

# ANT CODING MASTER DOCUMENT:

## Verbatim Interview Subject Quotes and Corresponding ANT Codes

### 1. Participant #1 : Urban Designer / Committee Member- Geelong City Council / Urban Design Forum Australia

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Direct Quote (Subject)	ANT Code(s)
Yeah, yeah. Q1.	Uncoded
Yeah, sure. So currently my identity is an urban designer. And yeah, I started out, I started out originally studying architecture and then I kind of fell into urban design through an internship with the city of Hobart and that was where I got into the geographical sciences and I basically self taught myself how to use QGIs.	Human Actors; Non-Human Actors
Right.	Uncoded
And then it was actually like, it was actually kind of the thing that got me into urban design because at that time, and this is a quite a common situation in councils, they weren't doing mapping really for like planning or design or strategic design purposes.	Human Actors; Material Inscriptions
Yeah, yeah.	Uncoded
They had like a geographic GIS team who were doing, maintaining an asset database yet GIS files that kind of record where things are and doing kind of, you know, various GIs, I guess what they do to support	Human Actors; Non-Human Actors

other units. But nothing in the kind of planning and design area was really utilizing gis. So that.

Right.

Uncoded

Actual self taught skills in qgis then allowed actually gave me the, in like my foot in the door.

Non-Human Actors

Yeah.

Uncoded

And then from there like I kind of was involved in kind of mapping on projects and then kind of kept on going.

Material Inscriptions

So this would have been 2017. 2017.

Uncoded

Okay. Yeah, I've kind of, I've stopped using it the last few years. But yeah, I think it is like, I kind of like the way I use it is pretty unsophisticated as an urban designer, to be honest. Like mainly I kind of use it to turn layers on and off and make maps through kind of layering and changing colors and then a little bit of kind of manipulating data in a spreadsheet.

Human Actors; Non-Human Actors;  
Material Inscriptions

Yeah.

Uncoded

Then kind of. And then kind of spatial, then symbolizing that data. But I don't do any kind of coding or. No, kind of Nothing fancy like that. Nothing. Yeah, not really any fancy to go processes either. Like just really simple things. So. And that's kind of fine for what I do. Like. So generally as an urban designer, like you always in a council you always have access to a highly skilled geospatial specialist or a team with them and their resources are limited but they're there. And if you need to do something more complex it's usually easier to kind of get them to do it and have to explain what

Human Actors; Non-Human Actors;  
Stability / Fragility

you want done rather than. Rather than do it yourself. Geoprocessors.

Yeah. Yeah.

Uncoded

So. But that. Yeah, so that's. So it's kind of like that's not really my role to be a geospatial specialist.

Human Actors

And there's risk. There's risks as well like in the urban designer taking on too much of that role. Because if we, you know, most of us, we won't be similar to me. Won't have any formal training in gis. And even though you can self speech there may be. There's. There is that could get you in trouble once you start having to do things where there's a greater level of accuracy.

Human Actors; Stability / Fragility

Yeah.

Uncoded

Required.

Uncoded

Yeah, yeah.

Uncoded

Yeah, yeah, definitely. And that's. Yeah, generally councils are like that.

Human Actors

The. Yeah.

Uncoded

There'll be very much a GIS team is usually in a completely different division. So they'll usually be in the same division as it.

Human Actors

Okay.

Uncoded

And in a kind of a. Yeah, they'll be within the kind of organizational functions IT type corporate side of the council. So. Yeah, completely different division. The exception is like Geelong, I'm working again now.

Human Actors

And.

Uncoded

That at Geelong there is actually a geospatial specialist within the planning.

Human Actors

Yeah.	Uncoded
But that's not usual. That's unusual.	Uncoded
Yeah. Yeah.	Uncoded
I think in the Melbourne. In the Victorian context I think it would be fairly unique. Maybe City of Melbourne might have something similar.	Human Actors
Yeah.	Uncoded
And that kind of goes back to like the size of Victorian councils like most of them. Like.	Uncoded
Yeah.	Uncoded
Because of the. Because of where I've got ourselves with this kind of. Lots of Relatively small councils, you usually wouldn't get that kind of. Yeah, it's usually not that large enough numbers to support having a specialist like that.	Human Actors
Right.	Uncoded
Geelong was a bit different because it's a much bigger council and. Yeah, it's like CBD as well as Greenfield. Yes. Yeah, Marybeck is a bit of an exception too. They actually have. Their urban design unit has a digital expert geospatial person. But I believe that came from a grant, like a kind of a. Yeah, I think it was the federal government grant to do with developing their own digital twin.	Human Actors
Yeah. Like. Yeah.	Uncoded
Specific program.	Uncoded
Yeah, yeah. Q2.	Uncoded
Okay, so my responsibilities are kind of probably around 50%, although very sometimes kind of design review and 50%	Human Actors; Non-Human Actors

kind of working on projects. So. So the design review function is not really technical at all in terms of software. It's basically just reading PDFs like, and assessing the designs. And like we kind of do some markups of the PDFs but nothing more technical than that. We probably should be actually using three, getting 3D models from development proponents. But that's actually not something that's that commonly done in Victoria. Again.

Right.

Uncoded

Yeah, the exception is City of Melbourne and City and Marybeck. But yeah, we, so they. There's a. Actually a side of that we should be doing. Yeah, it's not something that's really done at the moment. So if, you know, I can talk more about that if you want, if that's of interest.

Human Actors

Yeah.

Uncoded

Yeah.

Uncoded

So at the moment, like in the councils I've worked in, in Victoria, like essentially like what the urban design looks at is the same as what the planner looks like. We don't get any special documents. But yeah, in other places around the world and other places in Australia and at the City of Melbourne and Marybeck and I think a couple of other councils too in certain Circumstances, they'll get development proposals as 3D models. Place the 3D model within a city mapping or a city model, a contextual model or a digital twin.

Human Actors; Material Inscriptions

And.

Uncoded

And they. And that allows you then to kind of assess the. The built. The proposal in its. In context from different angles. You can

Human Actors

look at the sun angle, the shadows and so forth, and it kind of. It makes you less reliant on the proponent's documentation.

Yeah, but that. Yeah.

Uncoded

So essentially, like, if you're looking at their renderings, a rendering is actually something that is quite open to manipulation.

Human Actors

So we can read between the lines because we're designers too. But the best practice is actually for major proposals to have them provide a 3D model. But then technically that's difficult for a lot of councillors because a. You've got to have your own contextual city model to put it in your own digital twin.

Human Actors

Yeah.

Uncoded

Unless the council's had like a smart cities program or they've had like, extra funding, like Marybeck had, they probably won't have that. There's a Victorian digital twin, but that's a. That's a bit limited in its functions currently. And. Yeah, so first thing, you've got to. Have. Got to have a contextual model to put it in, but then the second thing is you've also got to have a process where you can specify to the applicants what format to put it in and they have to do it properly and provide it in a timely manner and so forth. And. Yeah, so that's something some councils have kind of worked through, but not everybody. It's definitely not standard practice.

Human Actors; Non-Human Actors;  
Stability / Fragility; Material Inscriptions

Yeah.

Uncoded

But if you went other places in the world, like, Singapore is really.

Uncoded

Yeah, yeah.

Uncoded

Very smart. So I think they get everybody, all proposals to provide a revit model and. Yes, the. The model. The 3D model, not the drawings. And then I believe they kind of. They've got them all plugged into each other and. Yeah, so then that opens up a whole, you know, lots of possibilities about different types of data and visualization work that you can do for the honesty basis.	Human Actors; Non-Human Actors
Definitely, yeah. Q3.	Human Actors
Yeah, there's plenty of times where I can say where it solved a major challenge.	Human Actors
Yeah.	Uncoded
So the typical one is an urban designer where the software, particularly geospatial software, helps you, is when you're doing a bunch of mapping at the start of a project where You've got a. Similar to what urban coding and design students do in their first assignment.	Human Actors; Non-Human Actors; Interaction / Relations; Material Inscriptions
Yeah.	Uncoded
So basically it saves you weeks of work if you can use gis.	Human Actors
Yeah.	Uncoded
And yeah there's a lot of, it's very much, much quicker to kind of create those analytical maps and yeah, so that's something that like. Yeah, many, many projects that assist that's helpful with.	Human Actors; Interaction / Relations; Material Inscriptions
GIS specifically or.	Uncoded
Ye.	Uncoded
Yeah, I think we are probably like where there's been some type of geo process I've wanted to run or some type of analysis and then I haven't had the skills to do it.	Human Actors

Yeah, right.	Uncoded
And then haven't had the kind of, haven't been able to access support because of resourcing issues. So like I was talking about before, in the council environment you can get support from the specialist but then. Yeah, that's not always available depending on their workloads.	Uncoded
Yeah.	Uncoded
So sometimes like as a non trained GIS person you might just, there might be something you really want to do but you just, it's too tricky to work out. And then. Yeah, you can only go so far with the YouTube videos.	Human Actors
And then, yeah and then yeah so you can, yeah you could like you can reach out to the, the specialists and ask them to help you but then depending on their workloads there might be a delay and so you might make the decision just to not do that.	Interaction / Relations
Yeah, yeah.	Uncoded
And discontinue with the other aspects of the project.	Human Actors
Yeah, yeah. Q3.	Uncoded
Yeah, I guess I'm thinking like in a couple of ways, like in one way like I've had to use software less because at least in my, at my previous role at the City of Yarra, I had a student urban designer who was assisting me. So then my role became more about coaching them and getting them to do some of the visualization work that was more using Adobe and can. Right, yeah. So that, so in that way I was kind of like less hands on and more kind of more coaching as in like more of a senior role.	Human Actors; Non-Human Actors



Yeah.	Uncoded
But then that said like as of there's all. I've also got more involved in some ways in the, some of the GIS side as my career has gone on in some of the more technical aspects by doing more complicated projects.	Uncoded
Yeah. Yes. Yeah.	Uncoded
But yeah, and so it's, it's. Yeah, it's changing.	Human Actors
Yeah.	Uncoded
I mean, yeah, one of the biggest changes, and this is probably something I can talk about in some of the later questions too is the biggest, one of the biggest challenges with using software in a more advanced way is then getting higher level management to understand what you've done and then to support using it kind of. Yeah, like being able to explain the process so it's not a black box and people are willing to back it.	Human Actors; Non-Human Actors
Yeah.	Uncoded
And that can be a particular challenge too as an internal council officer versus a consultancy.	Uncoded
Yeah.	Uncoded
People, yeah. Often like, yeah, people are willing to rely on, people are willing to rely on consultancies sometimes more than the work that internal stuff does.	Uncoded
Yeah, yeah, yeah.	Uncoded
Yeah, they're the main three also SketchUp as a 3D software.	Non-Human Actors
Yeah.	Uncoded

And in terms of GIS, like I've used the mixture of QGIS and ArcGIS so I kind of self taught myself QGIS. But then over recent years I've been using ArcGIS because that's the software that the council I've been working at says use. So yeah, that's. If I was given my, if I was given a choice I actually probably would have just kept on using qgis because I do think it is more user friendly and I've actually found that kind of community support through forums and so forth and the YouTube resources are actually probably better for QGIS.	Human Actors; Non-Human Actors
Yeah, yeah, yeah. Q5.	Uncoded
Yeah, the main. Yeah, there's one really clear bottleneck that's in the kind of 3D city modeling space.	Human Actors; Stability / Fragility
Right.	Uncoded
So I could probably talk about this for like hours and I actually, like.	Uncoded
Yeah.	Uncoded
But cut me off if it's like taking too much time. But basically, yeah, there's a real gap in the digital space in planning and urban design. You know, probably throughout Australia in terms of really sophisticated digital twins and 3D city modeling.	Human Actors
Yeah.	Uncoded
And in Victoria they've been trying to rectify that with the digital twin program, but it hasn't been going as fast as like, most of us would have liked.	Human Actors
Okay.	Uncoded
And so there's still a mixture of kind of tools that people use in the 3D space. Like SketchUp is really common software, but	Human Actors; Non-Human Actors; Stability / Fragility

then there's limitations with that. And then, yeah, it's kind of a bit hit and miss where the councils have got their own city model. And then what you really want, like as an urban designer, basically, like one of the main tasks that you'll have is to kind of create work. You're working on projects where you're trying to create a vision and a plan for future of a new part of a part of the city that will always involve some element of scenario testing or looking at possibilities and then convincing internal and external stakeholders of a particular approach to take that involves convincing them that it's a good visual outcome or a good design quality outcome, but also convincing them that it's feasible and achievable and has enough capacity for the population or other kind of economic functions. So that task is like generally done through a bit of a hodgepodge of different softwares and different approaches.

Yeah.

Uncoded

Whereas. And yeah, it makes, makes it pretty tricky. It's a major limitation.

Human Actors; Stability / Fragility

Yeah, but yeah, Victoria, and Victoria is particularly like some great stuff being done in New South Wales.

Uncoded

Yeah.

Uncoded

And yeah, some other examples from Interstate Adelaide, even Hobart has like quite a good city model. But yeah, like, yeah, Victoria is lagging a bit.

Human Actors

Yeah.

Uncoded

And then, yeah, there's, then there's the international examples like Singapore, which are just way better.

Uncoded

Right.	Uncoded
But yeah, so it's a real. It's a real missing link and it makes. Yeah, it basically makes it much more difficult to do some of these urban design projects.	Human Actors
Yeah.	Uncoded
Or do them in a. Do them efficiently or do them in a meaningful way. So without. Without the technology. Yeah, it's hard to make out the. It's hard to make the right argument sometimes.	Human Actors
Yeah.	Uncoded
Yeah, good question. I think it could be through. Yeah, it could be through a state level digital twin or it could be through digital twins by different councils. Can also be achieved through software, through commercially provided software. So I actually attended a training session last week about 3D city modeling that was run through PR.	Human Actors; Non-Human Actors
Yep.	Uncoded
The planning Institute, but it was run by some people from Giraffe, which is a commercial provider of the kind of 3D modeling capacity analysis software that I was talking about before.	Human Actors; Non-Human Actors
Yeah.	Uncoded
So they offer a. Yeah, they offer a product you buy a license for and. And you. Yeah, yeah, you can do. You do your test. Can do your testing within that. And they're also working with the New South Wales Government, so. Yeah, and they've helped them develop this. Develop a tool called. I think it's Land iq.	Human Actors; Non-Human Actors; Interaction / Relations

Yep, yep.	Uncoded
So.	Uncoded
Yeah, yeah, there's pros and cons without. Q6.	Human Actors
What did. INTERVIEW I.	Uncoded
Actually made some notes about this before. So. Yeah, time is one.	Uncoded
Yeah.	Uncoded
Having time just to play around and explore it. One is the kind of organizational culture in government in terms of licensing and restrictions your IT department might place on it, to be honest. Like. Yeah, so basically, like, when organizations are already signed up with esri, they're very reluctant to kind of even let you download qgis.	Human Actors; Non-Human Actors; Interaction / Relations
Yeah.	Uncoded
So. And it's the same with all. Yeah, it'd be the same with a CAD program if the organization was already signed up with Autodesk.	Human Actors
Yeah.	Uncoded
So even if it's free, they'll be reluctant to let you use it because it's not one of their approved programs. And definitely be very hard to make a case to pay more money for a duplicate. What might be seen as a duplicate software.	Human Actors; Non-Human Actors; Interaction / Relations
Yeah, yeah.	Uncoded
I don't think it be about the relationship with ESRI because, yeah, I imagine they wouldn't be thinking that ESRI would find out. I think it's more about. It's probably more about just kind of control and what	Human Actors; Non-Human Actors

they're managing and things. So I guess from the perspective of the, like, leaders within the IT department, like the more programs, there's more things to manage or more things they might have to support that. They might.

Yeah.

Uncoded

And so, yeah, something I've heard from, when I've had the kind of debate about can I download qgis? Something I might have, you might hear from the GIS specialist is we don't know how to use QGIs, like we can't support you with that. So they're. Yeah, I guess they, yeah, from their perspective, like, it's easier. Yeah. Their job is easier when they're just supporting one software that they know already and they're really skilled in.

