

ELAAA v1.1

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Embraced In The Loving Arms of an Algorithm – v1.1

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All models are wrong, but some are useful

–George Box

On Algorithmic Curation - Part One

The ubiquitous integration of algorithmic structures within contemporary society has given rise to an emergent phenomenon known as algorithmic culture. This cultural paradigm is changing the contours of society through its control logics and statistical governance that is resulting in a re-synthesis of human-oriented sociocultural attributes. In the realm of creative practices, this entrenchment of algorithmic structures has introduced a transformative shift, fundamentally altering the landscape of aesthetic discernment, artistic curation and causing an amplification of data extractivism. The ability of an algorithm to undertake intensive cyclical learning approaches, to analyse evolving variations of data sets at light speed alongside the computational indifference in binary problem-solving is imposing a technological decisionism while also becoming a conduit for thinking through curatorial methodologies that escape previous human-orientated limitations.

The algorithmic paradigmatic shift in curatorial methods fosters a departure from traditional, taste-driven methodologies that often perpetuate elitist conceptions of artistic value or contain vast knowledge gaps. Not without its systemic problems, algorithmic curation enables: guiding principles to transcend conventional aesthetic canons and groupings, subvert decision-making processes, an ability to alter ingrained bias' and has the potential to show us something outside an individual humanalogue perspective. Although, does an algorithmic curation operate with care or simply does it value making a clear decision quickly more than it does a thoughtful one?

Zachary Doney, Grace Gamage, Adelphie He and Billie Rankin were invited to become ghost workers in a research group that has critically analysed the sociocultural implications of algorithmic structures and built a model for exhibition making. The algorithm's dataset has been drawn from interactions

across the project's development including, but not limited to: private meetings, internal documents, image drops and a public chat forum. The resulting algorithm has: produced a complex model for considering each artist's mode of engagement within specific exhibition conditions; offered an apparatus for an audience to see how an algorithm can distinguish the unique qualities of an artist; and, produced a generalised curatorial framework for future exhibitions that will materialise participant's cognitive bias and decision-making processes even after their death.

As a result, the research group has generated the first working model of ELAAA.

Position Description - ghost worker

Description

A ghost worker is a human who performs short-term tasks on demand, anonymously, through automated platforms and the work is disguised as being automated.

Requirements:

- Engage actively in four to five online meetings to discuss and shape the direction of the research group.
- Contribute relevant materials to the dataset, focusing on content that will significantly influence the algorithmic outcome.
- Identify labels and categories to optimise the datasets, enhancing the algorithm's ability to discern and curate effectively.
- Provide valuable support to the curator by sharing theoretical knowledge and offering feedback and suggestions on exhibition frameworks.
- Make informed suggestions on improving the algorithm, with a specific focus on ethics, accessibility, bias mitigation, and considerations related to labour.
- Execute simulations of algorithmic processes to assess their functionality and impact on curatorial decisions.
- Actively engage in an online public chat forum, contributing to the expansion of datasets and the exploration of research questions within a broader public context.

- Liaise and assist in the coordination of an exhibition to be presented at Contemporary Art Tasmania in 2024, utilising the developed algorithmic framework.
- Undertake designated research and data gathering tasks as outlined in group meetings to contribute to the ongoing refinement of the algorithmic structure.
- Offer materials such as images, text, screenshots, and audio files for inclusion in the exhibition catalogue, enriching the overall curatorial narrative.

Eligibility:

No previous prerequisites in art making, curatorial skills, mathematics, algorithmic languages or computer science are required. Preference is for little or no experience.

Applications Close: 01/12/2023

ARTIST DATA

A selection of data collected during various algorithm stages. The data has been divided according to artist/ghost worker and by stages. The data includes excerpts of transcriptions, shared notes, worksheets, chat group snippets and screenshots.

Billie Rankin (GW-1)

STAGE ONE

Scene: **Construction of Grandma's urn**

Parameter - **Local geology**

Variable - **Clay body**

Scene: **Art education program - caring for pet rocks for two months**

Parameter - **Pet rocks**

Variable - **Local geology**

Fold along local geology axis resulting in (y) **pet rocks** (x) **local geology**
(z) **clay body**

STAGE TWO

Universe/Object: **Sphecidae (Mud Wasp) Nest - Found in the Yarra Valley.**

Initial Coordinate Position - **$x = 0.5$ $y = 0.5$ $z = 0.1$**

Z axis (pet rocks) *Wildness/ Domestication/ petness - challenging the perception of "pet", as in wild but synanthropic. Deep Z. Does this relate to human intervention? Idk. What kinship is here?*

X axis (Clay Body) *Type of Clay - Earthenware, low fire, wild clay likely from creek bed.*

Y axis (Local geology) *Perception of size - Considering particle size and ability to be perceived as a discrete entity/unit.*

Coordinate Relations

To GW-2 axis - **$x = 0.1$ $y = 0.2$ $z = 0.5$**

To GW-3 axis - **$x = 0.5$ $y = 0.5$ $z = 0.1$**

To GW-4 axis - **$x = 0.3$ $y = 0.7$ $z = 0.02$**

(GW-1)

STAGE THREE

Universe/object: *Loaf of Bread* - baked at the end of the previous meeting, stored for two weeks, stale.

Updated Coordinate Position: $x = .3$ $y = .1$ $z = .6$

X Axis - **changed to firing temp/ heat transformation.**

Y Axis - **Particle size (clay and flour similar, but now it has seeds)**

Z Axis - **Petness**

Describe the transformation to your universe/object.

Switched universe/object from a clay nest to a loaf of bread.

All death is food. All is food. Stomachs are graveyards/urns. Considering metabolism and the process of 'looking after what comes next'. The universe/object was suggestive of change or an afterlife. The intersection of the two scenes was suggestive of 'care for next of kin' and 'earth reappropriated'. The loaf of bread embodies both qualities whilst also making an attempt to come closer to other participants; universe objects. Trying to understand my x axis as something more specific. Possibly firing temperature...

What was the material change? (texture, spatial, conceptual)

From clay to bread. Broadening the idea of what earth is. Still a fired object, but challenging the elemental understanding of earth.

Nothing lasts forever. Challenging stasis.

Why did you choose those specific transformations?

To challenge and broaden the idea of earth, to consider petness, and to consider transformation in general and the shifting of ecological systems

What measurements did you use? What was the relative scale?

Petness and metabolism. Change and reappropriation. Eating and dying.

How does the transformation impact the reading of your universe/object?

It's a new object but reflective of life cycles.

What is the mode of engagement of our universe/objects?

Eating, throwing, sensory.

CAT Rubric Score - **16**

STAGE FOUR

All right. OK, so yeah, I was thinking about the challenge of objects to the subject and having that meta metabolism. But before I did that, I cast a half loaf of bread in clay. And then I fired it to stoneware. And then, hang on, I'll get you, I'll get something else. Then I used the mould to make a bread jelly and then I fed the loaf to the chickens. I'm not sure how much of an object, I've got a few objects there. Look, I think the idea was that I was meant to kill one of the chickens this week and then use all of the fat and collagen and then make a jelly out of the mould and have this like, still have it treated as the same material as the bread, but I haven't gone through the metabolism of the chicken yet. And then using that, I didn't kill the chickens this week, so I just got aeroplane jelly mango flavour.

Jon (02:07): Yeah, nice.

Billie (02:09): Again, it's trying to really just trying to get closer to Adelphie.

Grace (02:16): Yes, exactly. So Billy, what is your universe/object right now? Is it the jelly?

Billie (02:25): I guess it's anything that goes into this.

Jon (02:30): It's the mould.

Billie (02:32): Yeah, I guess it's the mould.

Again, I'm trying to think of how to have that process. Yeah, and how to make an object out of a process. So, yeah, I guess it's the mould, right? Does that sound right? We're in a bit of chaos.

Jon (02:56): Yeah, it's good. And so how did that change your coordinate positions?

Billie (03:04): So coordinate positions changed my x-axis, which is, I guess, **firing temp is 0.75**, so it's high up there. Y-axis, which is **particle size is 0.1**. Because particles are bigger than flour. And the z-axis of petness, I kind of **kept it as 0.5**. The idea was like it's kind of an urn. It's also kind of like a mud wasp nest. It's this **play ceramic object that kind of immortalises the bread**. And then holds, that next nest in it. Yeah, 0.5. I've kind of kept it. Petness is a fun one to play around with. It could be because **I fed it to the chickens**. If that is the case it could be even higher?

