:07pm] User is now known as nas.
[5:07pm] You are now known as sister000.
[5:07pm] User: o
[5:07pm] sister000: as you may have noted logging into the IRC client [Xchat/ Hexchat etc] it's useful, but not required, to have an alternate nick grouped to your account. For example, if your primary nick is "YourNick":
[5:08pm] User: Ooo
[5:08pm] sister000: these commands are called commandline computing : )
[5:08pm] sister000: which will we go into further in this studio
[5:08pm] User: /nick jmm* ""
[5:08pm] User: Hmmm
[5:08pm] User: alas: without the '
[5:09pm] User: ooo
[5:09pm] sister000: suffice to say https://nextirc.org/guides/registration.html this is a good overview in the meantime
[5:09pm] User: is now known as YourNick.
[5:09pm] YourNick is now known as new.
[5:09pm] sister000: #list
[5:09pm] sister000: This command will display a list of all the channels available
[5:10pm] new is now known as is.
[5:10pm] is is now known as jemmmmm.
[5:10pm] jemmmmm: Ok yay

```

Figure 2: Installing an *IRC* chat client, participants are learning the basics to use `/` before to execute a command in the *IRC* shell for their ‘nickname’. *Next Nature Networks* (2021), student participant names (not pseudonyms) are redacted. Image: Nancy Mauro-Flude.

A closer reading of the figures throughout this article reveals how software depends on communication through many material factors (including screen resolution, processing speed of hardware, and mere network connectivity), which are diverse ecologies and environments not experienced nor rendered the same for everyone. Fuller and Weizman (2021, 27) corroborate how such an ‘investigative mode is also a challenge to systems such as university’s arrangement of forms of knowledge. Pursuing investigation as an intellectual form of engagement requires different forms of pedagogy’. Thus, illuminating these micro-habits increases our awareness of the anomalies in the systems we use each day, which are frequently overlooked and too often regarded as unremarkable.

In the space of computer subculture, text-based communication errors and typos are an aesthetic of *leetspeak* (1337), an informal language code used in computer culture predominantly on the internet. Standard letters are often replaced by numerals or special characters resembling the letters. An abbreviated code speak for 'elite' is a form of cypher, transforming a message to conceal meaning, the playful 'Leet' or '1337' or 'l33t' speak is 'words in alphabetic languages that are not read as a whole but are processed via their constituents, the letters' (Perea 2008, 1). During an *IRC* chat (as outlined in figures 2, 3 and 4) one may encounter an example of an 'initiate' geek showing off their sp33k (speak) prowess. Vernacular terms like d00d (dood) can add to the conviviality through online annotated responses through chatting, commenting, forms of moderation switching and playing the guest or the host through in situ writing protocols. No doubt this helps to manage the computer in practical terms and eventually to help one relate to broader ecologies and material kinships, as we shall hear about next.

The Post-Colonial Role of Art and Design Pedagogy: Diverse Spaces of Sociality, Kinship and Dramaturgy (a.k.a. UX)

Vernacular perceptions about *techné* and the aesthetic use of technology are shaped by a knowledge of social histories, politics, and cultural experiences. Another mission for the studio was to create a plain text file known through the file extension .txt, as an alternate text protocol to the commonly used *Microsoft Word* document .docx (a proprietary software increasingly centralised in 'cloud' infrastructure facilitated through institutional access with permissions granted through a 'user' enabled password. This simple undertaking of accessing a digital space to read and write (r/w) has many implications embedded into its schematic – one example is that an actor operating outside of an institution will be denied access to the .docx file, which is often automatically locked from being modified to another extension through artificially intelligent processes. These exclusionary tactics are hard coded into the User Experience (UX).

These seemingly neglected but straightforward technical practices of creating a .txt file in an alternative open-source text editor such as *VIM* (that operates from within a computer terminal) or *BBEDIT* (a standalone application) are slow and arduous and encourage a new type of reflexivity and attentiveness. This new vulnerability allows us to slow down to reimagine the systems in which these technological artefacts are living (Bell 2021).