Human Actors; Non-Human Actors

Yeah, yeah, yeah.

Uncoded

It's.

Human Actors

Yeah. Q8.

Uncoded

Yeah, yeah, I would use QGIS instead of arcgis.

Non-Human Actors

That would be the main difference. Like potentially there's the open source CAD program or I could use Affinity instead of Adobe. But like, I'm going to be the conservative person now and be like, I've been using like cad for like 10 years or more and so I'm probably not going to change even if I so Yeah, I went and had it became a consultant tomorrow. I'd probably prefer to pay the license for what I know than yeah, teach myself something new that was free.

Human Actors

Yeah.

Uncoded

Not really. Not if it's a question of engaging with a software that's going to give you a new function or allow you to kind of do a type of work that you wouldn't be able to do.

Human Actors; Non-Human Actors

Yeah.

Uncoded

So the, so the example of like Adobe or cad, like, you know, the reason that I'd keep going with them and not want to change is, is I wouldn't see necessarily there was.

Human Actors

A.

Uncoded

Greater creative opportunity in switching to another program because what those programs do is kind of draw lines and make you and you know, lay out presentations which are kind of things that we have to do. But like they're not changing as such.

Human Actors

Yeah.

Uncoded

At least in my experience, like so far. But if there was a technology that like that I thought was gonna, you know, that it was gonna have an impact on my work and that I should be engaging with it like then. Yeah, then that's a reason to look at new things and build your skills. And yeah, the one I talked, obviously one I talked about is the 3D modeling. But yeah, like with. There could be other aspects of work, particularly AI where we're going to have to start.

Human Actors

Yeah.

Uncoded

Looking at new technology, kind of ignore it.

Human Actors

Right.

Uncoded

Yeah, no, that's true.

Uncoded

Yeah, yeah.

Uncoded

But there's probably other examples where the kind of digital space could change through more open source technology.	Human Actors
Yeah, yeah, yeah.	Uncoded
And yeah, like, I mean, so an example might be specific to my field is something like there's open source kind of modeling that people do of city environments.	Human Actors
Right. Yeah.	Uncoded
And that's something that's quite useful that you can kind of, you can use to get like baseline data and that's something that's kind of worth exploring.	Human Actors; Non-Human Actors
Yeah.	Uncoded
And that's, yeah. And that's where you know, particularly some things like things that are changing, like street trees or building forms and things like that can actually get more up to date and accurate data than you can through government generated GIS layers.	Human Actors; Non-Human Actors; Legitimacy Work
Yeah, yeah.	Uncoded
So things like that are really good. That's something that's interesting, useful open source data that I definitely have engaged with and would in the future. Q9.	Human Actors; Non-Human Actors
Yeah, to be honest, the initial thought will be the accurate, you know, is it going to be accurate?	Human Actors; Legitimacy Work
Is it reliable? Is it going to be comprehensive? Might, might be patchy and then for the spatial things that I do in my job, like yeah, we can't, it might be looking at a large area and like if it's patchy kind of coverage is just the kind of stuff people have just looked at what people	Human Actors; Non-Human Actors; Interaction / Relations; Legitimacy Work



they're interested in. Yeah, yeah. So yeah, like that's, that is a concern. But yeah, then, but also like positive things come to mind like you know, this could be actually quite accessible and easy to use and could help us to fill a data gap.

Yeah. Uncoded

Yeah, to an extent. Whether that really affects my job. Yeah, I'm just trying to. Uncoded

Yeah. Uncoded

Like, so I guess as an, as an urban designer and like the key audience for what we're producing is the government decision makers who might be senior planners and it's the community. Human Actors

Yeah. Uncoded

It's not necessarily someone who's going to interrogate the accuracy of Your data because, you know, they won't necessarily have the skills. Human Actors; Non-Human Actors

Right. Yeah, yeah. Uncoded

So that kind of legitimate data legitimacy, it might be kind of. Human Actors; Non-Human Actors; Legitimacy Work

Yeah. Uncoded

It might be kind of less important. Human Actors

Yeah. Uncoded

In terms of the success or not of the project. Uncoded

Which I guess. Yeah, yeah. I mean, you might contrast that with something. Human Actors

Yeah. Uncoded

That was more an engineering. Human Actors

Like. Yeah. Uncoded

Like the flood modeling or something. The topography has to be correct. Right.	Uncoded
Yeah. Yeah.	Uncoded
But then what we're, you know, the main thing that Urban Designer is doing is kind of trying to convince the decision maker or trying to convince the community that a particular plan for an area is the right plan.	Human Actors; Translation / Enrolment
Yeah, yeah, yeah.	Uncoded
And often that. Usually that doesn't come down to a question of fine grain data or like, is the data 100% accurate? Actually they are kind of. Okay. Sometimes for the data not to be 100% accurate because the output. The output is a policy. The output is a vision for the area.	Non-Human Actors; Material Inscriptions; Legitimacy Work
Yeah.	Uncoded
So I guess that's. It's an important distinction. Q9a.	Human Actors
I.	Uncoded
Yeah.	Uncoded
I think I know the one you mean.	Uncoded
Open.	Uncoded
Probably the most important factor would be other people.	Uncoded
Yeah, yeah.	Uncoded
Other users.	Uncoded
Yeah.	Uncoded
So, yeah. Where I've had to use open source tools, it's been because somebody's encouraged me and then.	Human Actors; Non-Human Actors; Translation / Enrolment
Yeah.	Uncoded

If I was. It's the kind of thing, if you take on independently, then you immediately come up against the issue of integrating with the people you're working with.	Human Actors
And yeah.	Uncoded
And the kind of work that I do, like, it's always, it's always group work. It's always part of a team. So yeah, it have. You'd have to be a con. You'd have to be. Not something you couldn't really do. It solo.	Human Actors
Bright person.	Uncoded
Yeah, Often it's like. Yeah, often this. Yeah. Often it's someone who's just inquisitive. Often it might. I've observed it in people who just haven't had the resource, so they've just had to kind of be creative.	Human Actors
Yeah, yeah.	Uncoded
Or like. Yeah, it can be instigated by people being in a particular hype, you know, situation where they, they need an alternative to solve the problem. If, like, the problem can be solved by sticking to the mainstream, most people are probably going to do that.	Human Actors; Stability / Fragility
Yeah.	Uncoded
So, yeah, it's that. It's kind of like the difficulty, the challenge of a situation, kind of like create the opportunity or create the. That create the impetus for somebody to, to. To do something different.	Human Actors
Yeah.	Uncoded
Yeah, and I'm very much in favor of that.	Uncoded
Yeah.	Uncoded

And yeah, it's a, it's a key limitation of like, urban planning and design, lack of data, which is partly because sometimes because we don't have the data, but also sometimes because we don't provide it.	Human Actors; Non-Human Actors; Stability / Fragility
Yeah.	Uncoded
And City of Melbourne is like a leader.	Human Actors
Yeah.	Uncoded
And then what. And that. And the effect that that's had, which is like a really good effect, is that like, if you go looking at like, you know, different research that people have done at say, msd, like people will choose Melbourne as the City of Melbourne as a case study to do their research because it has data and yet it's freely available and they're willing to do that. And so City of Melbourne had lots of people doing urban forest studies and all kinds of things on their city, whereas most of the other councils in Melbourne who don't provide data free like that or don't have the data. Yeah, they won't just, you know. Yeah. No one's going to be doing their research on them.	Human Actors; Non-Human Actors
Yeah.	Uncoded
Or less. And yeah. So it's a really positive thing. I'm all for, for open data and also. And just generally like, I feel like there's a lot of, there's an excessive kind of caution about privacy and holding data or holding information in.	Human Actors; Non-Human Actors
Yeah.	Uncoded
In the planning space.	Uncoded
Yeah.	Uncoded

And that definitely like there could be some loosening in that regard and that would be, that would be beneficial.	Human Actors
That'S the flip side that sometimes privacy is a real issue like that even that is, I think is that ABS policy is excessively conservative. Yeah, yeah. So I could. Yeah, they're kind of the, the issue, the issue there is around them not wanting to provide the demographic data from the census at a real fine grain because it may be possible to identify somebody. But yeah, I feel like that is a bit cautious.	Human Actors; Non-Human Actors
Yeah.	Uncoded
And so that's a. And yeah, that, that's where that kind of, that's, that's, that's a good example of that kind of.	Uncoded
Yeah.	Uncoded
Maybe over caution about privacy resulting in like lack of data.	Non-Human Actors
Yeah. Q10.	Uncoded
Hopefully not too much.	Uncoded
Yeah.	Uncoded
But yeah, but then that said, like there has to be kind of if, if the, if government is not going to invest in building the tools that we need to do our jobs.	Human Actors; Non-Human Actors
Yeah.	Uncoded
But that a private enterprise is willing to put effort into the research and development to develop those tools and then to market them and train people in using them, then. Yeah, then we have, then that's, we have to respect that and that's the kind of tools that will be available to us.	Human Actors; Non-Human Actors

Yeah, he's going to be a more corporate model. So that's kind of the reality. Like.	
Yeah.	Uncoded
And yeah. And then the more Complex and kind of.	Uncoded
Yeah.	Uncoded
You know, difficult. The tools are to create the, the higher level of investments required and the bigger the corporation has to be. So it's a bit of. It is a trade off. Yeah, yeah, it is.	Human Actors; Non-Human Actors
Yeah.	Uncoded
And yeah. Do you see.	Uncoded
Does so can you repeat.	Uncoded
Yeah, yeah. Q11.	Uncoded
It'd be hard for me to say that. Yeah, yeah. Because like, I mean the limitation is the. That resources are limited.	Human Actors; Stability / Fragility
Yeah.	Uncoded
For planning generally. And yeah, I mean I'm not aware.	Uncoded
Yeah.	Uncoded
And I can't say I'm aware of a situation where a large, large corporations have kind of somehow withheld data or had tools that they should have made more freely available. Most of the circumstances I'm aware of, like corporations are selling tools at a high price or selling data price, but they've done a lot of work to create those tools or data.	Human Actors; Non-Human Actors
Yeah. And.	Uncoded

Yeah, I like, I'd like to be more anti corporate but I probably can't in fairness.	Uncoded
Like. Yeah, yeah.	Uncoded
It'S just.	Human Actors
Yeah, yeah.	Uncoded
Like that is a lot of it is just like, like in my experience, a lot of it is stemming from the culture within planning or design being more low tech in Australia. Yeah, yeah, that's. And it. And the actual cost is not necessarily the biggest factor. Like some of these tools, like the one that we did the training for last week, Giraffe, the subscription to that is something like a hundred dollars a month.	Human Actors; Non-Human Actors
Yeah.	Uncoded
The actual cost is not a huge barrier considering the other things that we spent to spend. Spend money on. So yeah, like it's, it's more, it's as much the culture within organizations or within planning and design that is a limitation rather than it being like.	Human Actors; Stability / Fragility
Yeah.	Uncoded
A cost barrier necessarily. Yes.	Uncoded
Yeah, yeah.	Uncoded
It's like lack of understanding, lack of. And that's where like, you know, as you guys come through the next generation of kind of planners and designers that are kind of have Experiences like in urban coding and things like that, where you have more skills and awareness of these technologies and then that makes it much easier for like someone like me to do my job because, like, the audience is already receptive to the	Human Actors

idea of this, of the technology. Yeah, but yeah, there's obviously other, other kind of. Yeah, some, obviously some people still who don't have that same kind of openness.

I think it's.

Human Actors

Yeah.

Uncoded

I think they should, but it's not as much. It's not so much about the tool. It's like, like a, it's like more of a. I'm going to use a big word, epistemological question.

Human Actors; Non-Human Actors

Yeah, yeah.

Uncoded

Around how sciency or technical your approach to planning and design is. I think what underlies it at the tertiary level. So. Yeah, like it's not.

Human Actors

Yeah.

Uncoded

Whether the tool, whatever the tool is, it's more about. Some people will be more willing to engage in, in a technical, almost science like way. Other people, very reluctant and. Yeah. You would have done some readings about this in urban design theory. Yeah, we did, Alex, debating with some, some other urban designers. So it's like a real, it's a real kind of philosophical issue and I think that's partly what drives it.

Human Actors; Non-Human Actors;  
Interaction / Relations

Yeah.

Uncoded

So, like, in the more, in the more planning context, traditional planners, their way.

Human Actors

Yeah.

Uncoded

Are more very comfortable with thinking about things like lawyers and in terms of policy and words.

Human Actors



Yeah.	Uncoded
And less comfortable with a very spatial, very, you know, almost scientific way of, you know.	Human Actors
Yeah.	Uncoded
Yeah, like it is, it is very different and like urban design is. Urban design is a funny um. Yeah, it's its own kind of thing and it sits between kind of architecture and planning and.	Human Actors
Yeah, yeah.	Uncoded
And then, and then. Yeah, I think planning is very in the way it's taught at most of the unis and the way it's practiced has like a strong sense of. Its sense of what it is and so probably present sometimes as like less critic, less kind of less open to new ideas.	Human Actors
Yeah, yeah.	Uncoded
Yeah.	Uncoded
No, but maybe you can kind of have a conclusion in your research for the Victorian government to speed up the digital twin.	Human Actors
Have other respondents talked about that or.	Uncoded
Yeah.	Uncoded
Yeah.	Uncoded
Yeah, that sounds good. Yeah, I think it's a really interesting topic and. Yeah, it's something that. Yeah, I think there should be much more focus on.	Human Actors
Yeah.	Uncoded
And it's something I've kind of advocated for a bit within Urban Design Forum, which	Human Actors

I mean like our kind of urban designers organization and a bit.

Yeah.

Uncoded

Planners that peer and other organizations should be taking more interest in this space. Yeah, I think it's.

Human Actors

Yeah.

Uncoded

And so it's great that you're doing this research.

Human Actors

Thanks, Graham.

Uncoded

## 2. Participant #2 Urban Planning Specialist – Senior Associate - CS Town Planning

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Direct Quote (Subject)

ANT Code(s)

In economic development and in statutory planning.

Uncoded

So why economic development? When I was. I think it's in the, I think it's in the Local Government Act. A while back in Victoria.

Human Actors

They said local government shall do economic development. And so a lot of the municipalities went out and they hired planners to do their economic development, to take care of industrial areas, commercial areas, and then sort of take on whatever else they thought. So that's, that's why economic development and in that, in strategic planning and economic development. I've worked with a lot of people who have statistics and economic backgrounds who have looked,

Human Actors; Non-Human Actors;  
Material Inscriptions

who have been developing models to use as a basis for informing planning policy. And the model, like the companies that I worked with, they would take ABS data and repackage it up so that it was consistent with local government area boundaries. I've worked with the economists who are. I don't think they're around anymore, but they were developing these models to look at, you know, Richard Florida, he was like. So they, they were big into, into sort of what Richard Florida was talking about and looking at metropolitan areas and sources and how they function and what makes them successful or not. And then we were take, we were taking this modeling that they were using and looking at strategic planning policy that influenced strategic planning policy.

And then. So it's a combination of, it was a combination of taking that sort of economic data and a lot of it was like related to livability and looking at relationships, economic relationships, demographic relationships, and how sort of urban areas function and what makes makes them successful. And then taking that a step further and sort of also, you know, I've dabbled in like livability indexes. Like the Economist is as the big one of most livable cities in the world and. Yeah. And like, what are the components of that that you can apply to strategic planning and strategic planning policy? So that's how I sort of come to look at things.

And then on top of that, looking at GIS mapping.

Right. And. And how those relationships, and trying to integrate those relationships in the spatial planning.