(GW-2)

Grace Gamage (GW-2)

STAGE ONE

Scene: **Bubbly sparkling water**

Parameter - **Flavours of sparkling water**

Variable - **Can I *name* the dupe?**

Scene: **Rocket**

Parameter - **Variety of rocket**

Variable - **Can I *taste* the dupe?**

The two variables are folding together and put under generalised dupeness resulting in (**y**) **flavours** (**x**) **variety of rocket** (**z**) **dupe**

STAGE TWO

Universe/object Description - ***Fragrance “smell of bread”***

Initial Coordinate position - **$x = 0.1$ $y = 0$ $z = 1$**

Axis

X axis - **Flavours (likelihood/popularity)**

Y axis - **Rocket variety (closeness in genetics)**

Z axis - **Dupe (ability to fool or to masquerade as something else)**

Coordinate Relations

To GW-1 axis - **$x = 0.1$ $y = 0.2$ $z = 1.0$**

To GW-3 axis - **$x = 1.0$ $y = 0.9$ $z = 1.0$**

To GW-4 axis - **$x = 0.8$ $y = 0.5$ $z = 1.0$**

STAGE THREE

Universe/object: From a synthetic, manufactured scent of bread to ***an actual loaf of bread*** from Salamanca Fresh, perhaps Pigeon Hole or Summer Kitchen.

Updated Coordinate Position - **x = 1.0 y = 0.8 z = 0.1**

The object **went from oily, synthetic**, very small (perhaps?) or large in vats **to crunchy and familiar**.

Why?

Thinking about longing, tradition, fields, grasses, domesticated plants.

I used myself as a scale, my experience working with synthetic fragrances and real bread.

The transformation.

The change is important to me thinking about **longing, unseen things, being reminded of something and having it slip back away.**

Interested in a radical change within constraints

Fragrance “smell of bread” is an **object of longing** and an actual loaf of bread is **the object of the object of longing**

CAT Rubric score - **15.5**

(GW-2)

STAGE FOUR

Grace (05:14): I'm not sure what the object is actually going to be. So that sounds really vague. But maybe you can help me out, everyone. I changed it from this loaf of bread into a flower called a **bread flower**. It's called **Vallaris glabra**. It's like a kind of frangipani flower that **smells like bread when it flowers**. I moved it from something synthetic and oily into something, I wanted to have longing again, like bringing back the **longing held in the process**. Can I tell you the coordinates?

Zach (06:17): Yeah. Yeah. I'm curious to know more about this flower.

Grace (06:22): Yeah, it's beautiful. It's from China and India. Yeah. And it produces this compound, which is one of the main compounds found in like popcorn as well, buttered popcorn. So that's how I came to it.

Jon (06:57): And how does it give you this sense of longing? Because we kind of had this object of longing in the actual loaf of bread that was from Salamanca that was a crusty and fresh loaf of bread. How does that change for you?

Grace (07:14): Specifically, **I don't want my bread flower to be flowering. So the actual scent doesn't exist**, but I guess it's like a **longing for a longing as I didn't want to remove the sense of the scent** or sense of the original scent of bread, but **I also didn't want to just take over the space**. I didn't want to engulf everyone else's universe/objects. I think that's why. And especially I kept thinking of the mochi and how the mochi flavour, like the scent of the mochi is similar. I was reading about how Jasmine rice has the same compound in it as bread. I didn't want it to dominate the space pretty much. But then I thought, oh, maybe I really have. It is like you were talking about us **reacting to the gallery situation**. Then I thought maybe that's what I've done, but I'm not really sure 'cause I keep feeling like I need to relate my object to other people's objects on the axis rather than thinking about the gallery space.

Also, my rationale with it was that **if bubbly was going to make a dupe of it**, it would make a bread flower plant flavour, which would then **taste like bread or be reminiscent of bread**. So it'd be a twofold flavour, but then the likelihood of them going through with it is a bit less likely because of **bread flowers toxicity**.

Adelphie He (GW-3)

STAGE ONE

Scene: **Adelphie's morning thinking time - breakfast (rice)**

Parameter - **Yumminess of the rice**

Variable - **Texture (soft - hard)**

Extended note: **Softer the rice the yummiier the rice (axis coalesce)**

Scene: **Adelphie's morning thinking time - toilet**

Parameter - **Constipation**

Variable - **Poo texture (soft - hard)**

Variable axis folded to a texture spectrum in relation to the potential of poo and rice resulting in (y) **yumminess**, (x) **constipation level**, (z) **texture**

STAGE TWO

Universe/object description - *Mochi wrapped in plastic*

Initial Coordinate position - $x = 0 \quad y = 0 \quad z = 1.0$

X axis - **Softness (assessed by mouth/bum)**

Y axis - **Yumminess (satisfaction)**

Z axis - **Constipation/texture**

Considerations of mochi in its **current state**. **Edible, shape of a block, representation of the virtual**, heat up changes form, **currently not very edible**. **Limits of each axis constrained to mochi and detection through the parameters of the mouth/bum**.

Coordinate Relations

To GW-1 axis - $x = 0.5 \quad y = 0.5 \quad z = 0.1$

To GW-2 axis - $x = 0 \quad y = 0 \quad z = 0$

To GW-4 axis - $x = 0.1 \quad y = 0.1 \quad z = 0$

(GW-3)

STAGE THREE

Universe/object: Transformation to the material form of the mochi from wrapped in plastic to **soft, warm, stretchy, chewy mochi**. Mochi is **unflavoured**.

Updated Coordinate position - **$x = 0.1$ $y = 0.5$ $z = 0.2$**

Focus on **sensory through your body**

Z axis - **Aligned constipation with levels of stress**

X axis - **Different flavours of mochi**

Y axis - **Yumminess**

Changes to the axis to bring universe/objects. Bring everyone's world a little bit **closer together. Makes the concept more approachable plus makes me really happy.**

CAT Rubric Score - **17**

STAGE FOUR

Adelphie (29:20): I changed my universe/object. This is a **mother dough, a sourdough startup**. So it came from this block of mochi. It was hard. And I grated them into powder and then put water and a little bit of rice flour. I actually just made this today. And the reason I changed it, I've been thinking about what everyone was saying at the last meeting. And I think sourdough, it's also quite relatable to say my first solo show that I did for Moonah Arts Centre. I made a sedan chair, like a giant installation. And I put a sourdough on top of the installation and to **reference it as like female equality and gender equality**. You can read this as a female because it's called mother dough. And then they **keep producing**. And also I thought about how this would relate to how Billie was talking about **metabolism and the circle of life**. And where Grace was talking about the variety of plants, the longing and the smell and Zach's social media platform, because this one **is highly interactive and it's interacting over time as it contains bacteria, acids** and what else it has. Like, yeah, stuff like that. So I **changed to this watery object, which is quite alive**. And I also changed my parameters. Now, at the moment, my **Y has become the interaction inside the mother dough**, like the bacteria between the bacteria, like how active they are. And then **X remained as yumminess or slash successful rate that how successful it can become a yummy sour dough**. And **Z remains as petness in relation to how palatable something is**.

Jon (35:18): Yes. So you feel like there's not necessarily a three dimensional or direction to these parameters or variables. They each have their own kind of sliding scale and they could go in any direction?

Adelphie (35:55): **That is exactly it, they are all variables to me.**

(GW-4)

Zachary Doney (GW-4)

STAGE ONE

Scene: **Digital communication**

Parameter - **Messages on a digital platform**

Variable - **Amount of messages**

Scene: **Ability of function**

Parameter - **Platform specificity** i.e. from which platform does the message originate

Variable - **Levels of stress**

Combined under the umbrella of associations with digital communication resulting in (y) **levels of stress** (x) **digital platform functions** (z) **specificity**

STAGE TWO

Universe/object description - **Screen recording of my notification tray**

Initial Coordinate Position - $x = 0.5$ $y = 0.25$ $z = 0.9$

X axis: **“Digital communication”** summed with **“Ability to function”**. **Ability to function directly correlated with the ability to communicate.**

Y axis: **“Amount messages”** summed with **“Stress levels”**. Direct correlation however modified by...

Z axis: **“Messages on digital platform”** summed with **“platform specificity”**.

Extended Notes - Important as notification from low-urgency platforms adds little to stress however some platforms have large amounts of **urgency stress**. **No notifications/messages reduce stress.**

Choices: I am summing parameters with variables. I assume this will not be an issue.

STAGE THREE

Universe/object: **remained the same**

Updated Coordinate Position - $x = 0.3$ $y = 0.8$ $z = 0.7$

Describe the transformation to your universe/objects?

Changes to the labelling of the axes to be **more relatable** to other universe/objects.

Z - seriousness of platform as related to communal-struggle aspect

0 = OS bloatware updates 1 = missed calls from union members / emails to delegate inbox

This Z axis change seems more understandable than “messages on digital platform” summed with “platform specificity” correlates well with other “intensity” variables across group u/os.