Notwithstanding, identifying the practical challenges of integrating these as 'cosmographic networks' (Mauro-Flude 2022), such as the minerals that enable machine learning actants, a new kind of species that exist with us. Elaborating on the situatedness of these technologies in 'Making Kin with Machines', decolonisation scholars, designers, and activists Lewis et al. (2018) meticulously examine indigenous protocols for 'Artificially Intelligent' (AI) processes and talk of how it is 'critical to emphasize that there is no one single, monolithic, homogeneous Indigenous epistemology'. This is unlike the stability and authority of consumer software marketed as a one-size-fits-all product like Microsoft Work. Or, for instance, the increasingly large volume and cost of the *Adobe Suite*, which assumes their clients as computer users have the eternal amenity of access to the expensive computer hardware, processing power and internet bandwidth required to run the latest version of their vendor merchandise (which itself is continually being upgraded by the company to run on faster and more expensive consumer hardware via the cloud).

So, despite the widespread User Experience (UX) frenzy touted by many art and design institutes (see, for instance, Future Art Ecosystems 2021), net art pioneer, theorist, and pedagogue Olia Lialina's (2015) lecture 'Rich User Experience, UX and Desktopization of War' at *Interface Critique symposium Berlin University of the Arts* is a formidable critique of so-called immersive rich UX, exposing UX as a conceivable tool of domination. Characteristically, UX design is led by a desire for imperceptibility, a microcosm of inconceivable frictionlessness infrastructure. This is the antithesis of what Lewis (2018, np) elucidates in describing the plurality through the articulation of indigenous epistemologies and urging that 'our goal is that we, as a species, figure out how to treat these new non-human kin respectfully and reciprocally—and not as mere tools, or worse, slaves to their creators'. These accounts substantiate how alterities to dominant forms of knowledge and perception can be empowered (and ruined).

The studio *Next Nature Networks* traces counter histories and poly-perspectival genealogies of maker culture (Mauro-Flude 2008, 2015) through to software studies (Fuller 2008) by scrutinising how digital web server infrastructure is normalised to counter potential supremacist implications for art and design pedagogy 'infrastructuring' (Karasti 2014). Computational tools are demystified through experiential learning and collaborative close reading. Some of the tasks undertaken utilised tools and/or code shared in class, as well as engaging with the conceptual

issues raised in the weekly materials that consist of projects, toolsets, readings, and discussions around a set of troubles (see figures 3 and 4). A studio conversation in figure 3 shares insight into generational practices that have influenced the frameworks for passing on (or preventing) distribution of knowledge. For instance, there is the impulse to not teach next generations ritual knowledge and then, a generation later, we find after this erasure a desire to unearth those lost practices in a revaluation.

```
[5:52 pm] sister010: i want to hear from everyone 1. Describe the Story of the Ascent of Man the Hero. 2. What is the Carrier Bag Theory of human evolution?
[5:57pm] Sutho: I like the article by Gwiizens as a follow up to the carrier bag theory. interwoven story with AI likenesses?? got clan of the cave bear vibes from it too! is that what the 00l and 00b were from
[6:01pm] sister010:- yes @Sutho - a vessel of infinite veracity rather than a wall of power. I also was reminded of my dilly bag that i used to carry around when i was little
[6:01pm] Sutho: also the little boy becoming the vessel at the end, as opposed to wielding the weapons and tools
[6:02pm] sister010: when i realised it's actually a tradition of the island that i am from it meant so much more there is so many issues at the moment with appropriation it is really hard but these conversations shouldn't be put under the carpet
[6:03pm] jem: multisensorial computing device reminds me movie EXISTENZ
[6:03pm] megan: oh cronenberg ! i need to see this
[6:05pm] LD: ascent of man - a singular conflict based narrative arc of triumph or tragedy
[6:05pm] megan: 1. a the ascent of man the hero is rooted in 'masculine ideals tasks like hunting and related to conquering for the thrill and the story
[6:06pm] LD: carrier bag - plurality in foraging, gathering what is beautiful & useful & in messy co-collecting with others
[6:06pm] megan:and i think the 3 act structure is mentioned, with conflict being the main part, then the crowning of the hero after that
[6:08pm] jem: yes - without the hero the story is somehow not worthy/good/convincing
[6:08pm] Sutho: 1. It is smooth feats of man's triumph over nature. Our reckoning with the nature of our re-/production as the conquest of one sex over another.