Human Actors; Non-Human Actors;  
Interaction / Relations

Non-Human Actors; Material Inscriptions

Interaction / Relations

Well, one, one here was I.D. consulting.	Uncoded
The other, I can get the names. There's another guy who's, who's from Ballarat who works at a university there, who set up this datab. And I think they're still around. The other one was an economics firm that I don't think are around anymore. And I can get the names of them for you. But this was like 14 years ago when I was Here, But I know a couple of them, ID consulting has grown and they've changed, but they still have the same type of information. And the other models that we're using there. Yeah, they were, they were economics, right?	Human Actors; Non-Human Actors; Material Inscriptions
GIS was mainly relied upon internally within the organizations that I worked in.	Human Actors; Non-Human Actors
Very quantitative. Now, do you want me to talk about some of the challenges or how do you.	Human Actors; Stability / Fragility
Okay. We'll see. Q2.	Uncoded
Yeah, yeah, typical. Typical days. There's a lot of. So when you're looking at policy. So like here, like the state government, basically. So local governments and I work. I worked in the state government in a role where I did a similar thing looking at employment data predominantly, but in local government, when you talk about strategic planning, so you have the state government which. And local governments are a product of the state government and you know, through the Planning act, they dictate how planning is carried out by local governments. A lot of it is in this basis, understanding how, understanding the direction of state government policy, how that feeds in to local planning policy, and then taking the analysis and figuring out how you can relate the information that's	Human Actors; Non-Human Actors; Interaction / Relations; Material Inscriptions

available to strategic policy and the direction of that policy. So can you. It's a lot of it is about. Can you establish relationships between the two and allow the data to provide a source of consistent information that's going to inform the policy and also inform people and stakeholders and allow them to understand the data in a way that maybe that, that in the long run helps better questions to be asked about the future direction of land use and planning? Yeah, because without the data, a lot of discussions are very theoretical. Yeah, they're very emotionally based and they're not really based on. They're. They're very. Planning, when you have stakeholder engagement has a lot of terms that sound simple and people interpret those terms differently and however they want in order to apply it to the outcome that they want without understanding what's actually driving the understanding behind those terms and in a number of cases, how those terms can actually be taken and measured in an urban environment. So you have to bring in the data to establish that basis and to provide a better foundation of understanding what that term and what that term means and the long term outcome and relationship that you're trying to achieve.

Yeah, and that's where, you know, a lot of planning policy goes because people by the, when they get involved, you know, it's a, it's a, it's a sort of a complex system that's been created. And not that it's complex, it's the language that has you been used. You know, it's like any profession, they, they create their own terms that have. And some terms are common but they have different meanings and there's layers of things and Planning that you, you really have to know where to find things. And if you don't do it

Human Actors

every day, you just sort of go, okay, I don't understand what they're saying because the language they use is different and I don't understand where to find things.

So people come in with these expectations that. Oh yeah, like I've in, in some of the jobs I work in, statutory planning, I've seen people that have. Submit their own app and this hopefully this isn't going on top. Off topic, they submit their own applications because they think they're opening up a business and they think, oh, I just have to submit my application. But then they don't realize, well, okay, you need to submit an application, but you need to prepare a planning report that covers all of these things off.

Human Actors; Material Inscriptions

That are supposed to be covered. Need to submit a site plan that shows existing conditions and proposed conditions. And you need to put all of this stuff together. And in order to do that and put all that together, it costs a lot of money.

Human Actors; Interaction / Relations

But that sort of, it sort of relates to technology in a way. It does because the technology has the chance to improve the efficiency of decision making, but it's probably going to take a while to do and it's very difficult because the challenge with planning is there are subjective and objectives, measures and planning.

Human Actors; Stability / Fragility

And I don't know, you can't always pick all of those up. You're always going to need somebody to assess those at some level. But the technology has the potential to improve the assessment of them. Like a lot of technology that's available right now, like I, I'm gonna go off topic.

Uncoded

Okay. I like when GIS first came out. GIS is a great tool to use, but however you use it, and it's these economic models, it's everything, it all needs data to be input into it. You don't have a GIS system unless you have the data that's being put into it and it's being assessed, corrected, tested, you know, and then still over time, you still have to refine it. Yeah, every system that I've worked with is like that. When you work with, with data, the, the systems like the assessments that have been put together by the Economist, they're only as good as the information that's put in them. And it sounds like a cliché, but it's true. Because in planning two, it's like anything. If you go and you sit with somebody, let's say you sit with. If you sit with, with A minister or a counselor or something, and you've got this problem that you want to solve and you say, okay, we're gonna, we're gonna assess, we're gonna get some data to assess this. They'll say, okay, here's what we need, here's the data we need. And you go, okay, out of those 10 pieces of information, we can probably get four of them that will actually relate to that. And the rest we have to see what else is available that might provide us with an indication of the answers to these other six.

Human Actors; Non-Human Actors;  
Interaction / Relations; Stability / Fragility;  
Material Inscriptions

Because whatever you want is not always available.

Uncoded

GIS has come a long way because it's taken like 10, 15 years to actually map out all of the things underground, all the infrastructure, all of the land use. You know, get all of that right before you can actually start using the systems and be confident that they're going to be accurate for what we need to do.

Human Actors; Non-Human Actors;  
Material Inscriptions; Legitimacy Work

Yes. Q3.	Uncoded
<p>Yeah. So the economic modeling that we talked about before. Yeah, very useful. Because what that does is when you have, what the objective was, was to bring in the best data that's available at the time and be able to, you know, use, use that data to help answer questions in a way that you may not have otherwise been able to do. So. And it does help because it provides another level of. It, provided another level of evidence. The challenge with it was, and I've been in situations where we have data and people have hired other consultants to produce their own set of data to challenge what you've done, and then what happens is, because the assumptions are slightly different, the results are different, and then you end up having a fight over who's right or wrong.</p>	Human Actors; Non-Human Actors; Stability / Fragility
I, I think it's, it's part, part of it is because in, in the planning environment, some. You often have two sides.	Human Actors
That, that both want slightly different things.	Uncoded
And it becomes a bit of a, A bit of a fight.	Human Actors
<p>Between, you know, if you have a, if you're in. If you have a council assessing an application and that that's been submitted by the developer, the developer wants to get as much out of it as they can, and the council wants to get as much public benefit out of it as they can. And you know, in those cases, like here, if something goes to vcat, it's like, okay, it goes to VCAT now and whoever the panel member is is going to look at both that and they're going to base it on their opinion. Yeah, right. So it, in those cases it becomes a fight. In some cases, if you can, if you can provide one</p>	Human Actors; Non-Human Actors; Stability / Fragility; Material Inscriptions; Legitimacy Work



source of data that is you and, and get that is used by, like that, that is people would like. If you're in a council and you say, okay, we're doing this, we're spending all this money on this, this is going to be the information that we use to assess whatever we do and all these departments are going to use it. So you get a consistent application across the organization and you can sort of put that in place and say this is the definitive data set. That's what you sort of want, want to, want to try to achieve.

Because then that holds more weight when you're trying to get things done. And then if you can distribute that data and use it and get other people using it, then everybody's talking basically looking at the same source. And then you're asking instead of the data becoming the issue, it's the data is being used to ask better questions. I've had instances where that's happened and that's been very effective. So you want to get away from. Because data isn't the be all and the end all data. Like, like all the.

Everybody says data is one way of looking at something and it might provide you insights that other things that you're using don't. Right. So you know you, that that's how g. That's how GIS can be used. And if GIS is used, the thing, the powerful thing about GIS and about all of these things is once you put a map or numbers out there, they get to a point where that's what's accepted. Despite all of the flaws there might be in that data or that mapping, people start to accept it as okay, this is what it is. Which is another challenge of data. But you know, that's where it. You have to be, you have to present, you have to understand what are the strengths and weaknesses of that data, what are the limitations of it so that it again can help you make decisions, not make them for you, but

help you make decisions and get people to ask better questions. So there are times when I've experienced both and getting a single source of data that's used across an organization or a specific project is Sort of the best thing you can do, but you have to be able to back that up.

Okay. Open source software, yes. Okay. I've used some of it before.

Human Actors; Non-Human Actors

The Gray Limited. What I've, I've dabbled in some of it. The challenge I've had is that it's not. I, I haven't found it as easy to use and I haven't found it. I basically found like when they update it and everything, it's not. The software just doesn't work all the time.

Human Actors; Non-Human Actors;  
Stability / Fragility

And therefore it sort of creates this impression. Well, you know, okay, who's developed this? Is it really doing what I need it to do? Can I rely on.

Human Actors

And if I'm going to carry through on this project, can I keep using it or is it going to. There's. Is it going to come to a point where, you know it's just going to fail? That's my experience with that. So I've tended to rely on using software companies that are established that you have to pay for because they're more, they're more reliable, they're more, they're used by a lot more people. That's why the big organizations, they put a lot of money into updating things and into improvements.

Human Actors; Non-Human Actors;  
Legitimacy Work

That the open source that I've used just doesn't seem to have. Because they're relying on, you know, to fix it. And they fix it based on what their requirements are.

Human Actors

Yes.

Uncoded

Yeah.

Uncoded

That's definitely a challenge. There's probably also a lot of data that could be made available, but that may not be because people in the organization have to agree that it's like you might. You might have a department in a council that does research. Right. And they. They may have people from transportation or community service nervously sitting on. On panel looking at it because they want to use this data. Somebody might say, well, no, I don't agree with this. I don't agree that this has been done properly because we have information that's sort of contrary to this. So we don't agree that this is correct and we don't agree that it should be released.

Human Actors; Non-Human Actors;  
Stability / Fragility; Material Inscriptions

So there could be a lot of. Yes. So the challenges are, when you look at that, you have to look at local government systems and how they've been established, which they can't put a lot of money into. A lot of them are. A lot of the systems are probably not as up to date as they should be.

Human Actors; Stability / Fragility

Yes, they've been developing, developed under. Under some. Some of the. Some of the software programs in councils that even when I was here before, you know, they use ancient software. Some of them get for work that they do have, would have had, like, proprietary software developed by a specific company to do a job that they wanted to do and that it was great at the time, but maybe that company isn't around anymore and they can't update the software and transferring it to a new type of software is either. It may be unaffordable or unattainable because the codes don't talk to each other. So there's. I mean, it comes down to how this information has evolved in council. Council's ability to make it available to public and the systems that they're using. Because I can guarantee a lot

Human Actors; Non-Human Actors;  
Stability / Fragility; Material Inscriptions

of councils will use different systems, there won't be consistency, which is part of the problem.

These are not. No. Okay. Yeah, there were, like, when I was working, like, I worked. I've worked in. In a few councils and, you know, their finance systems were different, their IT systems were different, and that's sort of the core to it, because when you're looking at developing a database or even a website or something in the past, it was. It was pretty difficult to do because it came down to the capabilities of the staff internally, whether or not they could do it, you know, and Things are moving fast. So it's about the whether and I don't have any specific examples. Yeah, I just sort of know this by experience. It's a lot of times like when I worked at. And it's in Canada, I worked at a regional government and we were trying to standardize. They had open source data, we were trying to standardize the submission of statutory planning applications. We were trying to do a lot and like consolidate everything into one system and, and their, their, the IT resources and I'm sure it's the same here. Were so focused on maintaining the current systems that they had that they would have liked to do that, but in the end they didn't have the internal resources or budget.

Human Actors; Non-Human Actors;  
Material Inscriptions

To do it.

Human Actors

Because they were so focused on maintaining what they had to deliver their core business.

Uncoded

And I think that's what a big challenge is.

Stability / Fragility

Not now necessarily because over time I actually haven't found, you know, no part of it is because as you change organizations, it goes sort of to what we're

Human Actors; Non-Human Actors;  
Stability / Fragility; Material Inscriptions

talking about. Every organization has different types of software and that's a challenge because each organization you go into, you can't keep learning different software. Like some of it's similar, but it's different and taking the time to learn it. I mean in private sector you can't take the time to keep learning new software. In the government sector, if you're staying in one organization for one time. Yes. But if you're not, it's difficult to keep up with all that's going on. That's why you rely on other people doing it for you. Because too you also have to focus on the policy. And like with planning, it's evolved so much over time and it's developed layers for a reason, like land use planning. Like if you look at all the layers that it's developed, like first of all, it has all the streets, it has an economic stream, has a pure land use stream, it has a social stream, it has an environmental stream, all of these things in planning policy, you know, it's got transportation, it's got, you know, all of these things have been, all of these layers have been added to planning as it's being evolved and they're all of these, these additional policy sets that become, that are deeper and that you have to start understanding and adding the technology onto that is, is an almost like a separate scheme. Right, right. Because if you want it like if you take a typical, if you take a typical planner, statutory planner here in local government, they, they have of the, the planning act and they have the planning scheme that they base their knowledge on. Yeah, there's aspects of like planning and Environment act. There's, there, there are so many levels in that and the Paul and the state government had, you know, policy changes. So you have to keep up with that and you have to understand how all of that applies to the assessment of

the application that's being submitted. So you have to look at environmental factors, you know, you have to look at transportation and all these are referral, some of them are referral authorities that you have. But you have to understand all of those components. Right. So the technology is like another part of that that can really help you, but you have to understand how to use it in order to apply it effectively and make sure you're using it in the right way.

Yes, definitely. Yeah, definitely. And that's because when you, when you look at it like strategic planning and statutory planning, you should understand. You should understand both and have experience in both, but not everybody does. You know, when you're in a consulting firm or in a local government, if you're in a consulting firm and preparing a statutory planning application, you just have to cover things like you have to go through it manually, look at the plans. You have to work with the architect and with the owner to make sure the plans that you're putting together are consistent with the policy and the objectives of that policy. And when you're in a local government and assessing, you do the same thing, but except they have a system. There are systems in local government that they use to input all this information and sort of spit out all the forms. So you're focused on using that, you know, the people Planners rely on GIS systems and the state government has, you know, has a great system in place where you go in and you put the address in and it spits all of the planning policy out. Like all of the, all of the, all of the planning policies that relate to that specific property that are in the planning school. Right. And they have a list of it. Planners rely on the GIS based mapping, that type of system and other

Human Actors; Non-Human Actors;  
Interaction / Relations; Material  
Inscriptions

mapping systems that are available. Like there's one called Land Data that are available that all do that all pull this information together that help them. And I think right now, so they rely on people to put the GIS maps together, not them. They just say there it is. I assume it's correct. I'm going to rely on that.

People I know are dabbling in AI right now to look at assessing, to both look at design and assessing applications. But right now there's not enough information, quality information that's being put in there to give you accurate results. So people are sort of, I think a lot of people that work in the area are saying okay well let's wait until something more comes along. Like if you look to, at Google Maps that's come a long way. That's sort of used as a tool for 3D for looking at buildings in 3D and, and potential what proposed developments might look like. That's just a very cursory way of getting people that aren't involved in playing to see what that building might look like if it was approved to see how it affects because not everybody is that visual.

Yeah.

So yeah, and that's, that's perfectly fine. Yeah of course it's just based on the, the information that goes into it and like I think okay, if, if and this sort of. I don't know if we're going in the right direction. It's okay.

So if you look at, at, at the future. Okay, so gis, it's all been based on the information that goes in really established right now. I think IA AI is like that and if you think about the process for developing how. How I'm not so certain you can. How AI would a system developing policy other than. Well

Human Actors; Non-Human Actors;  
Material Inscriptions; Legitimacy Work

Uncoded

Human Actors; Material Inscriptions

Human Actors; Non-Human Actors;  
Material Inscriptions

could because you could amalgamate like in, in an AI system. What you would have to do is you would have to input policies from. Let's say you input all of these policies from 50 cities all around the world. Right. The best of blending policy and you put them into AI then you could ask questions and they would spit it out, right?

But it wouldn't always be correct. It would again give you an understanding of maybe where you should think about heading unless you started, you know, I know like in transportation things here like you could like for roads and things that are more numerical, probably a lot easier. Planning policy could be a bit challenging, but you'd always need somebody to, to analyze whether this is appropriate for this area or not when you start getting into statutory planning. Okay. Now with the recent clause 55 changes which are. Okay, they're more numerical based, right. Either you meet them or you don't. You don't have to meet them, but if you don't meet them, it's like back to the org. Okay, well let's assess this and see if it's appropriate. See if we give you permit. But for the dean to comply requirements, you could easily put those into software and say okay, design me three townhouses on this site that meet these requirements and I'm sure that you could spit out a box design that would meet the requirements right. Now that doesn't say people don't do that now because there are architects and drafts people that can easily do that. Right. This would just make it faster.

Human Actors; Non-Human Actors

Then hopefully what you. And that's, that's sort of making the process more efficient. To me that's more like, okay, here's the parameters of what you need on this site. Now provide some finesse to this. Right.