Y - quantity of messages, 0 = fewer

reduction in complication of axis labels should help with interpretation.

X - Functional capacity, 0.5 = average level of capacity as above

What was the material change? (texture, spatial, conceptual)

Conceptual change

Why did you choose those specific transformations?

Functional capacity below normal. This **reflects the period of time over which notifications accumulated** (“fake time”, Christmas-New Year + a few for good measure. The bombing of Palestine continued, as did my rent increase and other organising activity.), the amount of notifications and some of the seriousness of the...

What measurements did you use? What was the relative scale?

I used qualitative and quantitative measurements with further rationalisations.

How does the transformation impact the reading of your universe/object?

The universe/object is more easily understandable.

Why is that change important for you?

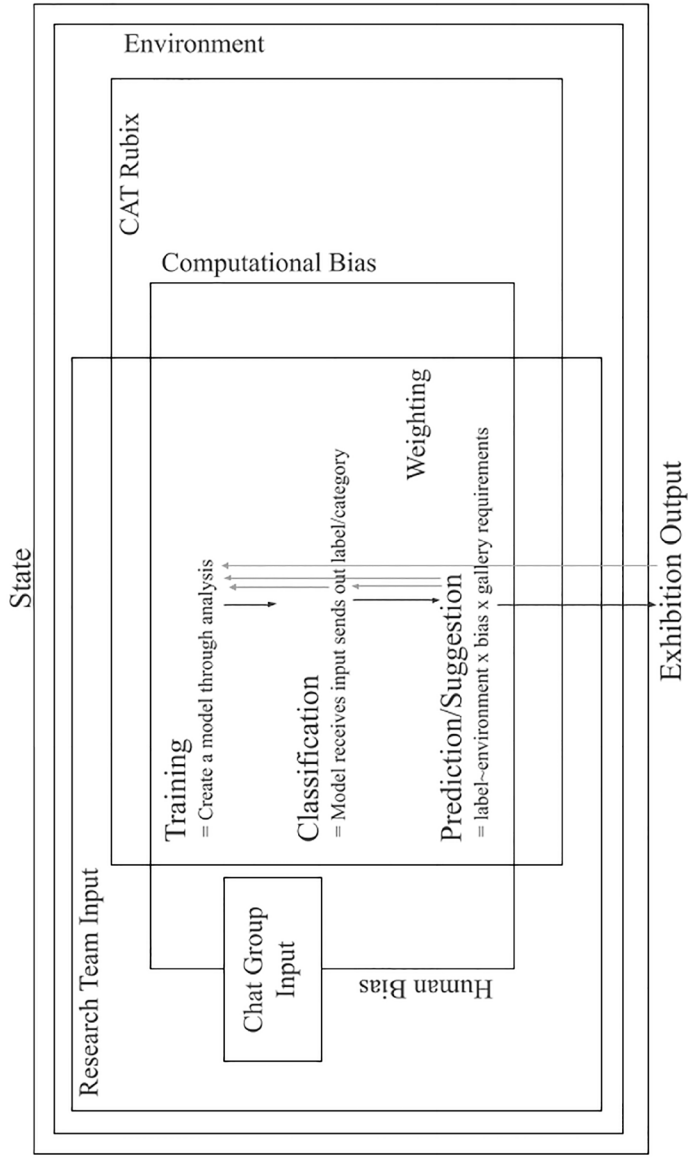
Reflects a development in my thinking which **allows me to revise**.

CAT Rubric Score - **10**

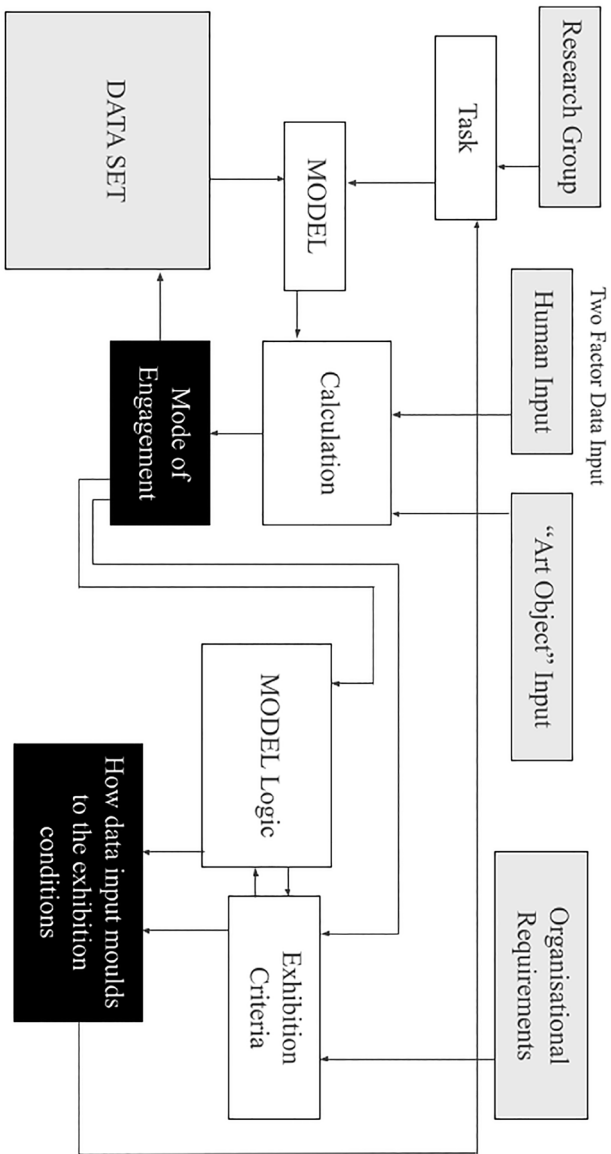
(GW-4)

STAGE FOUR

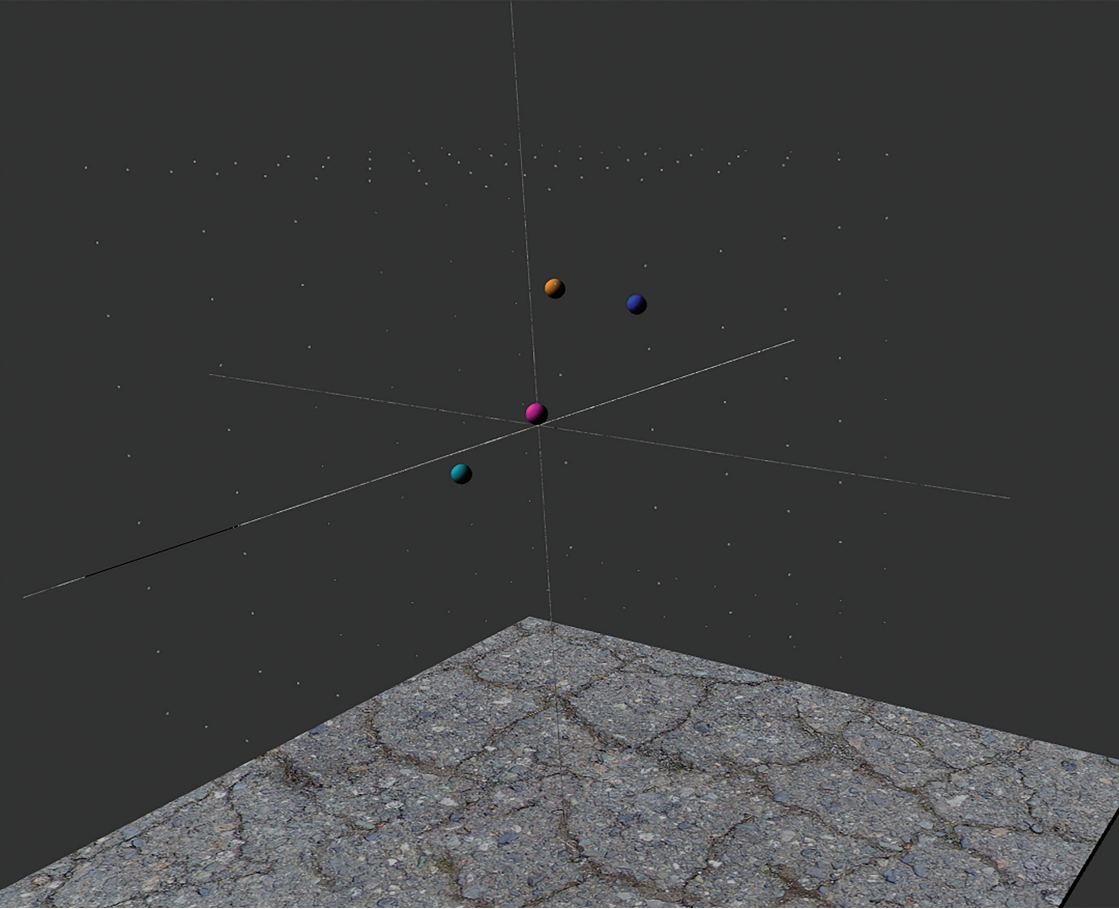
Zach (17:42): Here we go. So you can see that it's the **same video file with a bunch of TikTok filters applied** to it. Last meeting when we were showing each other our universe/objects, mine felt not very relatable to others due to its sort of austere nature, its flat digital presence. Everyone had a consumable. And my thing is like this other, other worldly thing. And I also felt that my universe/object was trying to do some sort of like, a **stress flex** or something like that. And I felt that that was making my universe/object not relate very well to the group. **I wanted it to be more relatable.** And I didn't feel that my unrelatable object was on the CAT rubric doing much for its audience. I've made these changes to the object because I think that now where's my document, the general public perceptions of how a 30 second odd video should be are now much more, now it seems very obvious what this thing is, right? It's a video. It's got the TikTok logo on it. It sort of turns on like an old timey television. There's a bunch of crap on top of it as it plays. And then it turns off, right? There you go. It starts and finishes. It loops. I think that's important for the gallery space. I assumed that this would be a video somehow floating in space and it would be looping. **I didn't put sound on it because I didn't want to be around a noise like that for a long time. It's important for the gallery space.** So that's the first set of reasons why I made the changes. And then the second set of reasons are that now the universe/object axis relates to parts of the group's universe/object axis, right? Adelphie's universe/object as of last week had this characteristic of soft mochi being more approachable, making me happier, bringing satisfaction and little stress. Those **love hearts and the whimsical nature** that I placed on top of the video. They're **more approachable now.** So I was kind of trying to aim for that. Billie's bread being a challenge to stasis and metamorphosis maps on now while the underlying content of my thing is the same. There's a **challenge to stasis**, I believe. Also, its inclusion in the TikTok servers is this kind of **increase to longevity.** After my phone dies or whatever, you know, and this computer gets put in the dustbin of history, **that video will persist in TikTok servers.** I think that TikTok will be around for longer than the hardware, my hardware. And Grace, there's a cosy or bittersweet aspect to Grace's object, a loaf of bread, as of last week, and this idea of domestication and longing and comfort. So the **hearts are part of longing**, I think. The domestication is the **domestication into the TikTok grammar**, which also part of this is how we understand little videos and stuff like that. So those are the changes that I made and the reasons for it. Now, as there's no change to the fundamental, like the underlying video file, these are not new notifications from a different series of tasks or whatever. There are no changes to my coordinates. **So my coordinates remain at X 0.3. The X axis is functional capacity. Y, amount of messages, 0.8, is quite high. And Z, seriousness of platform, 0.7.**