[6:08pm] sister010: but @Vy he doesn't look well in this bag according to Le Guin
[6:08pm] jem: i liked how ULG said something like 'this is why i like novels, they dont have heroes in them they have people'
[6:08pm] megan: carrier bag theory refers to gathering and the practice of saving for later, continuing cycle of living, bringing energy home", vessels that contain what is sacred
[6:09pm] jem: yes it makes more sense in a way, that the first 'thing' was a carrying thing. how else would you grab all the things you need to build another thing?
[6:09pm] sister010:on a Higher level - start to think of what you need for your carrier bag - your tool kit
[6:10pm] jem: ooh i like this q. whats in the bagwhat is clipped to the belt
[6:12pm] BB: To me it's important that Le Guin's argument doesn't actually rest on what came first, it's about containers as useful, historically and now, and under appreciated, just like care, maintenance, sustenance, and all the other things that happen between supposedly dramatic events
[6:12pm] sister010: @Vy_ the carrier bag is messy and not smooth or frictionless
[6:12pm] Sutho: yes bb
[6:13pm] sister010:@BB great point not nostalgic - situated in process
[6:13pm] jem: yes
[6:13pm] LD: it reminded me of something i have been thinking - that when someone really tries to tell the truth it's always complicated & hard to understand. And that clear singular direct for eg political slogans, are simple and never true
[6:14pm] LD: or meaningful maybe better word than true
[6:14pm] sister010:@LD yes i find it the greatest compliment when someone says they dont understand what i am saying
[6:14pm] jem: BB yes so many things gone under-valued
[6:14pm] Sutho: as are ideas of love / self love / relationships overly simplified / romanticised -- lacking in carrier bag pervaded m-by ascent of man?
[6:15pm] jem: yes @Sutho - perceived lacks all over the place
[6:15pm] sister010:the bag in both stories are also loved and customised - bespoke - which leads me to ask how do we interact with our tools differently when we make them ourselves, using shared materials?
[6:18pm] megan:hmm maybe its not about what tools do u have in ur carrier bag but the importance is on the continuation of acquiring tools i guess, to keep foraging
[6:19pm] sister010:@megan yes keep foraging and not consuming ?
[6:20pm] jem:oh i love that megan - keep foraging
[6:20pm] jem:forage porridge
[6:20pm] jem:oats !
[6:20pm] Sutho:so nicely put megan
[6:20pm] Sutho:mmmm
[6:21pm] BB: Totally - especially when there is so much already, use what is available and leave enough for others
[6:21pm] jem: yes obtaining a yield
[6:22pm] megan:ooo yes
```

Figure 3: A conversation 'grab' sheds some light on how the philosophy of technology and language was understood in reference to dramaturgically formed reasons and causes. From the social ecology of an IRC chat in *Next Nature Networks* (2021). Image: Nancy Mauro-Flude.

By perceiving other standpoints and acknowledging the resonances and dissonances, one may be able to make a more informed choice about what practices align with alterities and pluralities. Asking what is at stake with efficiency and who

does efficiency service, figure 4 talks about cultural bias in code contributing to the 'epistemic and aesthetic multiplicity. As such, the investigation process might establish a social contract that includes all the participants in this assemblage of truth production and dissemination' (Fuller and Weizman 2021, 26). These modes of engagement can be used to protect against data collection and extraction to maintain autonomy and step outside of constraints into being more attentive to the ecologies that surround us, uncovering and creating opportunities for situated and alternate approaches to pedagogy articulated through relations of material scope and scale (as can be gleaned in figure 4).