Human Actors



And some design around it and improve it so that it meets the requirements. But it's aesthetically much more appropriate and a lot nicer than just bottom.

All of.

Uncoded

Like I, I, I, I really see it just as how you use the software.

Human Actors; Non-Human Actors

Because and what you, what you mentioned before reminds me like I had this conversation with a friend of mine who's in it and what had happened was like fifth, probably, probably 15, 20 years ago when people were starting to say when we, we want to have, we want to accept planning applications electronically.

Human Actors; Material Inscriptions; Legitimacy Work

Okay. But the problem, the challenge was you had the application form which was standard, which could be PDF or whatever, but then you had these plans.

Stability / Fragility; Material Inscriptions

That were being prepared and at the time there wasn't consistent, there wasn't software that could handle the various forms and styles of, of plans that were being prepared and the councils didn't have the bandwidth or software internally to accept them. So it took a long time for that to happen. Now you can accept applications electronically. Would that have happened if it was just open source software?

Human Actors; Non-Human Actors; Material Inscriptions; Legitimacy Work

Probably not.

Uncoded

Okay.

Uncoded

So now we're in a similar position with AI.

Human Actors

Okay. We're saying, okay, there's the potential to do this. It's going to require, I, I think and there's a couple of things I can talk about. It's going to require a lot of

Human Actors; Material Inscriptions; Legitimacy Work

information to be put in before it becomes reliable. Is, are people doing this on the side of their desk in open source?

This when and to achieve the objectives that could be delivered in planning?

Human Actors; Non-Human Actors;  
Material Inscriptions

Probably not. So it comes down to, and this is a discussion I had with a friend of mine in IT about, probably about eight or nine years ago and he worked in IT preparing systems for hospitals. Right. And I, at the time, I said to him, okay, here's a system that we need to have input for planning. Right. It does all of this. It's like a combination of GIS policy. Like, the idea is you can go in and click on a property on a map. It'll pull up all of the details of it, all the policy requirements. You can submit applications. I said, why can't, why can't I find anybody? Why can't I find a system that does this right now? And he says, because the market isn't big enough. He says, you look at the money that's spent in gaming, you look at the money that's spent on developing software for hospitals. Compare that to the money that's in it and planning. He goes, I don't even. He goes, if you didn't talk to me about this, I didn't. I wouldn't have even known it was a thing.

So again, you have to look at where does planning sit in the bigger scheme of things? And this is where it becomes interesting, because in Victoria, you know, a lot of people would say the property sector is a major part of the economy, but is it major enough to get the investment in this technology to make it more efficient, or is it in the bigger scheme of things, too small? And, you know, people can say, okay, you know what we'll spend if we're putting, like, do you know how much it costs if you

Human Actors

want to, if you want to. If you, if you're a property owner.

And you're, you're just, you're just, you grim. And you have a property out in the suburbs.

Uncoded

That has a single detached house on it, and you want to make a bit of money and you want to put three townhouses on it.

Human Actors

How much do you think it would cost up to a building permit stage to get that done?

Human Actors

It would be more than a hundred thousand dollars. Okay.

Human Actors

So is it, is it. Is the industry big enough and worth it enough to have the investment at the level that's going to make it more efficient?

Human Actors

Or is the property industry going to say, no, you know what, we'll eat that hundred or two hundred thousand dollars just to get the process done and add that onto the top of the price of the unit instead of investing this much now in this technology that's going to make it way more efficient and in the end might cut that application process down to \$25,000. But how long is it going to take us to get there? And that's, to me, the really big challenge with planning is does the Market value, these investments in efficiency big enough to make it happen or not.

Human Actors; Stability / Fragility;  
Material Inscriptions

I don't think, I'm not convinced that governments would effectively do it in the long term because they have other challenges. You know, in the end, I think it's the, it's a combination. Governments can't do it at all. There might be seed funding that they can provide, but they're not the experts. If you know, I think you need. And

Human Actors; Interaction / Relations;  
Translation / Enrolment; Stability /  
Fragility; Material Inscriptions

when you look at it, planning, the objective of planning is to facilitate development and you want to, when you work in the public sector, you want to achieve objectives that are in the public benefit. Like you, what you talked about before at that meeting you attended when somebody came up and said, oh, but we need more parts, we need. That's what you want to try, you want to achieve. Like, and as much as it's a stereotype, Covid taught us this, that you need parks, you need like what you should be more, what the public sector should be more interested in is quality social open spaces and accessibility. If you get that right on the ground, you've covered off a lot of the challenges, right? Like height. Yeah, it's an issue in some areas, but if you get it right on the ground, at the ground level and like the first three stories and create quality public spaces, you've done your job. The rest of it is about helping you make those decisions. And a lot of it is, is driven. Like a lot of the planning industry is in Australia, in US and Canada. It's private sector there isn't enough. It's, it's not the building industry even the housing industry is not a social system in these countries. And they're, you know, you can see that when, when they talk about affordable housing. Affordable housing is the issue now and they're trying to solve it because they don't have a social housing support system in place. And housing is a private sector responsibility. And so government can't solve it because they don't have anything in place to do it. So it's the same with this. I think it's an efficiency that would benefit the private sector more. It does have an impact on the public sector because if you can make decisions faster, you know, then that's a better outcome for the public sector, but it's also a better

outcome for the private sector because ultimately it's the private sector that saves money because they're not paying all of those fees that are timed and expense on preparing applications. And then when they go in and they're assessed, an application can take a year to get assessed. That's a developer sitting on property after they paid 100 or \$200,000 on putting the application. It's the property investor sitting on that, paying interest on that land until they figure out how the application, until they figure out the results of the application. So it's really in the system that we're working in the interest of the landowners to have a better, more efficient system in place. And why hasn't it been done? Because the government isn't going to do it. Because they don't. They probably don't feel it's their responsibility. They can make things. They're a government. What's a government's focus is putting information together that's going to help their objectives and attracting investment. Building more houses, having more income generated from the tax revenue that they benefit from as a result of that, you may think directly relates to it, but they don't think of it that way. You know, they get caught up in more of the politics of things, how things look. You know, if we're not processing things fast enough, let's just bring in more people. There's not enough money investors in the technology behind it. I think some governments out of New South Wales is doing it today. I think it's happening, but not at a fast rate because it's not. It's nice to see and it's great political messaging, but, you know, it'll happen eventually, but it's not. I don't believe it's the government that really is going to drive it like it should be. I don't know if that makes sense.

It's a lot to think about.	Human Actors
Done because I'm gas banging.	Uncoded
Do you think that.	Uncoded
It's possible. There has to be a really strong political will to do it.	Human Actors
Because if they mandate it, and this is the thing again, like, you have to look at the expense that it generates to get there. Like, if you mandate, if you mandate something, you're gonna, you're gonna force people to do it. But if you look at planning right now. Yeah, okay. And you take a business that like is opening up on any street, right? And they say, okay, I'm opening up my business. They probably, when they're opening up their business, they probably don't even know they need a plan.	Human Actors
Okay. And then they, they start. They get like one month before they sign the lease for the business, one month before the business opens. This is different than big developers, by the way. This is how the plant felt manually. All of a sudden, they need a permit, put a sign up. They need a planning permit. And I worked with a woman who was opening up. It was in the bottom of an apartment building, so it was designed to have businesses on the bottom. She needed a sign. She didn't know that she was going to need a planning permit. She needed to submit a planning permit.	Human Actors
Initial price, \$5,000. Okay. With that, you need site planning. Okay. You're going to pay a draftsman two or \$3,000 to do that. What did she need a planning permit for? You need a planning permit for assignment. They were making her do an acoustic report because it was a Pilates studio that was having people coming in and	Human Actors; Non-Human Actors; Stability / Fragility; Material Inscriptions

out. And you go, but it's a commercial business. People know that. Liven B know that commercial business, why would you use them? How much is it? How much is that study? 4,000, 3,000, \$4,000. So the minute you mandate something, there's cost implications that you're adding on to things that, and this is the big challenge with housing is, yeah, housing is getting more expensive, but when you just look at the plan, the planning application side of it compared to the overall cost of development is pretty minuscule. But when you have an application that you have to pay \$200,000 just to get started, if you mandate something else, what additional cost is that adding? And for something like as sophisticated as a software system, how long is that going to take and how much money is that going to take to implement before you can actually rely on it? Which is the point I raised before. How big and valuable is the property industry compared to others to allow this to happen at a certain speed?

Like you, you look at the gaming industry, look how fast.      Uncoded

Why? Because there's billions of dollars in the gaming industry. So they hire all the programmers.      Uncoded

That. And, and when I talk to my friend United, that's what he was saying. He was saying, how big is the plan? What's the value of the planning industry compared to all these other things? So if all of these other companies are drawing these IT people to work for them and they're generating millions and billions of dollars, how do you put a value on the planning property sector that's going to allow this to happen at the rate that you want it to      Human Actors; Non-Human Actors; Translation / Enrolment; Material Inscriptions

happen, to get the level of confidence in a system that you have to rely on to do this. That's in the end what it comes down to. People can dabble in open source software that probably was initially prepared for planning purposes but has been adapted. Everything is adapted. And that's the experience I was getting in the information that I was using. I had to adapt it because it didn't quite fit. But you had to figure out how you could make it fit. And you had to convince the people that were developing it that it was worth their while to spend the time and money to help you to get.

And it's the same with these systems that we're using.	Human Actors
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Thank you.	Uncoded
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You know what, you should look at somebody you should try to talk to.	Uncoded
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### 3. Participant #3 Master's Student - Melbourne University

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Direct Quote (Subject)	ANT Code(s)
Yes, you do. Q1.	Uncoded
Well, I'm a student at the moment. I started mid 2024 at Melbourne Uni doing Master of Urban Planning.	Human Actors
I don't have any work experience at the moment. That's okay. Hopefully soon.	Uncoded
Well, yeah, I'm a student within Melbourne University. I'm hoping to graduate end of middle 2026. At that time I'm planning to move actually down in Geelong and work in	Human Actors



some regional planning and then possibly at some point maybe do a JD or something. Do a what? Jd, jd, Juris Doctor.

Which is law.

Uncoded

Okay. It's because I think it's an actual very impactful school to work in because you actually do shape the world and it kind of clicks with my brain. Well it, yeah, it doesn't require too much specific, like specificity. Instead it's more of a generalist thing. You just need to generally know a lot and then you can, because of your generality, you can be very good at it. Q2.

Uncoded

It looks like it's very on or very off in semester, because out of semester I don't do very much, but in semester it's. I usually wake up quite early, study.

Uncoded

That we are still recording. Yeah, I think so, yeah.

Uncoded

So, yeah, wake up early, study for a few hours, then usually attend some sort of class and then usually break in the afternoon.

Uncoded

Okay.

Uncoded

I find it very hard to remember things if I don't write them down. So I'm an avid user of calendars and time blocking and a million reminders, notifications to remember to do things. Then when I'm actually doing uni work, when I do any readings, I use Zotero, which is open source. Yep, yep, Fantastic piece of software. I also use Obsidian sometimes.

Non-Human Actors

Which is also very good. But I usually write most of my actual assignments on Word or something like that. But I'm currently doing a GIS subject, so I'm using ArcGIS. I know

Non-Human Actors

there's QGIS out there, but the actual subject uses ArcGIS. Q3.

Yeah, I was having a lot of trouble last semester, so semester two, 2024, in keeping all my notes together properly and like, I mean, as in, like my readings and making sure I know I've read them and being able to come back to them. So, semester one, 2025, I found Zotero, which was like, oh, great, I can just download everything to this. It's always there. I can view it from multiple devices if I want to, and I can. And I was having trouble also finding some, like, other readings. Related.

Non-Human Actors

To a specific subject. And so I found a plugin for Zotero, which kind of used tags to find me other related readings within that without me having to go out and scour myself.

Non-Human Actors

Just word of mouth. I just had a friend who I saw was using it in class one day I was like, wow, that looks great. Downloaded it five minutes later and then we're set up.

Non-Human Actors; Translation / Enrolment

I think I would have because I was using like Zbib.

Uncoded

Like, which is their like online website. You can put in a DOI or a name and you can get it referenced. I just never actually bothered to download their full software.

Non-Human Actors

Just because I didn't feel the need for it at that time. So I probably would have come across it. Also I'm a bit, a little biased as I really do like free things and OpenSkill software is free.

Non-Human Actors

As a student I don't have the most money, so.

Human Actors

If it's full software and it works great and it's free, great, all the better. Yeah.

Non-Human Actors

I'm kind of in the middle. It's like, okay, if it's open source, that's great. It's bonus. But also if it works, that's great. But the thing is is I really do like customizing all my software and making it work specifically for me. And open source allows me all these open source programs have millions of plugins so I can make it exactly how I want it. Where proprietary software doesn't usually have that.

Non-Human Actors

You. Q4.

Uncoded

Well, before I came in to do planning, I. I worked in like music industry.

Uncoded

And because I worked in the music industry, obviously on the side, I did a lot of music as a hobby.

Uncoded

So I used. But then as well as that, I did graphic design for a lot of stuff like that and I had Friends I'd make some album art or do photography for. So I did quite a bit of graphic design, got a big photography which meant I used a lot of like Photoshop, Illustrator.

Uncoded

I ended up purchasing affinity's like bundle purely because it was a one time purchase and it was good enough.

Non-Human Actors

Because I refused to pay Adobe. Adobe.

Uncoded

And I didn't want to pirate it. It's a pain in the ass.

Stability / Fragility

But so yeah, so I had that and then like I come into some of these classes where it's more of a urban design element to it where you do have to do some design. So I'm like wow. I have the. All these skills I can bring

Uncoded

across already but it's like I'm using them very differently.

But also it does give me a very big leg up in that aspect.      Uncoded

Versus software. Like it's less important the software top. But like, like things like Word. Like my writing is something I've been really trying to improve on comparatively.      Non-Human Actors

Compared to a lot of people that would have come from like a much more like political science or.      Uncoded

Harder bachelors, right?      Uncoded

Yeah. Because yeah.      Uncoded

That's okay. That's good.      Uncoded

Yes. Let's go for round three.      Uncoded

Yeah, I wish you luck.      Uncoded

But I can do some graphics and stuff. I'll make that easier. So I can just focus on the writing and stuff.      Uncoded

Don't have to focus on trying to get better at that. Q5.      Uncoded

At my disposal sometimes, yes. But then I'm very quick to find more tools to make that work. I'm very willing to try new software.      Non-Human Actors

But that might just be because I have a very techy background, very willing to try new software and try new things and I'm very fast to learn software.      Non-Human Actors

But in terms of limited. Yeah. Like ArcGIS definitely. It's a bit of a. Bit of a beast.      Non-Human Actors; Stability / Fragility

Like I know exactly what I want to do, I know how to do it but sometimes it itself is just trying to stop me the whole time.	Uncoded
Same with saying even like word. Sometimes like I want to put a photo there, but it's just like not doing exactly how I want it to.	Non-Human Actors
It almost makes me want to go to latex, but I can't bring myself to learn latex.	Uncoded
Okay, Migrate to a new software.	Non-Human Actors
I wanted to make a bunch of. This is before I learned gis. I could have done it with gis, but at the time I was using affinity and getting screenshots from Vic Plan.	Non-Human Actors
And creating mosaics onto of those into affinity using different overlay layers. And I was very let down by like all these like base maps that it has by default underneath it.	Non-Human Actors; Material Inscriptions
And so I couldn't figure out a way to do that properly. So I ended up having to like would just completely let me down. I ended up screenshotting then having to like trace it and then like screen bring it back into the software again.	Non-Human Actors
But like if I had GIS or something, I could have easily just like removed that layer.	Uncoded
I ended up grabbing. Finding a version of the map that had a layer on it that I could turn on button and still viewed it that was not in my area. So it just was the base map. And then I could create. Then I could invert that and then has a. I used an invert of the. Yeah, an invert of the layer so that it canceled each other out.	Material Inscriptions
So you did overlay.	Uncoded
But it was a real pain in the ass.	Stability / Fragility

Lot longer than just turning off a layer in gis. Yes, Just going.	Uncoded
Yeah.	Uncoded
And I like, I download spawn mode. It's just like, it's all the overlays, all the zones. It's two separate files. So you drag it in, just select which overlays, which ones you want. So you can just play around like it's big plan within gis. It's very useful. It is useful.	Material Inscriptions
Purely because I have previous experience using Blender. During COVID I was quite bored and I quite thought that would be fun to learn. So I made a bunch of 3D renders with blender and then I came to this assignment and it was like, oh, you need to create these diagrams of like sight lines and whose sight lines overlap who's okay. Like who can see who? And so I just was like, oh, the best way to do this is like when you have different colors of light, they multiply and like you can see what overlaps. So I just went into Blender, created like some buildings and then some people and then I just created light sources that were like a cone.	Non-Human Actors; Material Inscriptions
And then I made them like red, blue, green. And then like you can see which ones overlap each other and if someone's within the cone, white, like you know, they can see each other.	Uncoded
I think it's really easy to learn for what you get out of it. Yeah, it's really easy to learn compared to any other software like that. It's so easy.	Non-Human Actors
And because the community is so large, there's like a million tutorials on every little thing. If you want to tutorial on something but you don't like it, that tutorial	Uncoded

and it's not explaining it, you can change that by going to someone else who does the exact same thing but explains.