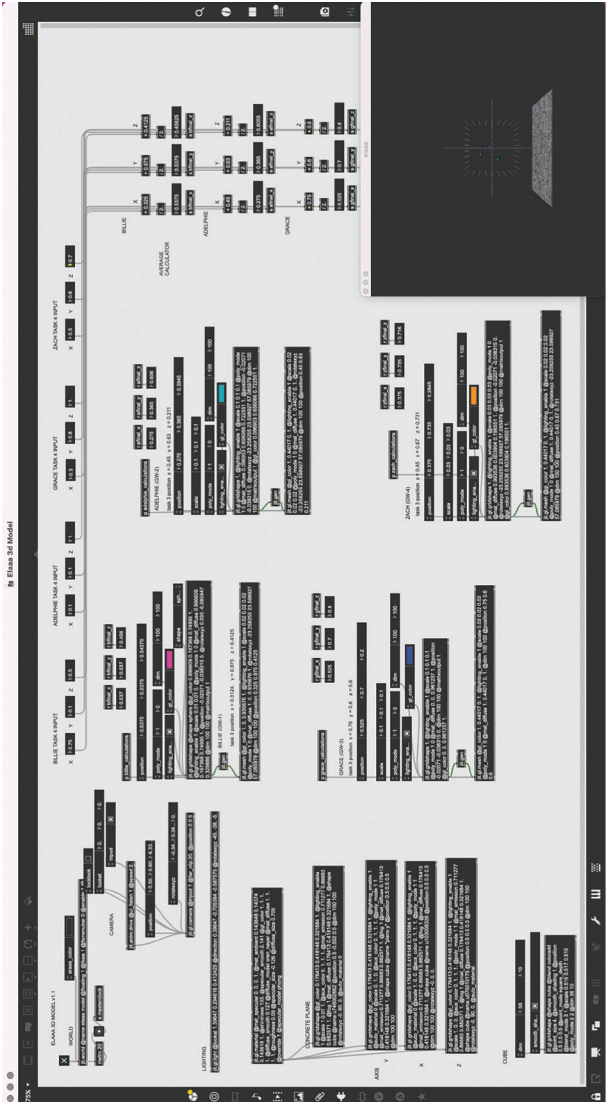
Input Output flow plan



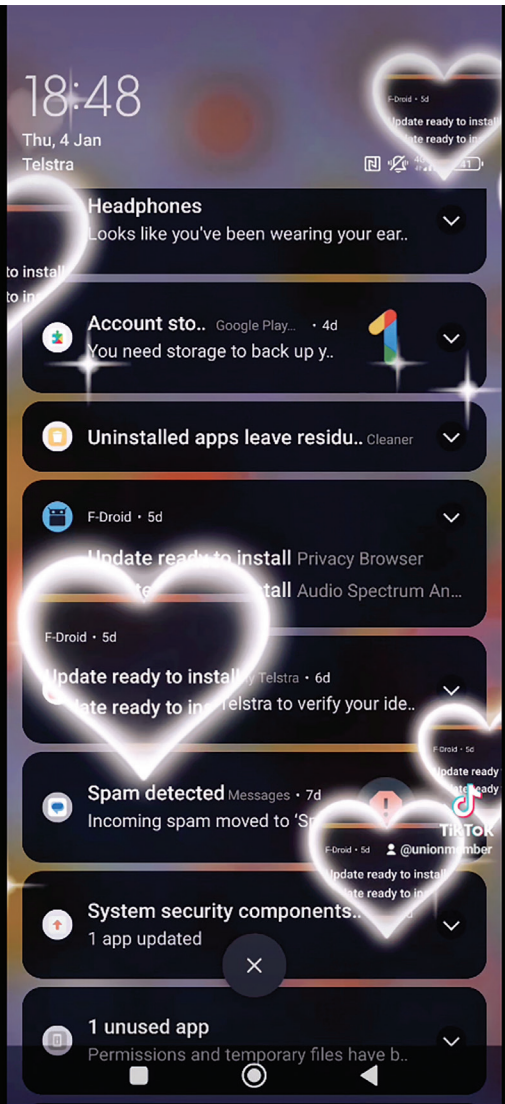
Top Down view algorithmic borders



Digital Render Coordinate Position



Rendered by Zinspro.com



Zachary Doney, *notification tray*, 2024

Screen recording 1080 x 2400 pix, 25 sec loop MP4

Image: courtesy of the artist



Grace Gamage, *Bread Flower*, 2024
Ink on paper, 42 x 21 cm
Image: courtesy of the artist



Adelphie He, *mochi bb sugar mummy farted*, 2023
Mochi powder and water in jar, 7 x 7 x 10.1 cm
Image: Rémi Chauvin



Billie Rankin, *eating something, gut rock pet*, 2024
Clay, sourdough, chicken, 19 x 18.7 x 14.9 cm
Image: Rémi Chauvin

On Algorithmic Curation - Part Two

To curate is to facilitate, to organise, extract and celebrate. It is an operation. Tending through adjustments, provocations and obeisance. To be a curator is to adopt a position that is pre-emptive and responsive. A position that is simultaneously overbearing, removed and complicit. Yet underneath all of this, curation's primary operation is to care.

Derived from the Latin *cūrō* meaning to take care of, look after, ensure, or heal as well as govern. Curation holds a vital yet easily corruptible significance. This fragile significance carries with it a logic that is built upon a care that emerges from the complex intertwined relations of that which is being curated.

In the event of an algorithm taking on the role of a curator, what does it mean if this prescribed care is upheld by the capacity of an algorithmic framework. I.e. How does it feel for an artist, audience or institution to be clutched, groped or cushioned by a series of formulaic sequences? How does it feel to be embraced in the loving arms of an algorithm?

ELAAA is an attempt to enter and crack open how this may feel in respect to an exhibition context. It is an access point to sense how algorithmic mechanics can embody modalities of curation and as such, of care. It aims to understand how a purely mathematical function can take into account the complex needs of artists, audiences, and institutions while only being able to operate within the constraints of its self-known values.