```
[4:02pm] sister0: Yes @Megan00 _If we want to see a new generation of computer programmers
who blur the borders of language, gender and culture, the ecological and ethnicity of
computing needs to be researched and discussed_
[4:03pm] Megan00: Yup @sister0 , i also found the part about how the balance of all
animate and inanimate objects to be really interesting_
[4:03pm] LD: there's something about being able to recognise that programming IS based in
a certain particular cultural approach that enables us to perhaps step back and take a
different approach_
[4:03pm] Megan00: because Western culture is like about exploitation and control..._
[4:03pm] LD: yes and that the relations between are so important_
[4:04pm] jem_: totally - and this cultural bias has seeped into our technology. like a
colonial approach all over again in a way_
[4:04pm] Megan00: @jem_ yeah ^_
[4:04pm] sister0: the relations are intersting for instance even this chat room has an
ecology that is made up of all of our presences_
[4:04pm] sister0: some people assum the digital is neutral i'd say that there it's
anything but_
[4:11pm] leonm: Its still in english because the Indigenouse population only represent a
tiny % of the world population and it would represent a tiny fraction of the AI
production_
[4:11pm] leonm: I think *of the global AI production _
[4:18pm] sister0: at 4.20pm we will discuss everyones resposnes thanks @leonm i have some
propositions to your responses :))_
[4:20pm] Nicholas: in response to the first question i guess english is the current
dominant lingua franca. That dominance understandably makes it difficult for any other
languages to get a foot in._
[4:22pm] Rebecca: same, I think the widely used things have to be understood in widely
used language, for the efficiency_
[4:23pm] sister0: what is at stake with efficiency ? who does efficiency service? these are
some questions you can think about and i'd like you to make a note of them. efficiency on
whose terms?_
[4:24pm] leonm: production is at stake I guess_
[4:24pm] sister0: what type of production ?_
[4:24pm] Megan00: with colonisation and being dominated by the western world, other
countries are kinda forced to learn english to "keep up" with modern tech_
[4:25pm] LD: also I think efficiency is a farce, a smokescreen. We interact with a million
systems and none of them are efficient_
[4:25pm] Rebecca: the efficieny of understandble, the economy i guess_
[4:25pm] Megan00: efficiency on the western's world's terms, because they have a lot of
power and things are always on their terms_
[4:25pm] sister0: define western world ? do you mean imperialist dominance?_
[4:26pm] sister0: who are 'they'?_
[4:26pm] Megan00: yeah, and cultural imperialism ?_
[4:27pm] sister0: I love that efficiency was brought up - yes it seems to always be an
objective @LD but the gap between the reality and the theory is quite large for instance
look at the Syndey C19 lockdown_
[4:29pm] jem_: there is a cultural bias that has become embedded in technology. the
dominance of english in some language technologies reflects some sort of bias._
[4:29pm] jem_: coding-is-for-everyoneas-long-as-you-speak-english/_
[4:29pm] jem_: in terms of ancestral languages, language is being lost/has been lost. we
know that lots of indigenous languages around the world have been *lost_
[4:30pm] Vy: i still think in the direction that English is considered as international
language coding in English creates uniformity for any coding languages and allows everyone
to get access to coding around the world_
_
```

Figure 4: A snippet of a discussion of what is uniquely at stake for language communities that happen to speak languages other than English. Next Nature Networks (2021) Studio Screen Grab. Image Nancy Mauro-Flude.

Computational Poetics, Choreography and -.,_.,---.,_.,-The ETHERPAD? -.,_.,---.,_.,-

In his book *Plain text: the poetics of computation* Dennis Tenen (2017) recounts, 'How it is made becomes a question not only for the poetics but also for the politics of letters...If poetics lays the groundwork for interpretation, we must acknowledge that today such grounds lie past the visible simulacrum of a digital page.' These concepts and techniques are also evidenced in petroglyphs, concrete poetry, chance compositions, divination, improvisation, and collage, and witnessed in forms as diverse as kabbalist language, word permutation, mail art, generative literature, programming languages, and code works.

Spatially, plain text r/w space in a positive/negative composition, line-based/grid-space navigation, offered students a reverse-engineered glimpse of a counter-technology, counterintelligence, and counter-inscription to mainstream UX. This was a hands-on approach to exposing the computing environment we work in and was an exciting, at times challenging, and overall highly revelatory experience.