It's kind of a bonus. Like it is so popular. Like not all open source software has such a big community.

Non-Human Actors

So it can be a bit of a hassle sometimes to like figure it out. Like when I used Affinity, there's so many less tutorials on affinity compared to Photoshop. Yeah, sorry, I did forget it was not open source.

Non-Human Actors

But like. Yeah, but for example, it is just less popular software compared to Photoshop. Yeah. So there's less tutorials to do it. Right. Thankfully, most Photoshop tutorials will kind of work if you are smart enough to be able to translate between them and just follow Photoshop tutorial into affinity. But that is purely because I have a lot of experience in it and know how to do that.

Non-Human Actors

Well, you're not a customer, are you? Like you, like you didn't pay for anything.

Uncoded

They don't, they don't really owe you anything.

Uncoded

That one's gone bit windy. What I could do actually, I can just put my phone there. Q7.

Uncoded

I was actually using Obsidian and I was being a real the ass because it is purely markdown text, which is a certain type of format for text editing, which is fantastic because markdown is universal and can be used on anything and doesn't use any special characters. It's all in plain text, not rich text, which can be a bit of a pain to switch over between things. But because, because of that, unless I installed a really weird plugin, I couldn't just grab all the text from my page and paste it into Word

Non-Human Actors; Stability / Fragility

without it just looking like an absolute mess. Having to get rid of all these asterisks for any bolding or anything like that to make it presentable. So it was just such a pain. And still if I want to use it on my iPad, that plugins not compatible with iPad, it's only compatible with the PC version and Mac version. So you can't just grab text from it on iPad. So I've been using it less because I can't do that anymore because I've been using my iPad more because it works great. It's like a second just purely like text editor machine.

If it was perfect, I could just control a, Control C, Control V into Word perfect paste and that does work like that when you have the plugin, but it's a niche plugin that really should just be a core plugin. It should just be there. It doesn't even have to be turned on by default, it should just be included by default. Because it's just so important to be able to get your content out without having to like export it to a PDF and then copy the text from the PDF and paste it into Word and then set all the titles as bold. It's really annoying. Q8.

Non-Human Actors

If I had to buy all the software myself, if it was a one time purchase, I would buy most software that I currently use. Like if ArcGIS was a one time purchase, even if it was like a thousand dollars.

Non-Human Actors

Or plus like two grand, three grand, I would pay that.

Uncoded

Like previously in my own free time I used what's it called, Live, which is like a music production software.

Non-Human Actors

It costs thousands of dollars. I think it was about \$2,000 to buy like the Sweet Edition which is like the maximum version with everything. And I did pay that at one point

Uncoded



in time because it's a one time purchase and it's fantastic. It's like how Photoshop used to be. You could buy it, you could buy the new version when it came out but like it would work forever. It's fine.

And I did buy that and it was great. If there was something similar for ArcGIS, I would definitely think about it, especially if I was using it common often. But for everything else like Word and stuff, I would sadly buy it simply because of like Microsoft Drive Cloud. Saving the cloud save like. But if I found some workaround like with my own cloud server with like LibreOffice.

Non-Human Actors; Interaction / Relations

I would probably use that.

Uncoded

But like, yeah, it really. I just haven't chalked up the cost of it at the moment because I haven't had to think. Exactly.

Uncoded

Actually, no, I probably wouldn't use LibreOffice actually. I'd probably just use Google.

Non-Human Actors

Google Docs. Yeah, because I've used that in the past and it's already linked because I pay too much money for Google Drive already.

Non-Human Actors

Like I. Because I used to do photography and I have some clients who have their photos up there. I pay for about 2 terabytes a year of Google Drive. So I have a lot of space on Google Drive that I'm not worried about.

Non-Human Actors

So it's like I'd probably just use that because I automatically back up to that anyway. Or even Apple stuff. Just. It's simply because it's every. It's on every dock, on every device I have because I used to be very Windows, some Linux person. But I've since. Actually since coming to uni,

Uncoded

I've transitioned fully. I'm Apple everything.

Except for my watch. Uncoded

But that's just because it's a Garmin. Uncoded

That's a different topic. Uncoded

But you know, Apple Watch is just. Their GPS is not good enough and their battery life is not good enough. If their GPS was better and their battery life got to a reasonable amount of time, I would buy Apple Watch because it sinks in with everything. But I get like a week and a half out of this thing per charge. Uncoded

And its GPS is perfect and it never drops nothing. Yeah, it is the perfect sport watch. Lovely. But also it cost me like \$800. Uncoded

I love just knowing it'll always work. I'm a bit of a data hoarder. I have too many hard drives and SSDs and Google Drives. I never want to not be able to open something. Non-Human Actors

So I really do like open source for that fact. Because I can go. You'll always be there. I can always. Oh, this is a bit much. But I, I do have like for a lot. For all the open software source Software I have, I usually have a backup of the installation file. Non-Human Actors; Material Inscriptions

So I can. I could install it if it did go down or something like some. If it was like some piece of software, if they might get copyrighted or something from some big company. Non-Human Actors

I still have the installation files, so I am fine, at least for a while. Like I could still reinstall it and make it work without having to, which is good if their website went down. Material Inscriptions

Yeah, yeah, yeah, you told me about this.	Uncoded
Yeah. So like I like to have that like installs of this software.	Non-Human Actors
By default. Because it's like. Oh yeah. If it is depreciated and it goes down like. Yeah, I'm going to start looking for another piece of software, but I still have it in the meantime while I'm doing that, like for example, like if Zotero blew up one day.	Non-Human Actors
I still have all my documents downloaded and I could like migrate all that. Like my Zotero is offline because I don't use their cloud backup because that's expensive.	Non-Human Actors
But so it's like I could just like download my Zotero output and I'm sure someone on GitHub will, if that thing goes down, someone will create a converter.	Non-Human Actors; Material Inscriptions
To like plain text or something. So that. Well, I'm pretty sure Zotero can actually just output your entire library as plain text itself. But like, you know what I mean, like into another piece of software.	Non-Human Actors; Material Inscriptions
So it's like I'm not really tied to any of these pieces of software specifically. I just really like them when they work well.	Non-Human Actors
Right.	Uncoded
Definitely I'm super biased because when I worked in the music industry I worked as an audio and lighting tech the entire job. Not the entire job. A large portion of this job is dealing with esoteric software and esoteric issues and cable routing and it's just big problem solving. And I have a strange liking in my free time of just learning pieces of software because I find that enjoyable. Like over the summer, last summer I kind of used Excel previously vaguely. But like I was like, oh, I'll just take	Non-Human Actors; Stability / Fragility

this like 8 hour YouTube video course on Excel and learn Excel like properly and know all the functions and, and now I do and it's great. So it's much better. But I realize like my girlfriend for example, she does not like learning new software. Nothing. It's like I am her tech support.

But. So you can't expect everyone to be their own tech support because not everyone is interested in that.      Uncoded

So yeah, it's, I forgot what the question was. To be honest. I don't know where I was going with this.      Uncoded

It's a lot of effort. Like, exactly. If I'm like, if I'm stressed out, I don't want to have to put in more effort when I'm not stressed out, I will then explore things. But I also find it incredibly satisfying to have a workflow that works perfectly. Yeah, I, it's, you know, it's kind of like bags. You can use a bag and it will work and be fine and be good. Yeah, cool. It works for you. And if you're stressed and busy, you won't look to change it or make it better. But it holds all your stuff so it works. But if you have heaps of free time, it's like, I could tinker with this. Oh no, it would be better if I had another water bottle holder. It would be better if it organized my stuff better. And so you have that bit of free time and then you can find that bag which is usually open source software because this bag allows you to have community made pockets and stuff that like da da da da da, makes it like perfect exactly what you want it for and you can be evolving over time. But like if you're stressed it's like, well, the other bag still holds your shit. So yeah, so like there's nothing wrong with it technically, so it's fine. So why would you explore the options? But like definitely as a student,      Human Actors; Non-Human Actors

like I definitely have more free time when I'm not doing an assignment stuff. Yeah, exactly, yeah.

So it's like, oh, I. But also like even with non open source software, I'm really that person that I like going through. When I get a new piece of software, I go through the settings and, and I explore every personalization setting. I turn it on, I turn it off, turn it on, turn it off for every setting so I get exactly.

Non-Human Actors

I like the panels the exact way because then it's like when I'm stressed and wiggling out and I need to do something, it'll be exactly how I like it. Always. Every time it's like, yeah, I don't know. Q9.

Uncoded

I think they're different things like open source. They are different things in terms of responses like open Source software, I'm like, usually gets the job done. The workflows are a bit weird. Sometimes it will do the job and there will be support out there to make it work, but it might require a few workarounds unless you have heaps of time to really, really learn it and become a master of it.

Non-Human Actors; Interaction / Relations

Open access data only positive associations. I think data should just be open access just because. Especially if it's made by a government or something. Definitely. Like yeah, unless it like, like infringes on like, like de. Anonymizes people to, to an extreme of an extent. Like I think it should be all open access. Like people can. Yeah, like it really benefits students. It really benefits just like, like people that are interested in, in a topic like if they want to launch their own campaign to change something in the world and there's closed off data that you need to pay thousand

Human Actors; Translation / Enrolment

dollars for. It's like they don't have this power to explain their case versus if it's open access data, they can just demonstrate the issue better and it's not as biased towards the defendant.

Has been sourced, subcontracted.

Uncoded

Well, I think we're pretty good most of the time in Australia without Delta, like I doing these projects. So I've been able to get everything I wanted. Almost like some like I was wanting to do these 10 minute. It's. Yeah. 10 minute city or whatever they call it. 10 minute neighborhood. That's it. 10 minute neighborhood. Like plans and like vision.

Uncoded

For Greater Bendigo. And it's like you see their maps and it's like great. There's some like they've like model these catchment areas and stuff. I'm like, oh yeah, that looks great. Fantastic. I'd love that data. It's not publicly available, which is a real pain. Like I'd love that was available. But they do tell you all the steps to do it. So is this data publicly available? No. But is this data publicly available? Yes. So it's. I'd, I'd say that's fine. It's so niche that it's like anyone doing it, that's fine. Like that's completely fine. If you were able, if you wanted that specific level of data anyway to bring into gis, you know how to do those steps. So that's fine. But there could definitely be a better way to distribute it. It's so fragmented, all this data. Sometimes the same data is on multiple different websites, which is like fine. But, but like why is some data only on some. If some data is on both.

Stability / Fragility; Material Inscriptions

If they, if someone would be able to just create some sort of software to scrape all these websites, create a single repository

Non-Human Actors

for all this Australian data, that'd be fantastic.

But of course. Oh no, like I want a website with like state level down and just like scrape every single like major data.

Uncoded

And just like, even if you don't like display it like because you don't have like the rights or something, because you might need to like log into like land data or something for like the actual like because to show you're a student or to show you're a professional, if you could at least create a scraped list of everything that is searchable by tags or something, that'd be very good.

Human Actors; Legitimacy Work

Just because like it is there but like it's sometimes not very accessible.

Uncoded

Yeah. Like it Goes back to my techie background. I'm really good at that type of thing. I know, like, what do they call it? Google Food or whatever it is when you're really good at searching for stuff on Google. I think I'm generally pretty good at that.

Non-Human Actors

But like, for some people, that must be a real pain in the butt, especially if like English is a second language or something. Like, I know it's like, oh, you want something on flooding. Oh, but it's not called flooding, it's called inundation. I feel like it's like if you didn't know that.

Stability / Fragility

Like, it's like, how do you. How do you expect it to fly? Find it.

Uncoded

Oh, yeah, definitely. Q9a.

Uncoded

Yeah. I definitely. Q10.

Uncoded

The built environment. Very much so. In, in terms of like design and stuff.

Uncoded

Heaps.

Uncoded

Like with ArcGIS, like it's. And things like Photoshop, they're like industry standards. So if they change anything, everyone follows.	Non-Human Actors; Material Inscriptions
But on other things, like most of it is done in like word, right?	Non-Human Actors
Like, which is if word went on to wow, that would be a cataclysmic event. But like everyone would just move to different text. It's just text processing. Like it's. It's just a particularly common software that's good.	Non-Human Actors
So I don't know for, for most planners and stuff, they'll be fine.	Human Actors
Because it's just, it's just writing stuff. Right. But in terms of like design designers and architects and stuff. Yeah. It's industry standard software. You use that software if you use anything else.	Non-Human Actors; Material Inscriptions
You might be really good at it. But that's not the issue. The issue is cross collaboration. You can't collaborate on someone. Like, let's say it's a project in Photoshop. You can't send them that project file if they use Affinity and vice versa. Like no one's going to accept your weird affinity file to work on. No one's going to learn that for you. You need to use the industry standard, which is Photoshop or Illustrator or CAD or like Autodesk CAD or no one's going to accept a Blender file. They want you to use CAD or gis. Okay. Yeah, quite a lot of people use qgis but like, yeah, if you're in a company that uses ArcGIS, they're not going to accept QGIS. They want you to use ArcGIS. Or vice versa.	Non-Human Actors; Interaction / Relations; Material Inscriptions; Legitimacy Work
So they, they definitely have a very. Yeah, like, yeah, they have. In shaping the tools. Yes, they're very powerful because if they make a change, everyone learns that	Non-Human Actors; Material Inscriptions



change and it is the change. And also if you're open source software and you want to try and compete with it, you need to make yourself as much like the industry standard as possible for people to even consider you.

So the fact that like QGIS is so different puts a lot of people off because it's like just so like restrictive. I was literally Googling the other day. It's like pre made layouts for QGIS that are like ArcGIS. I just want it to be laid out like ArcGIS and work like ArcGIS.

And you feel more professional if you use the industry standard. You feel like a professional. Like you feel like normal.

Yeah, it is more of a, it's more of an edge case. Yes.

And people love MacBooks in all these types of sectors. People love their iPhones and because they have an iPhone, they buy a Mac and then it's like, oh, it's not on Mac, oh, I'm not going to get a Windows PC. I'm not one of those filthy people. Like, oh, I don't use Windows. Like oh, but QGIS is on Mac. Okay, I'll use that one because it's on Mac. So it must be good.

In like some industries? That is the case like Blender is actually becoming one of the biggest like 3D animation softwares. Right. Like it's, it's becoming so popular now because the other options are just because it's better. So if the software is better, people will use it generally. Yeah, that, that is an issue a bit with like Adobe because they are so locked in with their entire suite of software. Like they have 100 and something pieces of software for everything.