An algorithm's functionality is predicated on a set of rules to be followed by calculations. Mathematical in activation and heuristic in development, an algorithm's control mechanism emerges from a subdivision of material practices. This operation imposes a language derivative, an extrapolation of cultural and

social meaning where the meaning is embedded between nodes thus enabling a new logic to form. An algorithm is only concerned with its own operation, not necessarily within a human sensical realm or even to a point of functioning. It exists in and as itself, abstracted, indifferent and strong willed. The accelerant efficient focused nature of an algorithm is destabilising but can also be understood in a more positive sense/light.

With its human-noise reduced structure, an algorithm is not bound by the same social constraints as a human. It is not bound by taste, it simply computes, delivering a one or zero, pass or fail, moving through each step as long as the criteria is met. This filtration decentres the human focal point and imposes an alternative organisational system. This is an algorithm's true generative potential.

Although potentially hazardous, this self-validating acceptance of its own operation commands an ability to generate and verify its own logic. It solely takes care of its own tasks. As a condition of this rigidity, an algorithm inevitably reveals what it cannot calculate.

ELAAA approaches the dilemma of algorithmic curation with a technohumanalogue hybrid model. Rather than a search function, to uncover artists from a dataset, ELAAA algorithmic curates from the inside out. Its mechanisms expose a selected group of artists' perceptual and aesthetic relationships while determining the logic of the exhibition. In taking this approach ELAAA guides artists, audiences and institutions alike through its own way of thinking, building and verifying the reasons why an exhibition exists. Each time it is run it generates its own logic that is responsive, unperturbed and one of a kind.

How it works?

ELAAA is to be conducted over a series of meetings between four or more ghost workers. Each meeting corresponds with a stage in the generation of the

exhibition specific language model. A stage consists of set tasks requiring the ghost workers to enter and manipulate various data types in order to build up exhibition components. Specifically, it focuses on building up conceptual logic, art object relationships and spatialisation. As each task is completed data is stored and informs the next stage. At the end of each meeting, the ghost workers are given homework assignments to develop, transform or modulate universe/objects which upon conclusion of the stages are presented in the gallery according to the final data specifications.

A universe/object is an aesthetic representation of each ghost worker's perceptual understanding. A universe/object is not required to physically exist as long as its essence is explicitly determinable by a coordinate mapping on a ghost worker's axis.

An axis is a concept reference line for purposes of measuring coordinates and conceptual framing. An axis is generated by individual ghost workers evaluating the parameters and variables within a specific scene. The coordinate position of a universe/object on each axis determines its conceptual reading within the axis range.

Coordinate positions are calculated through a series of averages and weightings. Ghost workers continue the process by modulating the embedded relations through universe/object transformations where the "success" of the algorithm is determined by backpropagating the relative distances and conceptual alignments along each axis. In addition, at various stages the algorithmic outputs are assessed in relation to the gallery requirements.

The final coordinate calculation determines the position each universe/object is to be presented in the gallery space as well as defining the embedded conceptual relations.

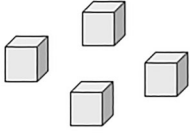
MANUAL

ELAAA is a language model for generating recommendations to a specific group of artists for a desirable mode of engagement, within an exhibition that is explicitly determined by their perceptual differences and categorical relations.

LANGUAGE MODEL STAGES

A language model for generating recommendations to a specific group of artists for a desirable mode of engagement, within an exhibition that is explicitly determined by their perceptual differences and categorical relations

Stage 1



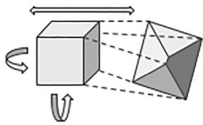
- all blocks have the same size & weight
- isolated

Stage 2



- relational encoding (embedding)
- isolated to relations within group

Stage 3



Linear transformation
Various in size and position
depending on weighting

Stage 4



Universal structure and
singularity

Stage 5



Formula - individual block generation

$$\text{universe}(\text{parameter } x \text{ variable})^2 = \sum G^1(\text{relation}) / \text{universe}$$

Individually consider how one perceives and evaluates a perceptual parameter and its corresponding variation within a particular scene. Repeat for an alternative scene parameter/variable where the variable sits in a similar domain. Combine into a single block.

Homework: find an image, text, source etc (herein written as universe/object) that represents conception to group

Formula - summing two or more blocks

$$\sigma(\sum G^1 \sim \sum G^2) = \epsilon_r \text{ (embedded relation)}$$

Individually present universe/object to group. Group considers relation to their individual universe/object/parameter and discuss boundaries and similarities as a group. Key question: How can G^{W1} adopt G^{W2} categorical structure within their own universe.

Homework: find an image, text, source etc that considers updated relations especially relations caused from an other (hybrid of categorical relations)

Formula - transformation sum
Mode of Engagement (E) = $(\sigma(\sum G^1 \sim \epsilon_r^{G^2} \text{ etc.}) / \text{context}) \times \text{exhibition criteria}$

Group review of current boundaries before individual presentation of universe/object with updated relations. Group discusses new findings in relation the exhibition criteria. Once complete rerun previous stages to "improve" outcome.

Homework: Consider the key differences after backpropagation, what adjustments are required and what will be presented in the gallery

Formula - flattening

$$f = E(G^{1,2,3,4} - \sum G^{1,2,3,4} x \epsilon_r) / E(G^{1,2,3,4})$$

The flattening formula represents the combined embedded relations, transformations and initial input for the individuals. The output recommends the operation for how the individual/object are to be present in the specific exhibition and the level/how it is expressed.

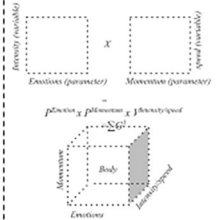
Questions to consider. What are the specific requirements needed to execute the recommended representation and modes engagement as expressed by the algorithm and the relations to other ghost workers. How to maximise the output for exhibition purpose and how to represent the embedded relations for a generalised version i.e. to apply to a different set of data.

Formula - revision

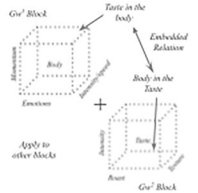
$$f = B$$

Group review to analyse exhibition outcomes, algorithmic results, evaluation on the overall process and proposals for future iterations of the model (B). All recommendations are fed back into the algorithms weightings

In relation to
Individual



In relation to
Group + Algorithmic
Output



In relation to
Exhibition Criteria



In relation to
Universal +
Exhibition Outcome

Example of outcome: Gw1 uses contact to create a solid texture that is related to the internal experience of Gw2

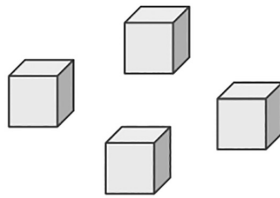
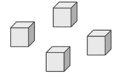
Gw1 has two options. Since Gw1 wants to highlight the emotional intensities of the body. They can either follow the recommendation and come into contact with Gw2 object or choose to ignore by shifting away in distance and reducing the emotional intensity of the object.

In relation to
Individual + Group +
Future Iterations

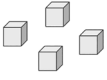
Report written and supplied to curator and gallery

Algorithm is packaged up for commercialisation purposes

Backpropagation = f ~ CAT Rubix



STAGE ONE
Categorisation

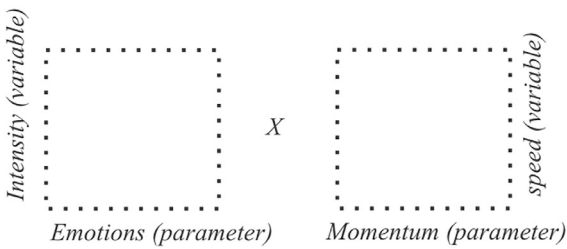


STAGE ONE - Task

Scene (parameter x variable)² = $\sum G^1(\text{relation})$ / scene

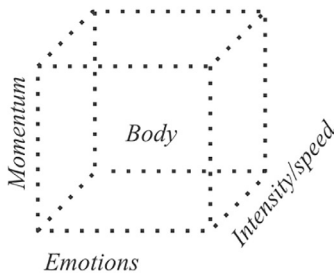
In relation to the *individual*.

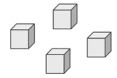
1. Consider a perceptual category on how you as an individual evaluate the differences within a specific scene. Notate a parameter and a corresponding variable from this scene.
2. Map the parameter/variable to the axis on an x, y graph.
3. Repeat the process for an alternative scene/parameter/variable where the variable sits in the same domain.
4. Combine the two scene/parameter/variables to form a block by folding the variable into a single axis.