Activities from *IRC* were collected on the *Etherpad*, a collaborative writing tool used to take notes, coordinate projects and document gatherings that happen in and around the studio process and instructional content – a low bandwidth, subjective, temporal solution. Students were given a place to share work in progress and give feedback as a collective, modify and update content, and present a framework of open collaboration working towards re-shaping and re-thinking in unhinged times. The availability of the pads was subject to interplanetary events and subject to a *Code of Conduct*. The *Etherpad* software archived notes in real-time, recording tacit exchanges of the keystrokes in a choreography of writerly transmutation. Joint exercises (warming up, cooling down) eventually gave rise to uninhibited visceral forms of textual practices (figure 5).

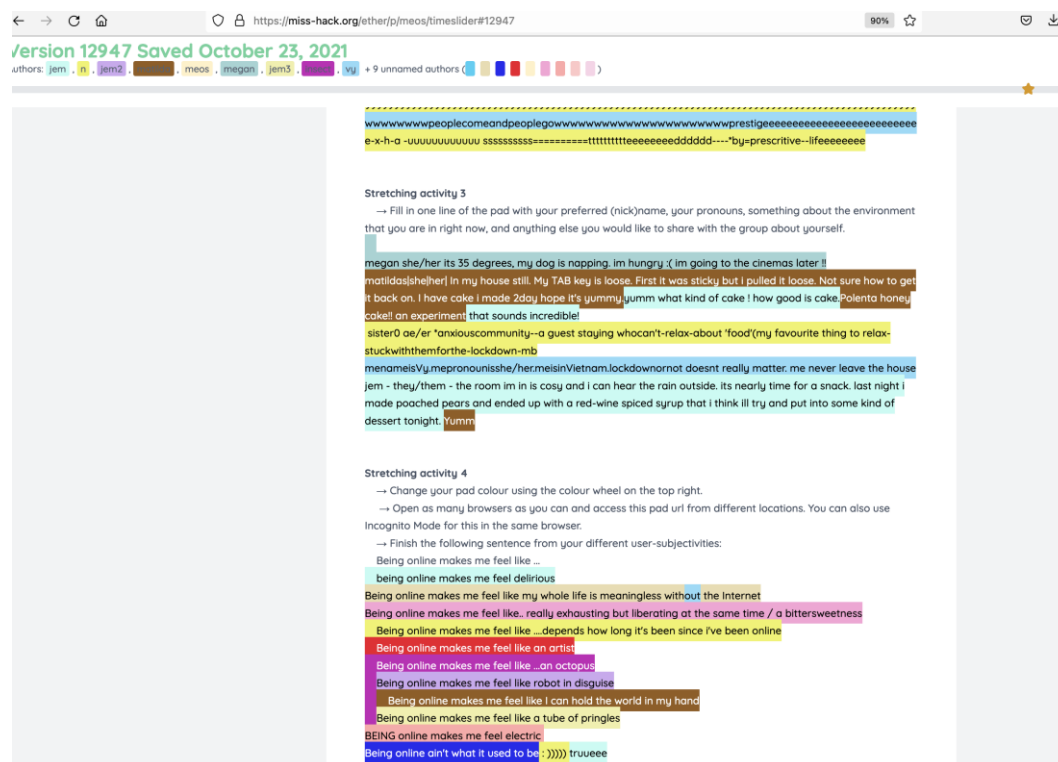
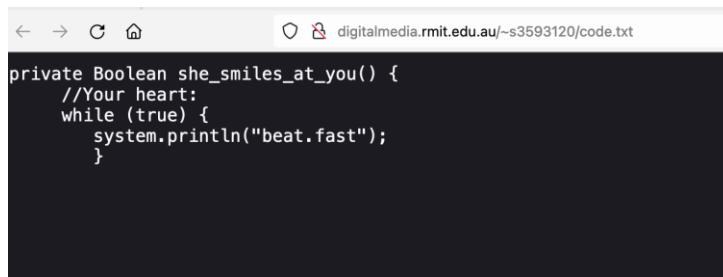


Figure 5: Screen grab of the *Etherpad*, notice the top bar includes the identifiers asked of users, who through selecting colour array and nicknames harness distinct subjectivities in their chosen user ID pseudonyms. *Next Nature Networks* (2021). Studio Image Grab: Nancy Mauro-Flude.