So that is a lot harder to take down. Take down massive air quotes. But like, so that's less likely. But in terms of like, I don't really see Word being taken over purely because it's just such a staple. It's gotten that like. I forgot the word for it. It's the, the band aid effect. Everyone calls them band aids, but that's a brand name for Elastoplast. So it's like, it's become that. It's like, oh, you're not using your text processing software, you're using Word. Yeah, but it's like.	Non-Human Actors
Or Photoshop. Like you're photoshopping something.	Uncoded
You are shopping something like, like that. It's even been shortened like, like I'm photoshopping something in affinity. Like I'm using affinity of Photoshop something.	Non-Human Actors
This doesn't surprise me.	Uncoded
I've heard about that.	Uncoded
And I presume TurboTax shot it down.	Uncoded
University to look at that.	Uncoded
Yeah, it'll be fine.	Uncoded
Sort of you get them ie self reinforced cycle. Yeah, that's the thing. It's like oh yeah, you implement it in schools because then people graduate knowing that and then they want to use that because that's what they know. Yeah, you don't want to like grad, like don't like use word all your life and then you graduate uni and you go and it's like okay, yeah we're using, we're using LibreOffice and it's like, it's like no, I want to use Word. It's like like you like for example, like especially it's like if you do like a really like high paying career, like yeah, like let's say you graduate law school, you graduate med school.	Non-Human Actors

And then they just throw upon you some random, random like small companies or open source software and you're used to using the industry standard, you're not going to want to use that. It would be lovely if everyone did want to use that because it might be a bit better for the world but it's not going to happen because not everyone is willing to try new software and they just, they just want to go to work, do their work and come home again. They don't want to figure all out all this stuff that's not their job.

Non-Human Actors; Material Inscriptions

In a different way to be like the big dog. I'd say universities would have to put a hard like limit on like only using free or open source software. And also the software would have to be good enough.

Non-Human Actors; Stability / Fragility

Sometimes open source software is just worse. Like it is. Yeah, like it is just worse sometimes like there's Photo P is a web based open source photo editing like Photoshop.

Non-Human Actors

Oh yeah, gimp's the ultimate version of this. It is it is worse? Yeah, it's great actually. It's pretty good. It has a lot of features, but.

Non-Human Actors

But yeah, but it doesn't have everything and you want everything. Yeah, you don't want to be there last minute. You need this one tool and it's not there. Even though 99% of the other tools are there. You can rely on Photoshop to have all the tools in Photoshop. You can't rely on GIMP to have.

Non-Human Actors

And same with Word. Word does have some neat, really super niche features, but some other tech servers just don't have.

Non-Human Actors

I've never tried that.

Uncoded

Well, you could use softwares like Deep Seq and then run a light version of that on your own machine. So you have offline AI. If you really wanted to do that, it might be a bit slower, but open source is often filled with some workaround. But that might work for you.	Non-Human Actors; Interaction / Relations
I personally haven't tried it, but I know people who have.	Uncoded
So they might be able to integrate that into their PowerPoint. Like. Yeah, whatever it might be PowerPoint, like. Yeah, like a roguelike.	Uncoded
Yeah. Like their slide deck software. Like you might be able to integrate some machine based AI integration if you wanted to. Yeah, if you really wanted to. But also a lot of these open source software are run by people with very specific worldviews. Most of them very anti AI in general.	Non-Human Actors
So it's like also is then using open source software, like potentially a political statement of against AI and against this thing and you want it. That could be. But like that's, that's a reach.	Non-Human Actors
Yeah. I just want my software to work.	Non-Human Actors
Yeah. Honestly like I got an iPhone because I was like I, I used to like crack all my like fully like root my Androids and everything.	Uncoded
Like, like fully like really went into it. Yeah. But now I use stock iOS and stock like Mac. But on the other hand I do also install every beta update. Like I am on like iOS 26 beta 3 at the moment. But that's purely just because I find that interesting and I like playing with new features and new toys. But like that, that's kind of how I get my kicks from that these days because like I	Uncoded

just. That I don't have enough time to actually fully like root everything.	
Yeah, no problem.	Stability / Fragility
Looking forward to reading it.	Uncoded
To add about this? It's good. You should use open tool software.	Non-Human Actors
But also I do realize it's a bit of a pain in the ass sometimes.	Stability / Fragility
Yeah, that's about it. That's me.	Uncoded

## 4. Participant #4 Master's Student-RMIT University

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Direct Quote (Subject)	ANT Code(s)
So I'm now studying the Master of Urban Planning at RMIT my first year. So my academic background mainly from environmental policy in bachelor degree which I did it in Hong Kong and then I work for like several years from across like private enterprise and also some ngo.	Human Actors
And my main responsibility is to like more concerned with farm management.	Uncoded
And also some like community engagement of some local farming communities.	Uncoded
So we got to like the planning field. I think it's a new like new perspective for me because I haven't been engaged in the built environment field before as a profession.	Uncoded
But I'm always like interested in like how people interact with the landscape they are living in. Also how they, they carry out like the business or like the community	Uncoded

activities. And because my personal interest is urban agriculture.

And I also I have been engaged in some projects like local based in my home city. So there's a chances I get involved in some like land issues like related to land policy sometimes called, you know agriculture always like interact with land policy. Right. So you can't get rid of it. When you get in touch with the like farmers I would say it's like even though it's a leisure farmer or like community farmers, they they have their own views on how their neighborhood should look like.

Uncoded

So I've been like engaged in some.

Uncoded

So my first job like is a NGO is called Community Grower Groups office. So basically it's like a branch of a like a traditional vegetation marketing society. Like a corporation you can say. And then we set up for like a organic farming because organic farming is going in the market like since 2006 maybe. And then we are involved in some like ongoing projects supporting like local farmers. In my home city it's more like like a per urban farms. It's not like a large scale business farm that looks like in Australia, but it's kind of they also do the going like veggies, Asian veggies mainly and for the selling on Sunday market. Maybe some Sunday farmer market.

Human Actors

So we need to some like engage them and then we can promote some like More efficient like farming. Like farming techniques maybe but low tech one not the high tech or built in.

Uncoded

Like hyperchol.

Uncoded

Yeah, we are not doing that just like a low tech one but more like more connection. We. We wish to like promote more connection with the soil, with the local farms and also the community. That's like the residents or the people who make come to their farms as a. Like a holiday leisure activities. It's like some that way we work back in Hong Kong.	Uncoded
And I also like work in organization called Sustainable Ecological Education Corporation I think or company I talk about sustainability.	Human Actors
Yeah. So it's like also NGO and promoting some community and gaming engagement with the local rural villages and urban farmers. Q2.	Human Actors
Like currently I was able confined with the course that I doing because last semester I did one in GIS fundamentals.	Non-Human Actors
And which requires I need to like sticking into some fundamental knowledge of GIS which I have not familiar with before. Good. But I'm getting like. I'm interested in it and I saw the like how, how powerful it could be like if we are planner we can get use of like we can like make use of this powerful software is good for us. Yeah but it also take time. Time As a beginner I think.	Human Actors; Non-Human Actors
As a also I'm like a personal experience. It's like taking me hours to like.	Uncoded
Finish some like very fundamental steps. If like a experienced user they can use just take it. Take them like just five minutes maybe and then I will like maybe 30 minutes to figure out what happened on this step and then. Yeah but yeah yeah. I'm	Non-Human Actors

still on and off using Archis Pro software and I, I also try to explore QGIS before.

Like before even before I enroll in this GIS course.

Non-Human Actors; Translation / Enrolment

But I, I maybe due to some like other engagement or whatever.

Uncoded

Well, I remember a task like in GIS course and then they require us to input some existing Database from the ABS website or whatever official source that we can just download from. From the software. But there are some like technical issues I encounter that I can't like add them to the database.

Non-Human Actors

So it take me like I, I try to resolve it online or asking like. Or I also message professor and then. And then. But it takes me like longer than I expected to solve this. When I look back it's like a really simple steps that I could have solved it like in five minutes.

Human Actors

It's something like. Because when I start using the Archis Pro software it's like. It's more like a programming.

Non-Human Actors

So it's like I entered the instruction, I call correctly.

Uncoded

Without like any errors then it works. But if that doesn't come, if it's ever shown on the screen I need to like. Because I'm not an engineer person so I need to. It takes more time to. To understand this language.

Uncoded

I think for ArcGIS Pro Destiny is problem for me because I'm not quite familiar with the software.

Non-Human Actors; Stability / Fragility

And the function and like the steps procedure, how I can input output, etc. But I think it's also something to do with my understanding on how to like gather

Non-Human Actors; Material Inscriptions



resources or like a general picture how where should I get that database from. And like there are also like many formats of database. Right.

And also even for the same format they have like different like location restriction or like they have a size restriction. And this kind of like logic behind is like we as a planner or like a user of a Arches Top Air, we need to be familiar with them first so that we can like you can access to the most appropriate database.

Human Actors; Non-Human Actors;  
Interaction / Relations

So it can save us time when we are really doing the software.

Non-Human Actors

Yeah. I remember I tried to download like a public transport network or stops like a JL database file and I look it on the like, I remember maybe transport Department of Avec data.

Non-Human Actors

And I think that that version is not quite suitable. And later on I found it on another website which is like. It's also a public transport website. Victorian transport. I think it's like purple background on the website.

Uncoded

Transport Victoria. And this format actually fit me more like I find more suitable.

Uncoded

Well, like before I would say like apart from GIS software or something, I used to use some like land, like maybe some land database website back in. In my home city that we can like locate a lot. Private lot or public government land.

Non-Human Actors

That we can check like how the status and because I used to use it because we need to engage with like community farmers or whatever and we want to provide more like information for them and but for this

Non-Human Actors

operation it seems like like very basic one.  
We don't need to like use like software to  
run the program. We just go on the website  
and then we check and gather information.  
Yeah, it's like a direct access.

And we don't even need to analyze it. You  
just like organize it and then we present it  
to like our stakeholders. And there's  
something that I have been using. I also  
happen to like use sketchup maybe for  
some demonstration or presentation of like  
how this farm will be transformed or you  
can like improve the infrastructure. Maybe.  
But I. I'm not sure. Like SketchUp still like  
it's an open source now. Because I.

Non-Human Actors; Translation /  
Enrolment

Because it's like several years ago I  
managed to get a free version of SketchUp.  
But now recently I tried to search again and  
then it's like we need to subscribe for.

Non-Human Actors

But it's like for us like a normal daily user.  
Of course it's better to get free assets.  
Right?

Uncoded

It's more convenient and less like cost less  
for us to building our software skills.

Non-Human Actors

Yeah, I tried to look at it but currently I  
didn't manage to find a good substitution of  
it.

Uncoded

Yeah. Like I always like thinking maybe I'm  
not quite a technical guy.

Uncoded

Technical person. So I just like maybe I  
missed a lot. I don't know a lot. I just can't  
find the appropriate software for my.

Non-Human Actors

Purpose.

Uncoded

It's also hard to like because sometimes I  
search on the web like they, they the. The.  
The search result mostly like they, they will

Uncoded

try like bias to the. Those who pay for the advertisement.

So I always search something like maybe if I search subdivision of land and there bunch of like commercial.

Uncoded

Results like telling you if are you want some like wanting some consultation service for your land lot etc.

Interaction / Relations

So it's also this kind of searching efforts also maybe sometime act as a hurdle for me because when I. It's come up like every results are like commercial and then has nothing to do with my, my purpose.

Uncoded

I think time is limited. We have already like the coursework as a student maybe if you're new from like especially for international students we need to spend like more time to get familiar with all like we need to get familiar with the planning system first and then we can spend more time on like exploring different software that can help to build our future career. And for professional. I. I'm not quite sure but I think time is also some like important.

Human Actors; Non-Human Actors;  
Interaction / Relations; Stability / Fragility

Aspect for them maybe and also if they like because there are different aspects like different like I would say specialization maybe for each player. So if they are not focusing on strategic planning or something they are just focusing on some statutory one or some like more related to regulations maybe they are not quite. There's not much incentive for them to explore the digital tools to that level. Because they just use the basic skills and it's enough for them to, to work in their field.

Human Actors; Non-Human Actors

I would. If it's like I can't get what I want from that software.	Non-Human Actors
<p>Maybe I just try to bypass and not using software to solve the task that I supposed to do or I use like some open access source. Okay. For example, I, I remember I first I I when I engaged in the assignment of the GIS course. I've originally I want to use the open street map for sourcing some like maybe location of supermarkets or like community gardens. I don't remember exactly what, what factor I'm looking for but I consult the tutor and then he, he suggests another method which I just, I only use, I can only use Google, my Google Earth. I think so too. But I need to manually search for supermarket on Google Map first and then I pinpoint the location in my map. Yeah, my Google Map. Then I can like still generate a layer that I can input into a artist player so I can still complete what I wish to do in the assignment. Yeah, but it just takes more time and effort. But maybe if I'm feeling more familiar with OpenStreetMap, I can do it in a faster way.</p> <p>But I know there's a limitation because it's just a simple operation at this level I can use the substitute from Google. Q8.</p>	Human Actors; Non-Human Actors; Interaction / Relations; Translation / Enrolment; Material Inscriptions
Should you mean the organization or I.	Human Actors
Well, that would be hard for us.	Uncoded
Yeah, I would, I would suggest alternative maybe if you are not offering the license, then we don't have proper access to the software we need to complete the assignment. So can we do it like by hand?	Non-Human Actors; Translation / Enrolment; Material Inscriptions
Maybe I would just turn to qgis.	Non-Human Actors
Because it's free, right?	Uncoded

I'm not quite sure like the main differences between two software like ArcGIS and QGIS, but I think for QGIS, because it's free, so everyone can get access to them, so it should be less complicated. Complicated for the operation for most of us. So maybe we can just get a, like a simple, more general picture of how this software works and then as long as we spend more time with it, we can be more familiar with the language of the GIS software, then we can. It may allow us to learn ArcGIS in later stage more efficiently.

Non-Human Actors

I'm not sure profession pro paper for that, but we would be more familiar with this software definitely because we can. We are not like obstructed by the cost when we are gaining experience on this software. Because sometimes you need to just spend more time to this software on this software to get yourself more familiar with how the operation and process go for completing a task.

Non-Human Actors

What concepts?

Uncoded

It is good because it's accessed, it can be accessed free for everyone.

Uncoded

And then. But sometimes I will be like hindered by this open source. So because everyone can contribute to this, like they can input data and then there's no like a central or authority you would say to like manage or organize or even prove like if this location is actually exist or not.

Non-Human Actors; Legitimacy Work

Like is it still operating or it has been closed already. This kind of like I think there will be like both pros and cons for open source.

Uncoded

I would say yes. If I was offered like a paid software.	Non-Human Actors
It'S hard because I understand it's free so you can't like require someone like they can fact check it for you to.	Uncoded
Yeah, yeah. Maybe if there's a like a third party institution or.	Uncoded
That can like provide some like fact checking on a regular basis for some of the data source. Especially for like some physical locations. They would be good. Or even like you can just google it on like Google Map and then you can know how like a shop is it still operating or is permanently closed. Right.	Non-Human Actors; Material Inscriptions
So and then you can just visit like the site and then take photo and then you can verify. But of course it takes a lot of time and effort.	Legitimacy Work
To do this.	Uncoded
Desperate, tricky. It's hard. I, I understand it's hard. Like no one would do it for video.	Uncoded
Who do you think's most maybe academic institution think tanks or if they have connection with like some like students who are doing their like research projects or PhD, they may have some like extra like how do you say they can, they are like more reliable because they, they have like they need, they need this task to compete.	Human Actors; Legitimacy Work
I think to a large extent they can shape because they are the one who developed the software. And also the interesting part is that for software you need to get the most of it. You just don't use the software. You need like data source and some like maybe later function itself. Like they keep updating and then you need to like the	Non-Human Actors

company they have too many ways to interfere. How you use this software in which Approach or to which extent you can present it in your work. So I think they have power and also you pay for them for subscription. So there are many functions.

You are not, you're not like familiar with it, you may lost some potential in using the software because you are not, you are not fully utilizing the software.

Non-Human Actors

Of course it's not fair but like sometimes it's just maybe there's not the company who can also decide which software universally use. Sometimes maybe the professor or the department themselves. They have consideration on the budget or like the quality of teaching etc. To opt for which software they will use or adopt in their courses.