=

$$P^{Emotion} \times P^{Momentum} \times V^{Intensity/speed} = \sum G^1$$

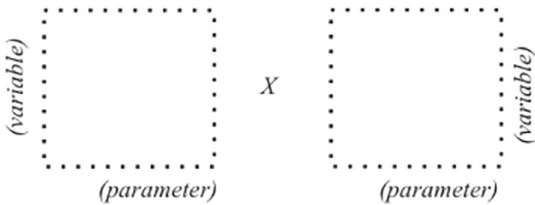
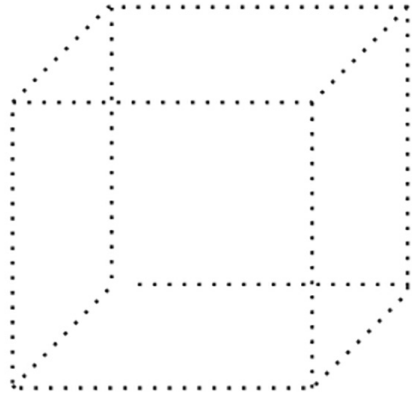




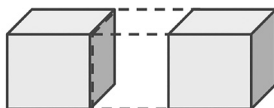
STAGE ONE - Worksheet

Scene
Parameter
Variable

Scene
Parameter
Variable



HOMEWORK: find an image, text, source etc (herein written as universe/object) that represents conception to the group.



STAGE TWO
Embedded Relations

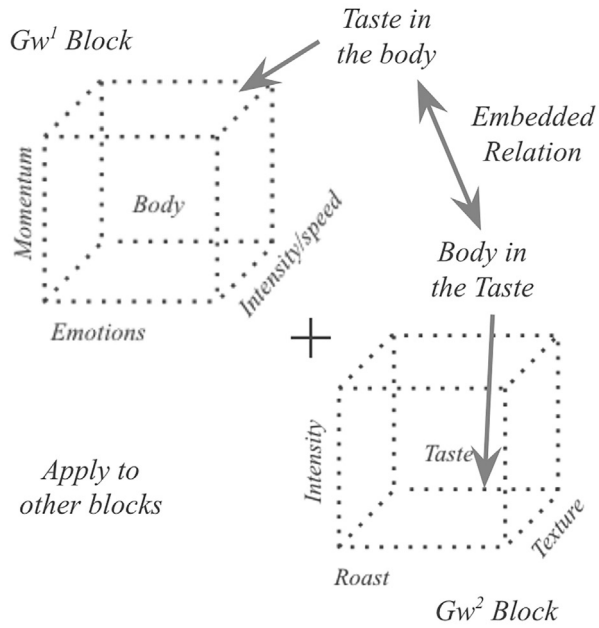


STAGE TWO - Task

$\sigma(\Sigma G1 \sim \Sigma G2) = \hookrightarrow \text{er}$ (embedded relation)

In relation to the *group*.

1. Individually notate the coordinate position of chosen universe/object on block developed in task one.
2. Present universe/object to the group explaining object, xyz axis and coordinate position including justification.
3. In between each ghost worker presentation, conduct group discussion on relationships to their individual universe/object/axis boundaries and similarities. The purpose of this conversation is to investigate how one's own universe/object can be mapped to another's block.
4. Map the coordinate position of your own universe/object on the presenting ghost workers block.
5. Repeat the process until all ghost workers have presented their universe/objects.
6. Gather all data and coordinate positions.





STAGE TWO - Worksheet

GW-#

Scene		X, Y, or Z
Parameter		
Variable		

Scene		X, Y, or Z
Parameter		
Variable		

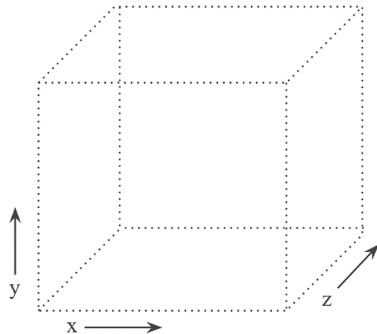
UNIVERSE/OBJECT DESCRIPTION

GW-# - UNIVERSE/OBJECT COORDINATES

Floating point number (between 0 & 1) (fill in during discussion)

X	Y	Z

Drag me ●



MY UNIVERSE/OBJECT COORDINATES

Floating point number (between 0 & 1)

X	Y	Z



What questions do we need to ask to figure out another ghost workers mode of engagement & understand the embedded relations?

HOMEWORK: transform universe/object to consider change in coordinate position.

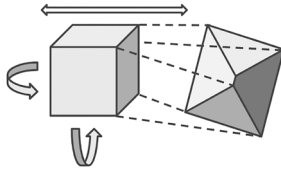


STAGE TWO - Calculations

$$X\text{-Average2} = \text{Stage2-x-value-gw1} + \text{Stage2-x-value-gw2} + \text{Stage2-x-value-gw3} + \text{Stage2-x-value-gw4} / 4$$

Repeat for each axis.

Repeat for each ghost worker.



STAGE THREE
Transformations



STAGE THREE - Task

Mode of Engagement (E) = $(\sigma(\sum G1 \sim \hookrightarrow erG2 \text{ etc.}) / \text{scene}) \times \text{exhibition criteria}$

In relation to the *Exhibition Criteria*.

1. Conduct group review of current boundaries by discussing the limits of each axis. What does 0 represent and what does it mean when a universe/object is mapped at 1 on your axis?
2. Individually map the coordinate position of the updated universe/object to your own block only.
3. Present universe/object updates.
4. Evaluate universe/objects against the gallery rubric or any exhibition criteria determined by the gallery.
5. Average the score.
6. Group discussion of universe/objects in relation to the exhibition criteria.
7. Once complete, rerun previous stages to “improve” the outcome for a preferred grading on the gallery rubric. [optional]
8. Gather all data and coordinate positions.

HOMEWORK: transform universe/object to impact grading on gallery rubric and/or to shift coordinate position.



STAGE THREE - Worksheet

QUESTIONS

Use keywords, phrases, and analogies to answer the following:

Describe the transformation to your universe/objects.

What was the material change? (texture, spatial, conceptual)

What is the new coordinate position?

Why did you choose that specific transformation?

What measurements did you use? What was the relative scale?

How does the transformation impact the reading of your universe/object?

Why is that change important for you?

What is the mode of engagement of our universe/objects?

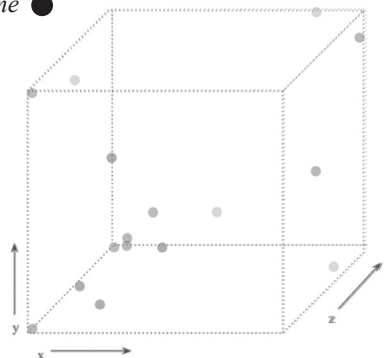
GW-#

GW-# Updated Coordinates

Drag me ●

Floating point number (between 0 & 1)

X	Y	Z



Previous Coordinates

GW-1 u/o $x = .5$ $y = .5$ $z = .1$

GW-2 u/o $x = .5$ $y = .5$ $z = .1$

GW-3 u/o $x = .1$ $y = .9$ $z = .4$

GW-4 u/o $x = .1$ $y = .2$ $z = 1$



STAGE THREE - Calculations

Calculate the averages of the coordinate positions for each ghost worker with various weightings. Coordinate position will update the spatialisation in the gallery.

Averaging formulas

$$(X\text{-Average2} = \text{Stage2-x-Average-gw1} + \text{Stage3-x-value-gw1} / 2$$

Repeat for each axis.

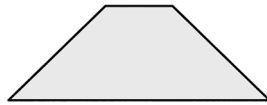
$$\text{Normalised-RScore} = (\text{Rscore-gw1} - 0) / (\text{max-rubric} - \text{min-rubric})$$

[stage three coordinate position]

$$X\text{-stage3average} = (X\text{-Average2} + \text{Normalised-RScore}) / 2$$

Repeat for each axis.

Repeat for each ghost worker.



STAGE FOUR

Flattening



STAGE FOUR - Task

$$f = E(G_{1,2,3,4} - \sum G_{1,2,3,4} \times \hookrightarrow er) / E(G_{1,2,3,4})$$

The flattening formula represents the combined embedded relations, transformations and initial input for the individuals. The output recommends the operation for how the universe/objects are to be presented in the specific exhibition and the level/how it is expressed.

Questions to consider: What are the specific requirements needed to execute the recommended representation and modes of engagement as expressed by the algorithm and the relations to other ghost workers? How to maximise the output for exhibition purposes and how to represent the embedded relations for a generalised version i.e. to apply to a different set of data.

1. Undertake Part A (i) & (ii) of the worksheet.
2. Present universe/objects to the group.
3. Undertake Part B.
4. Discuss findings.