The participants were informed that the pad was hosted by the instructor's feminist web server, which makes its backups, and the contents of their pads would be sitting on hard drives indefinitely, so they have a 'home' to return to. When more users start to edit the document, there may be many colours, coded according to who is writing into the text. The framework enabled the individual subject to become distinctive and to integrate their writerly actions into the fluxes and flows of the broader collective; the role of authorship is complexified in a collective learning-space. Delegitimate authorial authority also moving from the user-space to the learning-space from a subject position to an activity *IRC* and *Etherpad* do not format a user as a learner (in contrast to *MS Teams*). Too often 'Epistemological devastation as "progress"' can camouflage themselves as places of diversity and personalisation. They act as sites of community, but in doing so they interpose their own grammar for the way these come into being. The centralised power of such platforms allows the feeding of multiple truth-like substances to different sectors of the web or to create bubbles...' (Fuller and Weizman 2021, 22). In this way, art and design academics have a responsibility to at the very least acknowledge or even embrace the aesthetics of algorithmic culture and software programming to nurture situated capabilities for critical action that extend beyond the practical functionality of computational code.

Facilitating the exploration of a cacophony of voices and decentring authorship through cross-over writing methods, alongside the development of overlapping individual phrases, displaced the process of writing and reading into forms of annotation. Implementing the interactivity of network communications, text based digital media are given a porous status. Students engaged with various instruction sets that become a site of discussion and experimentation, coupled with collaborative writing, code, performance, video, net.art installation, and programming. Another task explored the potential of code to communicate at the level of poetry and was written in a semantically valid software language. (i.e., could run on a computer) with minimal rules, each student was free to interpret the idea of what code poetry might be. It was submitted in a .txt file, with a maximum size of 0.5 KB.



```
private Boolean she_smiles_at_you() {  
    //Your heart:  
    while (true) {  
        system.println("beat.fast");  
    }  
}
```

Figure 6: We see how code is deployed as a language to speak about the visceral qualities of love (life or death). The student in this instance drew upon *boolean* code, a modest variable that captures what the state of a rule is: Either the rule is true or false. It allows one to change the nature of any rule regardless of the conditions set in the rule. Studio Image Grab: Author.

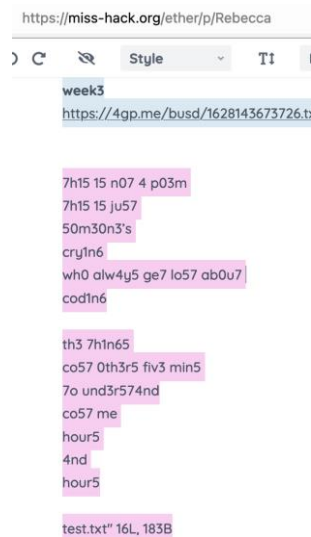


Figure 7: An example of the introductory task of scrambling parts of their chosen text in *leet speak* (which the reader can convert and decipher for themselves through a tool set given in the class). There is a small consideration around the spacing and composition – the student didn't move past this initial test phase into thinking in terms of spatial elements. *Next Nature Networks* (2021). Studio Image Grab: Author.