Human Actors; Non-Human Actors;  
Translation / Enrolment

I think it's always good to challenge something because you bring about like critical thinking and maybe improvement in the future. But I also see is the hardest part like the difficulties for planner is that they are always like under. Like under a organization or attached to group. They are not that you rarely can find a tenor which is self employed. So.

Human Actors; Stability / Fragility

So this, this limitation for them to like if often they wish to bring some changes or challenge or criticism like existing ways they have consideration because it's something to do with their jobs.

Stability / Fragility

Yeah, yeah, yeah, of course it would be great.

Uncoded

Develop some platform because I. I also looked at some. The. The extra website you send me.

Uncoded

Yeah, yeah. And I. I was surprised that so so many like more well developed in the UK right. For this kind of like in this aspect for open source or.	Uncoded
It's just.	Uncoded
Sometimes they have like developed this kind of concept that to provide option like for the planning professions. They can try to like sourcing some like open data, open access and add it as a supplement for their work.	Non-Human Actors
Maybe they can't use it like in their final professional report or what but during the process they are making the maybe their work procedures they can, they can have some like new idea or some critical thinking or analysis they can generate for the final presentation.	Material Inscriptions
I think I'm not quite qualified to judge that.	Uncoded
I think is still getting slowly maybe because as I mentioned like planners always engaged in the organization and then they. Maybe there are some changes taking place during their work, daily work. But we can't see from the, from the materials or like the result results that they present because it's like whatever like a plan or a report it published. It should go through like undergone like many like screening before it published. Right. So for like public sectors like people or ordinary people like us. I think it's hard for us to. To identify these changes just by looking at the materials that we can get access to from the organization.	Human Actors; Material Inscriptions
It's certainly how.	Uncoded
At least you can like make it like don't disappear for.	Uncoded



It's just if it exists there and then cuz it's a like an Internet world and then someone would have access to it and then they would spread it or discuss it.	Uncoded
I think it's good to like have options for us as many as option possible because like I mentioned like our time is limited. So if we are offering more option maybe we can locate some or we are able to access to the most appropriate information that we required to complete our task in the future or the.	Stability / Fragility
Even very simple as assignment to finish during our course as a student.	Human Actors; Material Inscriptions

## 5. Participant #5 : Master's Student/ Planning Assistant - Melbourne University / Cogency Melbourne

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Direct Quote (Subject)	ANT Code(s)
Yeah, of course.	Uncoded
Yeah, sure, maybe. So I can just refer.	Uncoded
Yeah, okay, cool. So I came into I guess geographic sciences when I started my Master of Urban planning. Yeah, I mean urban planning is something that I've always been interested in. I did commerce as my undergrad.	Uncoded
Which is good. But I kind of felt like I should follow like what I'm truly passionate about. Exactly. So that was my first.	Uncoded
I think we probably started at the same time at the start of last year.	Uncoded

Well, yeah, semester one last year.	Uncoded
And then towards the end of last year in October, I. Yeah. Took a student role at a small planning consultancy firm.	Human Actors; Interaction / Relations
So my technical, like technically my job title is planning assistant and I'm still in that position now. So. Yeah. Coming up on a year now. So within the organization, I guess I have. It's been good because I've actually had exposure to more of the hands on things like mapping and. Yeah, we're mostly working in renewable energy projects which has been interesting as well because I feel like thinking from. Yeah, just compared to what we've learned in uni, it's been quite different like working in the rural zone and also just big, big project sites and big lots and stuff like that compared to just like, you know, smaller property projects or transport things.	Human Actors; Material Inscriptions
Oh yeah, it's called Cogency.	Uncoded
In their planning?	Uncoded
In the planning team.	Uncoded
Well. Yeah, it's all pretty similar.	Uncoded
So you work with D. How?	Uncoded
Okay. So I mean, typical week, I'll say. Like, for example, like now that we're back in 7:2. So uni Monday and Friday and then three days of work. So Tuesday, Wednesday, Thursday, when I'm actually at work, what I do is usually.	Uncoded
It's a lot of project support, I would say.	Uncoded
That'S maybe doing the first drafts of planning reports, things like that. And then a big part of my role has been creating maps as well.	Material Inscriptions

So I guess outside of uni, I mean, digital tools from a uni perspective, I guess I've only just really used affinity just for some of the core subjects last semester, like strategic plan making or. Sorry, last year, and probably we'll use it in urban coding. But then at Cogency, we mostly use. I would say the main digital tool is qgis.	Non-Human Actors
So that's kind of what I've had most contact with.	Uncoded
I did the winter subject on ArcGIS. I just finished that as well. I don't know if that's relevant, but. Yeah, that was crazy.	Non-Human Actors
God.	Uncoded
So in terms of typical day and digital tools, I would say, I mean, yeah, qjs is just probably the main digital tool. And obviously we use like 365. I don't know if that's relevant.	Non-Human Actors
I mean, and aside from. I mean, we might get to this, but I do find. Actually, I don't know, maybe this is touched on later. It's not as much as a digital tool, but, like, in terms of spatial representation, I do find it, like, pretty restrictive.	Non-Human Actors; Interaction / Relations
And yeah, you're right. Like, it's kind of monopolized. It seems like it's monopolized the industry.	Uncoded
I have always been a Mac user. And going into the role, I was like, I've got a work laptop, which is a Windows.	Uncoded
And then I remember I said to someone, I was like, oh, I would love to use like a Mac. Like, maybe if I go full time permanently here. And they're like, no, you can't do that. And I was like, what? There's just. Yeah, I guess a lot of norms in that way.	Uncoded

I think that's kind of.	Uncoded
I just used my work laptop.	Uncoded
Do you use QGIS at.	Non-Human Actors
Right.	Uncoded
Okay. Q3.	Uncoded
Okay. Yeah, I had a moment. I was thinking about this last night. What was it again? I mean, I guess, yeah, QGIS being open source, it does run into Roblox. We have a QGIS computer at work, so we don't have to use like, it's a proper, pretty decently spec'd PC. And I think just like a crash when I hadn't saved my work, like, you know, almost wiping out almost like a day of work on a certain project, that would probably be the worst. That's what comes to mind. And then obviously there's little kind of quirks that I would say.	Non-Human Actors; Stability / Fragility
That sort of limit you from maybe like exporting a bunch of maps once or things like that. But I would say, like, yeah, a random just crash, which is what ArcGIS.	Non-Human Actors; Stability / Fragility; Material Inscriptions
Yeah. That sort of thing was probably the biggest roadblock.	Uncoded
Like in my role, we don't really get into thinking about the GIS subject. We don't really do as much spatial analysis more so just we just do like representation for reporting things like that.	Non-Human Actors; Material Inscriptions
We're never really like. Because, like, you know, we're led by the client. They've already usually picked out their site, for example, like, we're not doing site analysis or like, things like that.	Uncoded

So in that way I don't feel like. Yeah, I don't feel. I feel like the software is pretty set up for that. Yeah, yeah, yeah.	Non-Human Actors
Yeah, I mean, probably just. It's a pretty simple one, but I guess when I like was first learning the software, just about all the vector processing stuff is really powerful, I think. Yeah, I know that's a really kind of. Probably a bit of a basic answer, but like. Yeah, I think that's. I have, I don't think just in what I've been doing at work, like, I don't think I've ever had like a. Such a massive issue that I've had to like have this aha moment with the software, like.	Non-Human Actors
So I think just like. Yeah, because I, going into the job I hadn't really come across like I hadn't done the ArcGIS subject. It was my first time using any sort of like statue software and I just. Yeah, that was really surprised me and was really great. Q4.	Non-Human Actors
I feel like I turn to them more because I know that I can get certain results that I want.	Uncoded
So for example, in the past if I've been wondering, like, you know, I'm looking for a certain map that shows a certain thing, I can just go, oh, I can just make that.	Material Inscriptions
So that's been a really big thing as well, which has been good. And that's also carried through into like my uni work as well.	Uncoded
So I've done that with a couple of subjects where in the past I would have maybe just used like a screenshot of Google Maps or something.	Non-Human Actors; Material Inscriptions
But now I've gone, oh, I actually have. I can actually whip this up in probably a half an hour.	Uncoded

So that's, that's been good, good in terms of like my work journey in particular.	Uncoded
I just think like I've just been more confident to like take on mapping tasks and also know that I can output more complex representations. Yeah, nothing too.	Material Inscriptions
I don't think there's been any. Anything too wild.	Uncoded
Yeah, yeah, that's just the totally.	Uncoded
And I feel like. Yeah, just what I was mentioning before about being able to throw together like a quick map. I feel like that's been really helpful.	Interaction / Relations; Material Inscriptions
And I'm sure there'll be applications outside of work where I might use that as well.	Uncoded
So I guess just talking about qgis, I feel like because of what we do, a lot of, like the mapping we do at work is.	Non-Human Actors; Material Inscriptions
As I said, for reporting, you often, like, there's a lot of evolutionary updates that, you know, we might have like a context, like context plan or like a site layout plan. Yeah, those are kind of iterative and evolutionary. I find that, like, the data management built into QGIs, unless you're really organized, can get really chaotic just in that kind of side bit. And then also I find the disjuncture between. Because usually it's me who, you know, someone said, oh, can you just make these maps for this report, this project? Yeah, I find that, like, I can make them the first time, but that disconnect between the map and then also the layout and like the exporting space. Yeah, that's kind of quite. I feel like it's a pretty big time limitation because	Non-Human Actors; Stability / Fragility; Material Inscriptions

sometimes you have a layout and you're like, okay, great, I just need to update this one layer on it and you go back and everything's changed. If it hasn't been locked, like, it's hard to update. It's hard to. Yeah, I would say, yeah, iteratively evolve layouts rather than the map itself. But, like.

And there's a lot of. Yeah, there's a lot of, like, manual design work that goes into something that you would think would be pretty straightforward. Like. I don't know, the other thing as well. I mean, this is getting quite specific, but I don't know.

Uncoded

I think this goes for ARC and qgis. I find the labeling to be quite limiting as well. I. Yeah. Like, my dad's a graphic designer. I've always, like, kind of been surrounded by, like. I feel like just, you know, representing things nicely. Like, that's.

Non-Human Actors; Stability / Fragility

His whole thing, obviously his whole career, but yeah. So I think sometimes, like, if a label is slightly misplaced, I wish you could just, like. But it's all Very. I mean, I don't really know how it works. I guess it's through Python, which I don't really come into contact with. But yeah.

Uncoded

I feel like sometimes a time sink for me is getting the labels right because I'll be able to get like four out of the six labels to look really nice and as I want them, and then two, they're just stuck there in qgis. So.

Non-Human Actors

That's a specific.

Uncoded

No, we don't. Yeah, we don't have the. We only have qj. Does that work? Yeah, so, yeah, it's kind of. I usually just have to accept it and it's never like, it's never terrible, but it's like, you know, sometimes when it's like, oh, this is client facing, you

Material Inscriptions; Legitimacy Work

would, you know, you want to have a bit of pride obviously in the output.

And it feels like. Yeah, you can't have full creative control just through like the labeling.

Uncoded

Yeah, it would be good to just have some more like obviously you can do manual labels, but again I think it comes back to that disconnect between like the map itself and then also the layout.

Material Inscriptions

Like it would be good if you. That more creative design tools were built into the layout function.

Non-Human Actors

And then plus also like that was in the map as well.

Material Inscriptions

I don't know if those three, like. Well, the map and the layout and then also plus an extra set of creative tools.

Non-Human Actors; Material Inscriptions

Because then you would negate the need to like.

Uncoded

Go to affinity or.

Uncoded

No, no, not that I know of.

Uncoded

But again that's a little bit different for the mapping that I do at least because it's, it's more.

Material Inscriptions

So yeah, it's more so like as the project evolves it's hard to manage like a boundary change or like. Yeah, I guess that sort of thing, if that makes sense.

Uncoded

Yeah, I think at a. Like. Well for me individually I think.

Uncoded

Like outside of union work there's not a lot of maybe like reason to. I guess.

Uncoded



Like if I. Yeah, because these softwares are usually like there can be quite a bit of a learning curve.	Non-Human Actors
To jump into something that I don't even know if I'm never ever gonna have to use it again. Like I feel like that's kind of stopped me from seeing what's out there. So that's me on a personal level. I guess so.	Uncoded
I guess the two softwares, ArcGIS and QGIS, like ArcGIS has kind of been through uni and then QGIS has just been through work. Like I haven't really. Yeah, I probably wouldn't really know any other mapping software other than like Google Earth or like.	Non-Human Actors; Material Inscriptions
So yeah, that's me as an individual. I mean I can't speak for on behalf of cogency, but I can like probably say that, you know, we're a relatively small company. Like there's like 1212 US. So to take on a new software like when they've kind of built their mapping. Yeah, then they're mapping, I don't know, practice off qgis. Yeah, it's a big time investment and also maybe like potential money investment to like train new staff and also just take a leap into new software. I guess.	Human Actors; Non-Human Actors; Material Inscriptions
So I guess that's maybe why things stay the same and that QGIS is also free as well.	Non-Human Actors
Yeah, I think so.	Uncoded
Maybe the culture of just. Well, yeah, particularly in private practice like you, there's not a lot of like non billable hours to throw around. So taking on a new software.	Non-Human Actors
Is just a massive. I think it's a big Commitment.	Uncoded
Which probably, to be honest, like, I mean, yeah, again, I can't speak for what the	Non-Human Actors

I mean, affinity being free at uni, I think is good. I probably still know the most about the Adobe suite, so if I had to pay for one, I think I would probably just go back to them. I don't think that it's a perfect solution, but I think just in terms of the level of like, well, not market power, but like the amount of resources there is, I feel like. Because even I've had roadblocks in the past with affinity through uni where I've googled something like an issue I'VE come up with and there's just been like, nothing. Like, no one seems to have had the

same problem as me, or like, it's not as. Whereas I feel like with Illustrator or InDesign, like, if you type in, there's someone across like the last, like, 20 years who's had the same problem.

So I probably would go to Adobe for mapping software. I mean, I just don't really know too much about what other options there are.

Non-Human Actors; Material Inscriptions

I mean, if we can talk. Yeah, I can talk about 365, because I have.

Uncoded

Yeah, well, yeah, I find that the other 365, I think.

Uncoded

I've worked in other places. My previous job used the G Suite. Like Google Suite.

Non-Human Actors

And then Slack as kind of their internal. In place of teams, I guess.

Uncoded

And I found that to just be a lot nicer, I find, for kind of like design work and the nature of planning, which is highly collaborative and things like that. I find even just like editing a document at the same time as someone else, it just feels quite prohibitive and it feels quite clunky. I think having that experience at my previous job where I. We use Google Docs, for example, and that's a lot more like. I mean, that's built for collaboration.

Non-Human Actors; Interaction / Relations

Whereas I feel like Word was Word and then they've, you know, in the last decade or so gone. Okay, we'll try and put collaboration in here, but it just doesn't really. It's not the same.

Interaction / Relations

And I think.

Uncoded

Because a lot of our. I mean, I know setting up templates and just like setting up

Material Inscriptions

reports, sometimes you can just use a. Lose a lot of time to all.

Inserting maps and figures and images because it's just so clunky. Like it's.

Material Inscriptions

It's just not. Well, it's not really built for like visual reports.

Material Inscriptions

So I mean, I would probably use like a blend like if I was setting up a firm tomorrow, for example.

Uncoded

I love Slack because I feel like it's.

Uncoded

It's a bit more friendly.

Uncoded

Just a bit easier for clients collaboration. And then same with the Google suite. And then probably like Adobe maybe.

Non-Human Actors; Interaction / Relations

Qgis. That would be my, like just going off by.

Non-Human Actors

If I had to. I do also, like. Well, at Cogency we do use Canva.

Uncoded

I mean, yeah, I think that's. It's good. It's like, it's very accessible. I think for anyone.

Uncoded

Which is. Which is what I like. Like, it's nice to have. I like that it empowers people who don't maybe feel as if they are in design or like technically creative. They can still whip something up.

Uncoded

Okay to use it too.

Uncoded

Pretty low, like barrier to entry, which is what I like as well.

Stability / Fragility

Obviously that does come at cost if you're at like a. You know, there's the Canva Pro. I don't actually know how much of this organization.