STAGE FOUR - Worksheet

PART A(i)

Enter the changes you made to your universe/object into the table below.

TASK #	DATA
4	

Evaluate the updated coordinate position of your universe/object.

X = Y = Z =



PART A (ii)

Consider the reading of your universe/object by a general audience member. Measure how important it is for the reading of your universe/object for it to be concrete (i.e. an exact physical object) or to remain abstract (i.e. purely theoretical) for it to meet its final coordinate position. Highlight the range.

Abstract <-----> Concrete



PART B

Distance Evaluations

Task for evaluating distances between universe/objects to consider how your universe/object will be *represented* in the gallery.

To do so,

1. Pick one of your axis (x, y, z).
2. What are the boundaries of this axis (i.e. what does the value of 1 or 0 on this axis represent).
3. Measure the distance between your universe/object and the universe/object of another ghost worker. If it helps, pick a universe/object that you can see fitting on your chosen axis.
4. Evaluate the distance by considering if the distance between the two universe/objects correlates with the boundaries of the axis and if the difference between them makes sense.
5. If the evaluation or part of it does not make sense, write down what you would change in how your universe/object is represented in order to justify the current scaling/position. Note this is not a change to the universe/object itself rather to elements to be used to represent your universe/object (text, a sign, on a plinth etc). Use your consideration of abstract/concrete to help inform what this may look like.
6. Repeat the process (1. - 5.) two more times for your other axis. Use another ghost worker's universe/object. The same ghost worker's universe/object can be repeated on another axis if needed.



STAGE FOUR - Calculations

Averages

$$X\text{-final-gw1} = x\text{-stage3average-gw1} + \text{Stage4-x-value-gw1} / 2$$

$$Y\text{-final-gw1} = y\text{-stage3average-gw1} + \text{Stage4-x-value-gw1} / 2$$

$$Z\text{-final-gw1} = z\text{-stage3average-gw1} + \text{Stage4-x-value-gw1} / 2$$

Repeat for all ghost workers.

Distances

Distance between individual ghost workers for final assessment

$$D\text{-gw1} \sim \text{gw2} = \sqrt{(x\text{-final-gw1} - x\text{-final-gw2})^2 + (y\text{-final-gw1} - y\text{-final-gw2})^2 + (z\text{-final-gw1} - z\text{-final-gw2})^2}$$

Calculate all distances between each ghost worker.



STAGE FIVE

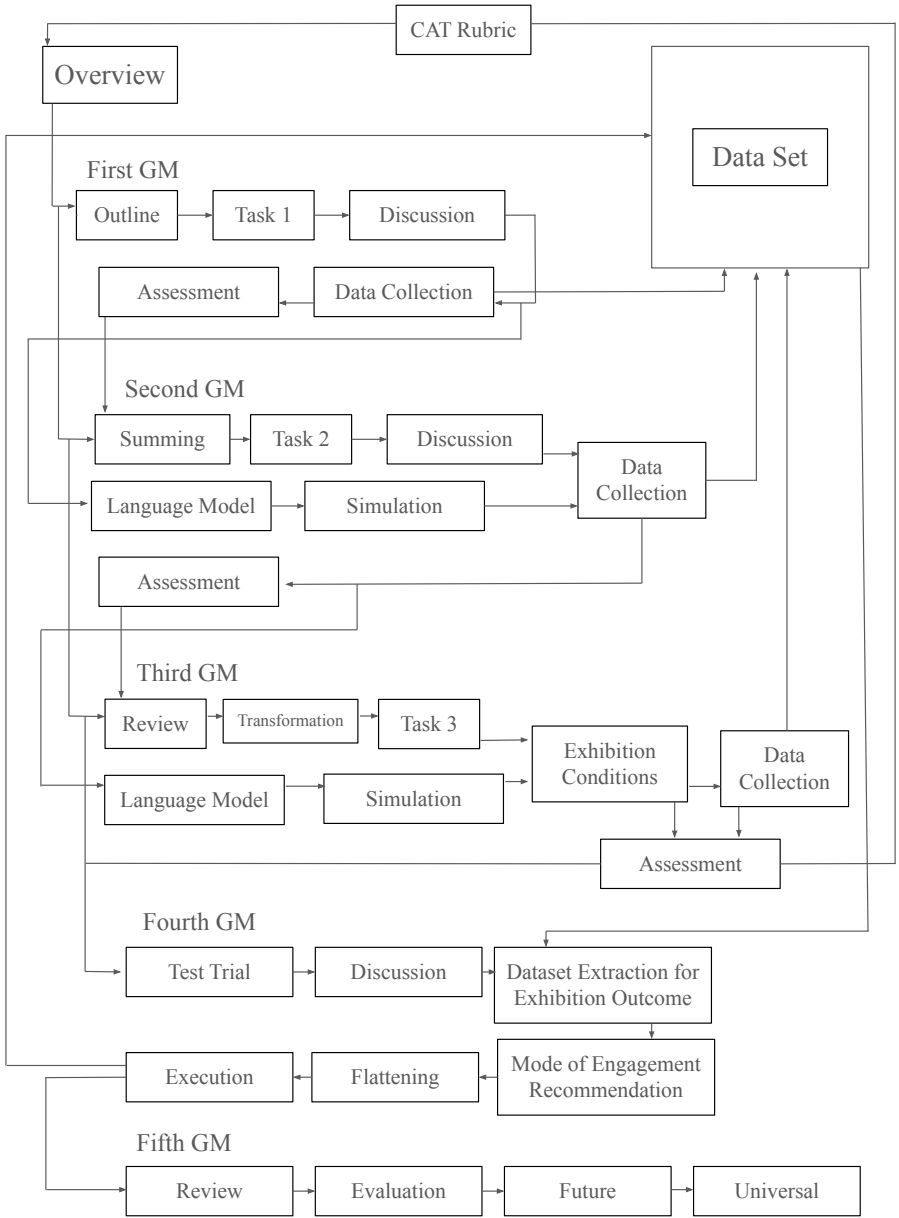
Revision



f = B

Analysis of exhibition outcomes, algorithmic results and evaluation of the overall process. Discussion to include proposals for future iterations of the model (B). All recommendations are fed back into the algorithmic structure.

Once finalized, update the version number with the corresponding iteration.



GLOSSARY OF TERMS

A project specific glossary. All definitions have been derived from a combination of direct references, genealogy, found material and pure fiction.

Adversarial Attack

intended data corruption to cause the algorithm to make a mistake.

Algorithm

a process or set of rules to be followed through calculations or other problem-solving operations. Algorithms have the power to enable and assign meaningfulness, managing how information is perceived by users, and the distribution of the sensible.

Artist

the title of the four individuals who have been invited into the project to form the research group. This is their initial title before they enter the algorithmic structure and after the algorithm has completed its calculation. During the project they will be referred to as ghost workers.

Audience

external viewers of the algorithmic process and its outcome. This can be either viewers of the chat group and other sources or direct visitors to the gallery. The audience embodies the view of the state.

Backpropagation

an algorithmic method that feeds the initial results from the output stages back through a series of weightings and error evaluations to shift future outcomes towards a desired output. It is used to calculate the necessary parameter adjustments, to gradually minimise error.

Bias

a systematic and repeatable error in a system that creates an “unfair” outcome. Bias can emerge from many factors, including but not limited to the design of

the algorithm or the unintended or unanticipated use or decisions relating to the way data is coded, collected, selected or used to train the algorithm. Bias also includes the ingrained preferences of the individuals.

Block

a composite of an individual ghost worker’s conceptual framework to highlight their unique methods of perception within their universe. A block is produced from the parameter/variable formula outlined in stage one.

Category

a narrative framework for organising a class or division of people or things in accordance with having a particular shared characteristic.

CAT Rubric

Contemporary Art Tasmania’s assessment criteria to evaluate the success of an exhibition or event. To be completed by the CAT Program Committee and presented to the CAT Board for the purposes of grading an exhibition to organisational metrics.

Dataset

the set of information collected during the algorithmic process composed of separate elements (raw data). Datasets include, titles, names, mode of engagement, colours, weighting, images, phrases etc. and all other data inputted into the algorithm at a specific point in the process. A dataset can be manipulated as a unit.

Embedding

a process of encoding by representing each parameter/variable perception combination within an embedding vector; that is, representing each parameter/variable as a vector of floating-point values between 0.0 and 1.0.

Embedded Relation (↔er)

the relation between embeddings across a combined vector space.

Error

slippage of the algorithms processes that results in an outlier in the data or incompatibility.

Exhibition Conditions

the impacts and flux of the internal relations or environmental/surrounding elements associated with the exhibition.