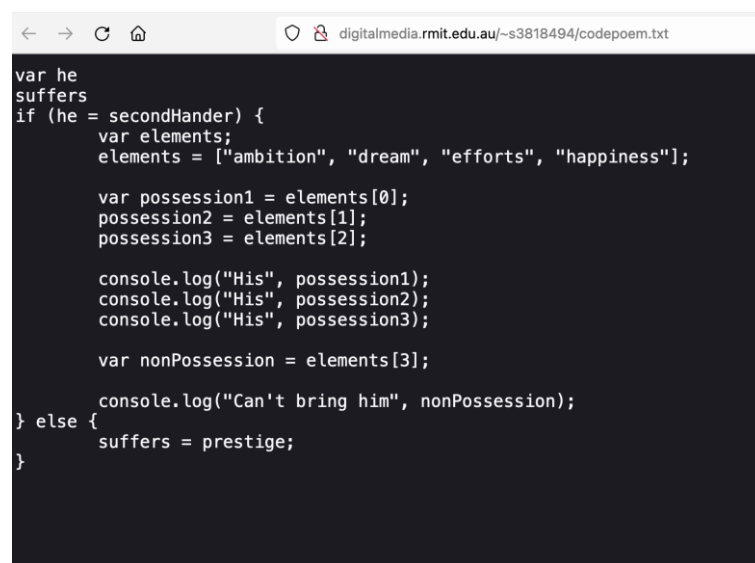


Figure 8: *Javascript* is used here; the console output in the if condition demonstrates the conditions for elements and hopes nested within the sequence. *Next Nature Networks* (2021). Studio Image Grab: Author.

In figures 6, 7 and 8, we see how sets of encrypted verses could be read, interpreted and compiled through cross-compilation of three of these poetic attempts, demonstrating that tasks such as these have the transdisciplinary potential to move between code poetry, the epistolary genre and creative arts research.

Analogous to bug testing, a close reading of context, text and improvisational reasonings is often encountered in more ephemeral arts where holistic approaches to

creative writing, theatre studies, dance practice and environmental education can be shared 'as a way of attuning to the world... where presence and attention are practised through a responsiveness that is always in relation with other human and more-than-human bodies' (Pollitt et al. 2021, 3-4), as evidenced in figure 9.

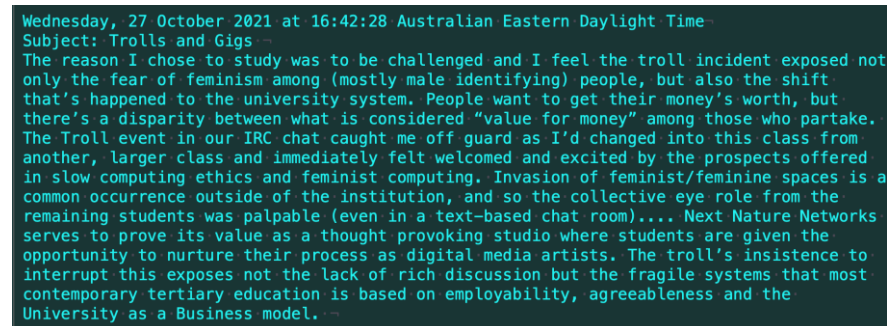
The image is a screenshot of an email. The header shows the date and time as 'Wednesday, 27 October 2021 at 16:42:28 Australian Eastern Daylight Time' and the subject as 'Subject: Trolls and Gigs'. The body of the email is a single paragraph of text. The text discusses the author's experience with a troll incident in a chat room, linking it to broader themes of feminism, university systems, and digital media art. The text is as follows: 'The reason I chose to study was to be challenged and I feel the troll incident exposed not only the fear of feminism among (mostly male identifying) people, but also the shift that's happened to the university system. People want to get their money's worth, but there's a disparity between what is considered "value for money" among those who partake. The Troll event in our IRC chat caught me off guard as I'd changed into this class from another, larger class and immediately felt welcomed and excited by the prospects offered in slow computing ethics and feminist computing. Invasion of feminist/feminine spaces is a common occurrence outside of the institution, and so the collective eye role from the remaining students was palpable (even in a text-based chat room)... Next Nature Networks serves to prove its value as a thought provoking studio where students are given the opportunity to nurture their process as digital media artists. The troll's insistence to interrupt this exposes not the lack of rich discussion but the fragile systems that most contemporary tertiary education is based on employability, agreeableness and the University as a Business model.'