Exhibition Criteria

a framework and requirements specified by the gallery for the exhibition outcome and operations of the artists.

Individual

term used when discussing a singular person and associated universe/object within the algorithm.

Feedback

when outputs of a system are routed back as inputs.

Formula

a generalised relationship or rule expressed in symbols.

Flattening

The unfolding of the algorithm after stage 3 to form the exhibition outcome.

Ghost Worker (GW)

the role artists undertake during the development of the algorithm. A ghost worker is a human who performs short-term tasks on demand, anonymously, through automated platforms and the work is disguised as being automated.

Group

a term used when describing the relations between and collection of inputs from the individuals/object.

Human

relating to or characteristic of humankind.

Input

element that is entered into the algorithm. The source of an input can be from either an individual, objects, the group, an audience, the gallery, the chat group, or from the audience.

Logic

a system or set of principles underlying the arrangements of elements between actors in order to perform a specified task or verify a specific outcome.

Modality

a high-level data category. For example, numbers, text, images, video, and audio are five different modalities.

Model

in general, any mathematical construct that processes input data and returns output. Phrased differently, a model is the set of parameters and structure needed for a system to make predictions.

Modes of Engagement (E)

choices (operation) that will lead to a particular goal (perceived outcome). Outlined by relational position within the logic. How an artist, or any contributions work with, alongside or against another element specific to the exhibition.

Noise

within the project, noise is anything that obscures the dataset, outcome or algorithmic processes. Noise can be a productive element as well as a negative one.

Operation

the action of functioning or the fact of being active or in effect.

Outcome

the actualisation of the algorithm's output. May not be directly observable in the moment.

Output

contains the recommendation and the direct results of the algorithmic function.

Parameter

a limit or boundary that defines the scope of a particular process or activity.

Relation

how two or more people or things are connected; a thing's effect on or relevance to another.

Scene

a set selection within a broader group that shares a similar interest/dynamic. A scene is exclusive as opposed to a community which is all-inclusive.

Stage

process in the algorithmic structure to build the language model. One meeting corresponds to a different stage in the process.

State

a state is a centralised political organisation that imposes and enforces rules over a population within a territory.

Sum (Σ)

an efficient notation for describing how two or more blocks are to be combined. The blocks are combined by multiplying the elements of one block by the elements of the other block and then summing the products. The notation takes into account the identity of each axis of each block, which are rearranged to specify the shape of the new resulting block sum.

Task

an activity undertaken by ghost workers to activate the algorithmic process. Including but not limited to categorisation, group discussion and transformations of universe/objects.

Transform

Changing aspects of the universe/object to shift the relationship between two or more blocks. A transformation may be no change.

Universal

relating to or done by all people or things in the world or in a particular group; applicable to all cases. A way to consider/reuse the algorithm without the specific content.

Universe

the specific world generated by the perceptions of the individuals.

Universe/object

the term used to describe an artist's input. Form of an image, text, source, audio etc and represents the perceptual underpinning of an individual.

Variable

an element, feature, or factor that is liable to vary or change.

Weight

a value that a model multiplies by another value to influence the gravity between nodes.

On Human Curation

This section is dedicated to the beautiful humans involved in this project. Alas not specifically discussing how to curate humans solely for the purposes of exhibiting in general, but rather, to display the various modes of curation that underpins the collective curatorial consciousness of ELAAA.

Although here, words and language are limited. Limited to the constraints that the algorithm permits and nowhere near celebrates the true generosity and support of everyone involved.

Billie Rankin, Grace Gamage, Zachary Doney and Adelphie He, the most beautiful humans of them all. Faced with the abstruse task of being the ghost worker team that made up the first iteration of ELAAA, each and everyone of them approached each meeting, each task and each interaction with so much sensitivity and care. They delicately attended to the challenging obscurities and fallacies with such attention. They cracked and broke the rules, finding the loopholes while working with a large amount of trust and optimism to make sense out of the completely nonsensical task that the algorithm demanded. Collectively there was such a drive to make the algorithm work and as a result the algorithm has produced an exhibition that is intrinsically theirs and embodies their beautiful sensitivity. I will forever be grateful for their existence.

Thank you to Kylie Johnson who gracefully managed and coordinated the project. Who permitted so much uncertainty and reeled the project in at times of need. Kylie's calm openness and clarity is the reason why ELAAA even functions. Thank you for being there through it all and embracing the project with such intellect even as it escaped our own comprehension.

And to all the Contemporary Art Tasmania staff thank you for the unwavering support and flexibility. Tasmania is very fortunate to have such an organisation that goes so far beyond the scope of the institution and has elegantly formed a space and community for forward thinking art practices to emerge.

Thank you to Rob O'Connor and Stuart Houghton for their industrious install craftsmanship. And thanks to Cath Robinson for the beautiful catalogue design.

A very special thank you to Amy Ireland whose tenderness, scarily pre-emptive suggestions and boundless intellect has guided this project to what it has become today. One of the kindest and most caring humans. And although not directly involved in the tasks, Amy's input will always be felt in the algorithm.

And finally thank you to everyone who prompted the project with questions and inquisitive enquiries. Each and everyone of you shaped aspects of its structural design and formed the undercurrents of ELAAA's existence.

BIOGRAPHIES

Zachary Doney is a healthcare worker living in Naarm/ Melbourne. He is active in the anti-war and labour movements and a foundational member of the Renters and Housing Union (RAHU). Recent activity includes: *'Not just a lockdown hobby': the making of the Renters and Housing Union*, interview, Overland Literary Journal; an address to the *Senate Select Committee on the Cost of Living*, as a “witness participant” aka normal person; and contributions to *Alternative News*, a programme on 3CR Community Radio.

Grace Gamage is an interdisciplinary artist, farmer and boxing coach. Over the past decade, Grace has presented artwork nationally and internationally, often through ephemeral and conceptual installations. In 2020 Grace co-founded *Broom & Brine* with Dylan Lehmann. At this small no-till market garden located at Allens Rivulet in Lutruwita/ Tasmania, Grace and Dylan implement organic farming practices, cultivating vegetables, fruits, culinary and medicinal herbs, all the while habitually queering the economics of the farm from the field, into the household. Grace is a boxing coach at Hobart Boxing and teaches the old-school Soviet style.

Adelphie He is a multi-disciplinary artist who resides in Nipaluna/ Hobart. Adelphie’s artworks are brought to life through energetic doodles and characters that enable them to navigate and depict their playful, subversive universe. Grounded in their Chinese heritage, their art acts as a gentle rebellion against authoritarian-dictated gender roles and societal norms, breathing life into their light-hearted narratives. Adelphie has led workshops including *Imaginative Character Design*, *Kindred* and *Fabric dying with Adelphie*, Youth Arc, both Hobart. Exhibitions include *Bridal Sedan Chair*, Moonah Arts Centre and *Icky Sticky Wonder*, Good Greif, Hobart, Tasmania.

Billie Rankin is an educator, artist, and facilitator living on Melukerdee country in Lutruwita/ Tasmania. Their practice focuses on emergent processes with particular attention towards social actions of care and relationships. Through play and process-oriented making, their work challenges normative assumptions of relationality, community and ecology, expanding the imaginative potential of what could be. Recent projects: *Feral Art School*, Cygnet, Tasmania; *THNX 4 NOTHING*, a performance co-created with Davina Wright, Tasmania; and *Dissolving Labels*, a youth dance work co-written and performed by DRILL Dance Company, with creative director Isabella Stone, and artistic leads Davina Wright and Billie Rankin, Tasmania.

Amy Ireland is a writer and theorist best known for her work with the technomaterialist transfeminist collective, Laboria Cuboniks, whose *Xenofeminism: A Politics for Alienation* (Verso, 2018) has been translated into 18 languages. She has published widely in contemporary art journals and magazines, including *Art + Australia*, *Southerly*, *Runway Experimental Art*, *Rabbit*, *e-flux*, and *Flash Art*, and her poetry and performance work has been included in exhibitions such as the 20th Biennale of Sydney, London's Barbican Centre's 'AI: More than Human', and the 2021 Athens Biennale. She is an editor and translator for UK-based publisher and arts organisation, Urbanomic.

Jon Smeathers is a composer, sound and installation artist based in Nipaluna/ Hobart. Jon has exhibited and performed both internationally and across Australia, including: at Soft Centre, Serralves em Fiesta, Portugal; Melbourne Festival; NOW Now Festival, Sydney; and, Dark Mofo and Mona Foma, Hobart. His work taps into the potential of algorithmic displacement, codecs and remix culture to enable a reimagination of one's spectral and rhythmic currents.

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Curator: Jon Smeathers

Text author: Jon Smeathers

Mentors: Amy Ireland, Kylie Johnson

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