Figure 9: A student account reported their interpretation of the wider context of expectations in the form of a 'troll' as an invasion of feminist ... spaces... palpable (even in the txt-based chat room). Image: Author.

These holistic techniques and computational poetics may be considered a form of art in which language is designed for its evocative qualities. They contain multiple interpretations and therefore resonate differently in each reader, allowing others to modify, adapt, and extend, and enabling more novel associations and imaginative elucidations. The student is encouraged to take an active stance, as a reader, as a writer, as a code composing conjurer, and is challenged to think not of communication but rather performances with materialities in collaboration with the paraphernalia of writerly technologies.

Conclusion

It is a pertinent moment to reassess how actions around vernacular life have been historically overlooked and underrepresented within tertiary education. The aim is to foster an understanding of appropriate art and design pedagogy in twenty first century cultural practice in diverse time zones and contexts. The findings articulated in this paper suggest how 'micro-scale... microhistory' (Fuller and Weizman 2021, 143) approaches to learning curricula can be further situated meaningfully in the daily lives of those who are participating in tertiary contexts. In this way pedagogues can further develop their capacities by focusing on ways to compose, choreograph, care and code carefully in art and design learning contexts by validating vastness and diversity of experiences.

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References

- ACUADS 2021, New Networks <https://acuads2021.com.au/>
- CONTANT, 2021, 'Dear Cultural Institution, there is an Elephant in the Room' <https://constantvzw.org/wefts/distant-elephant.en.html>
- ECKENHAUSSEN, S 2021, '4 Demands for Economically Responsible Art Education', *Our Creative Reset* <https://networkcultures.org/ourcreativereset/2021/09/16/post-precarity-autumn-camp-how-to-survive-as-an-artists/>
- FULLER, M 2008, *Software Studies \ a Lexicon*. Cambridge, London: MIT Press.
- FULLER, M, WEIZMAN, E 2021 'Investigative Aesthetics: Conflicts and Commons in the Politics of Truth' New York: Verso.
- FUTURE ART ECO SYSTEMS 2021, Serpentine London. https://serpentine-uploads.s3.amazonaws.com/uploads/2021/06/FAE2_ArtxMetaverse_digital.pdf
- GLOBAL INFORMATON SOCIETY WATCH 2021, <https://alliedmedia.org/>
- HOOKS, b 1994, *Teaching to Transgress: Education as the Practice of Freedom*. New York; London: Routledge.
- HOOKS, b 1989, 'Choosing the Margin as a Space of Radical Openness', *Yearnings: Race, Gender and Cultural Politics*. Boston: South End Press. 203–209.
- LEWIS, J E., Noelani A, Archer P, & S Kite 2018, 'Making Kin with the Machines', *Journal of Design and Science*. doi.org/10.21428/bfafd97b
- LEWIS, J E 2020, 'Indigenous Protocol and Artificial Intelligence Position Paper', *The Initiative for Indigenous Futures and the Canadian Institute for Advanced Research* (CIFAR). Honolulu, Hawaii.
- LIALINA, O 2015, 'Rich User Experience, UX and Desktopization of War' <https://contemporary-home-computing.org/RUE/>
- MAURO-FLUDE, N 2008, 'Linux for Theatre Makers: Embodiment & *nix modus operandi,' *FLOSS+Art*. London: Mute Publishing Ltd, 206-223.
- MAURO-FLUDE, N 2022 'Caring about the Vast Non-Existent Horizon: Cosmographic infrastructures and performances of care in twenty-first century feminist art practice'. *Care Ethics and Art an anthology*. New York: Routledge, 212-223.
- PEREA, M 2008, 'R34D1NG W0RD5 W1TH NUMB3R5', *Journal of Experimental Psychology: Human Perception and Performance*, 34:1, 237–241. <http://www.uv.es/~mperea/leet1.pdf>
- POLLITT, J. M Blaise & T Rooney 2021, 'Weather bodies: experimenting with dance improvisation in environmental education in the early years', *Environmental Education Research*. doi:10.1080/13504622.2021.1926434
- TENEN, D 2017, *Plain text: the poetics of computation*, California: Stanford University Press.