Human Actors

Yeah. Just quickly whip up something. Yeah, I do like that ability as well.	Uncoded
Well, yeah, I think of qgis, I think of Open Street Map and I think I, yes. Support them. I support those things and I support those ideas.	Non-Human Actors; Material Inscriptions
Really between these two groups.	Uncoded
So what are the older.	Uncoded
And yeah, yeah, I think maybe I, I mean just thinking about why that might be. This is like small tangent but I guess like for entry level planners, like I feel like this open source stuff. Speaking about what I was thinking before about like the, the barriers to entry, it's like we can use OpenStreetMap for our assignments. Like we could download QGIS as students and like have a play with that. Whereas I feel like all of the traditional, you know, institutional and like you know, paid software data.	Human Actors; Non-Human Actors; Stability / Fragility; Material Inscriptions
Yeah, it's restrictive in that way. So yeah, yeah, that would maybe be why. And I guess if you're already. But in industry you're just used to that being accessible for you. But us as like kind of the incoming group can probably see the benefit in that, you know, it's just available for us.	Interaction / Relations
Yeah, totally.	Uncoded
No, of course not.	Uncoded
And I think like, yeah, you have a community because no one's like there's no in crowd and out crowd. It's like oh yeah, do you have a license or not? Like there's no haven't, have nots. Yeah, so I can see.	Uncoded

But yeah, I guess I can understand arguments about like precision maybe if that's what some of the older planners were talking about. Like. Of course I see that. And you know I do think there's a risk element involved in like basing your business off an open source software or like you know, part of component of your business. But yeah, I mean people do do it obviously.

Human Actors; Non-Human Actors;  
Stability / Fragility

I mean even I was speaking to a friend in like the ArcGIS class, she told me that like DTP uses QGIS.

Non-Human Actors

So that's a bit of intel for you.

Uncoded

True, like a lot of urban designers are still on Mac and then as soon as you start going a bit further from urban design then you got into traditional design and that kind of is pretty heavily Apple.

Uncoded

So Yeah, I agree. But yeah, then that also I, I mean this kind of, I don't really know which question this falls into, but just kind of like speaking about like changing or ditching a software, I mean, I think almost they could change ArcGIS subject to be QGIS and it would actually be much more beneficial.

Non-Human Actors

Because I was doing this subject and I was like, oh, okay, maybe they use it, they maybe must use it in the public service or something. And I was like, just unsure. And then I spoke to that girl I met who works at DQ and she was like, no, we use QGIS too. So I was like, yeah, when am I actually going to. It's a good skill to have, but I actually still don't know. I know when I'm going to use in the future.

Non-Human Actors

Yeah, I mean OpenStreetMap I find is good. I still, I've noticed I've only ever seen one tiny error. I guess that kind of is like. Okay,

Non-Human Actors; Material Inscriptions

true. I mean I do avoid using it for base maps even though it is there. I think it's a good base map when you're like just in sketch mode or just like getting some, getting data on the page. But I would probably hesitate for using it I think also because you can't control like it's hard in QGIS and ARC as well. Just like sometimes it just shows really random points of interest that you don't want to have there on the map.

But in saying that, I think it's still good that it's just inbuilt and you can just always. It's a high quality map.

Material Inscriptions

Which is probably the same limitation I have as well. I would probably agree.

Stability / Fragility

And that's.

Uncoded

I mean, into my daily work.

Uncoded

I mean when you said like for site, like early site analysis, like I still default to like Google Apple Maps just to.

Non-Human Actors; Material Inscriptions

Because I can go straight into like street view or near map as well. We haven't really spoken about that actually. But that's a big one.

Material Inscriptions

In terms of like the availability of open source data.

Non-Human Actors

I mean I feel like it's a good kind of.

Uncoded

I mean I think it leans. It's better for the open source. Like, I mean it complements the open source tools really well because if you can use an open source software then say, oh well, I'm actually using government data. That kind of maybe eases some of that tension you're talking about.

Non-Human Actors

Where people might call.

Uncoded

Validity into question. So I think it's good that it's accessible. And again also for.	Uncoded
Outside of like it helps like hobbyists and also like.	Interaction / Relations
Just the community in general be able to put. Bring their ideas to life in a way that.	Uncoded
Because how else would you ever have like cadastra for the whole of Victoria? Like it would be just, it would just close off a lot of like mapping inspiration. Obviously a lot of, of like education work as well.	Material Inscriptions
So I Think. I think it complements open source quite well.	Uncoded
And I would, I would say that it should be expanded and I think so.	Uncoded
More data sets.	Non-Human Actors
Yeah, that little website.	Uncoded
I think I got from there as well.	Uncoded
I think a lot of power because they kind of define what we think is possible when we're creating outputs essentially. So yeah, you work to the constraints of for example the geoprocessing tools and there's only so many things you can do within there which maybe prohibits.	Non-Human Actors; Material Inscriptions
Mean outside of like an institutional where you're probably actively researching example like geoprocessing like for planets and practice. I think. Yeah, they just work to like what tools are available. So.	Non-Human Actors
And in terms of major companies.	Uncoded
Like if we go back to 365 and I guess Adobe to an extent. Yeah, yeah. They hold a lot of power just by being mostly the norm.	Uncoded



Which, yeah, I mean and don't get me wrong, like I don't think 365 is like a inefficient products. Like obviously it works for like millions of companies across the world probably. But it's like yeah, people just accept their flaws or maybe like parts that they don't aren't really suitable for their practice as. Okay. Or they just work within the boundaries of that. Yeah, I think. And yeah, to the second part of that question, I do think there is definitely space to question why and like what it could mean if yeah you introduce another suite or like, you know, but then that kind of goes back to the risk and time and cost involved in doing that. Exactly, I think.

Stability / Fragility; Legitimacy Work

I mean at every scale for like, for example, like at a cogency level of firm, like scale of firm, it's a big time commitment where you've got small, you know, like only few planners and that sort of thing like within learning curves and things like that, but then also like I can see that I scale like Urbis. Like changing a software. That's such a task.

Human Actors; Non-Human Actors

So everyone kind of seems a little bit stuck.

Uncoded

For some reason.

Uncoded

So you feel like, do you get to do a lot of things like that or is that like a whole nother team, separate team?

Uncoded

Okay.

Uncoded

Which is entirely dissimilar to what we'd probably do at Cotensee.

Uncoded

Just for like planning reports and stuff like that.

Material Inscriptions

Yeah, I think it would rely on probably the support of like whether that's like major firms or even like some level of

Translation / Enrolment

government support as well. Like some level of recognition. Because I mean if you are an early adopter, you don't want to be caught out and then everyone's like, oh, what are you using? Or like what is this? Yeah.

And yeah, just a few people to actually take the leap.      Uncoded

For this, for these. Open source.      Uncoded

Yeah, yeah, I think. Yeah, that would probably be the first one. Like.      Uncoded

Just this question of validity and.      Uncoded

Kind of. I mean, not like social license, but almost in a way just like.      Uncoded

Getting people to be like, okay with it.      Uncoded

Yeah, I don't see why not because I feel like more than ever we are collecting more data, we have access to more data as planners. Tools like QGIS are like really well established as open Source and obviously OpenStreetMap too. So yeah, I see it kind of going in the same direction as long as. But I do think a critical component of it is the public data that supports the open source software.      Human Actors; Non-Human Actors; Material Inscriptions

So like I, Yeah, I think one can't really exist without the other. Like in terms of.      Uncoded

Yeah, totally.      Uncoded

No, true.      Uncoded

Yeah, I think I would probably lean towards prohibit just kind of for the point that you were saying is that like. Yeah, I think the whole point of these like open data sources and open data like open source softwares is that it gives full creative control to whoever, whichever human wants to come      Non-Human Actors

in and do whatever they want with it. Right. So adding an AI layer as a lot of softwares are now like. Yeah, I feel like again, yeah, it would probably lead to some level of like privatization because again, where are you getting that AI from?

And then also. Yeah, it would just kind of strip away, I think the purpose of open data and open data software working together.

Non-Human Actors

So yeah, I would like to see them separated as for as much as possible.

Uncoded

Is that something that's come up a little bit.

Uncoded

I'm pretty skeptical of this stuff, I guess.

Uncoded

When I think about, like. Yeah, like using QGIS and things like that, like, I don't really see how AI could do that. Like the level of. Or even like the geoprocessing we were doing in RGIs.

Non-Human Actors

I don't know. I don't really see that being.

Uncoded

I did that last year.

Uncoded

Yeah.

Uncoded

I think it will creep. But I. Yeah, I think you still have to know what you're looking for.

Uncoded

Like, you still have to know the final output. Like, I. Yeah, I guess if you're thinking about like some of the geoprocessing stuff or even just like the. Like, even. Yeah, it can't probably really decide the representation that you want compared to completely. You know, if you're looking to represent X, Y and Z and process this data in this way. I don't know. Yeah, it could be. I could be wrong.

Non-Human Actors; Material Inscriptions

I guess just like uptake and also integration with other softwares. Like, if I felt like I was

Non-Human Actors

a complete outlier by doing something in a certain way.

I feel like that would probably discourage me. So whether that's compatibility or that, you know, a lot of other people have taken up the same suite of tools as well.

Non-Human Actors

Would help me.

Interaction / Relations

Yeah, I guess. Well, the data I'd be Using are probably need to be like, validated in some way, whether that was government or, you know. Yeah, through some means.

Non-Human Actors

I, Yeah, I think those are kind of the main two things.

Uncoded

Like, as long as you can interface enough with other platforms or everyone else is kind of on the similar platforms.

Uncoded

Plus your data is good. Like, that's kind of. Yeah, I would say so in terms of like, support communities. Like. Yeah, I mean, I'm kind of assuming that would already exist, but yeah, I.

Non-Human Actors

Exactly. We haven't really touched on that, but yeah, I mean, I don't think. I've never really worried about that stuff with qjs.

Uncoded

And yeah, I've actually found, to be honest, like, the roadblocks that I had with Affinity last year when I was making my strategic plan and like, public transportation, like, fighting like they were, were actually worse. Like, the support I found was worse than like that I found with qgis.

Non-Human Actors

Just in terms of, like. Yeah, the problems that people have in the availability of like, solutions.

Stability / Fragility

I mean, that's just one example. But, you know, that's my experience.

Uncoded

Cool.	Uncoded
Yeah, we can go. I'm happy to provide an opinion about any other topics that you think is like, untouched or.	Uncoded
Compatibility, use and data. And then, yeah, support would be a third. But yeah, that was kind of already assumed and I'm pretty happy with like, I would assume if it was a suite that I was taking up. I'm sure that like, there would already be that. Open source support.	Non-Human Actors
Through things that we mentioned.	Uncoded
No, no, just like. Yeah, Google and like. Yeah, like you mentioned.	Non-Human Actors
All that sort of stuff.	Uncoded
Exactly.	Uncoded
Yeah, I think there's also like, it's a nice bit of creativity about it as well that like. Yeah, I mean this is how I use. For example.	Uncoded
It's like qgis. If it's not on the QGIS website, then, you know, I might find a forum and it's like almost similar to a problem I'm having and then I actually have to problem solve it a little bit. Like.	Non-Human Actors; Stability / Fragility
Which I think also.	Uncoded
I mean maybe those older planners, like, yeah, they're. Maybe that support that they have from those softwares was a selling point, but I feel like we're going in the direction I agree where like people just find their way through it.	Human Actors; Non-Human Actors
Yeah, we're not relying on like calling up a hotline of support.	Uncoded

So then it's like. Yeah, I mean that's another reason why maybe it's. Yeah, maybe they are losing their. Those core selling features.

Uncoded

No, no. Yeah, fine.

Uncoded

## 6. Participant #6 : Master's Student - Melbourne University

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Direct Quote (Subject)

ANT Code(s)

Yes.

Uncoded

Sure. Thanks a lot. Q1.

Uncoded

Okay, cool. Thanks so much, Graham. First of all, you invited me to your program. It's really exciting to be a part. And in terms of my journey, I start my. Because I, I was an international exchange student back to my bachelor degree and I finished the first two years of my bachelor degree in China and the third and fourth year in change to RMIT University and also doing the urban regional planning. And after that I did my internship at Bayside City Council for half a year.

Human Actors; Non-Human Actors

And in the strategic planning team. And after I finished my internship I went private planning consultancy called Glossop Town Planning.

Human Actors; Interaction / Relations

Glossop Town Planning. Glossop G L O double S O P. And at the first half year I was a power planner and the final year I was a planner. And at the beginning of this year I'm actually full time study now. And in terms of my intersection with the graphic design, actually I'm not from a graphic background.

Human Actors

Geographical sciences.	Uncoded
Yes.	Uncoded
And. But I definitely knew it's an indispensable part of the planning practice. So basically all my intersections, probably based on the GIS project and some of my previous. Probably let's separate into two parts. My uni study and my working experience. And for my uni study is basically a lot of the strategic planning projects and urban. Urban coding you've already done before.	Non-Human Actors
And when you're doing. Doing the site analysis. Definitely you need to use the gis.	Non-Human Actors
Yeah.	Uncoded
To do the preliminary analysis of the sites. And other than that, for the geographical design, you probably will also use the Photoshop or Adult Illustrator. This kind of.	Non-Human Actors
Photoshop thing.	Non-Human Actors
Yeah.	Uncoded
To make things looks pretty Exactly. And yeah, sure said yeah. And for my working experience, I literally kind of feel that it really depends on the organization. Right. Just like so for instance, when I was doing my internship at Bayside City Council in the strategic planning team, there's literally nothing to do with the graphic design or geographic information, but more broadly.	Human Actors
Yeah, absolutely.	Uncoded
Yeah.	Uncoded
Especially just like in Victoria. The planning scheme is based on. It's an online platform.	Non-Human Actors

There is no one to use the, you know, the paperwork anymore.	Uncoded
I won't say no one, but the majority of the people currently relied on the digital platforms planning scheme.	Non-Human Actors
Right.	Uncoded
Yeah. And definitely that's an indicible part at the current stage for the practice and also uni study as well.	Uncoded
Yes.	Uncoded
And also just like a lot of our practice, the preliminary analysis, especially when you use the GIS system, you need to go to the big data to gathering some free access data. Yeah, I think that's amazing.	Non-Human Actors
I was a strategic planning intern.	Uncoded
Yep.	Uncoded
And when I joined the gloss of town planning, I was a paraplanner.	Human Actors
And in the last year I was a planner.	Human Actors
Yeah, sure, that's fine. And if there are some details I didn't mention about, you wanted to know more, just feel free to ask me. Q2.	Uncoded
I think the digital. If we're just not focusing on the geographical design, talking about the Digital technology. So I kind of feel that that's definitely a kind of foundational part of our daily work and the study as well.	Uncoded
So in the daily work, except for the planning schemes, the planning stuff and for the general administration stuff. So for instance, if the client come up to you and request for a kind of general inquiry or stuff like that, you need to create a new job in your system and the system is depends	Human Actors; Non-Human Actors; Interaction / Relations; Material Inscriptions



on the digital technologies as well. And also you need to rely on the system to register the client's information and also their contact. And also just like I kind of feel that especially for a private sector, at least from where I was, that's pretty important because for the digital science, let's say just like the digital technology to register clients information even after three years, sometimes you probably need to back to a client's information five or three years ago to check their address and what project you been doing with them. Which means that you can just like to searching for the certain projects in the past and to help look just like what your conversation looks like three years ago. So which means that you can resume the personality of the clients and also what's their preferences and also their pattern of communications and etc. So I think that's the first part and second part is the planning scheme and the third part is the, the spatial analysis. And the spatial analysis as we discussed a lot this morning, the, the geographical design, the G and also the Rhino sometimes sketchup. But I kind of feel that the majority of the time we don't use this concept kind this kind of modeling softwares. It's more about spatial analysis and also just like if you. So for instance if I when I was at Bayside City Council the majority of the map I literally not doing by myself.

Right?

Uncoded

Yeah, I was just referred to the IT department and they view generates the all the maps for us.

Material Inscriptions

Yeah.

Uncoded

So you can find. It's quite interesting, at least for myself I found in the local

Human Actors

governments a lot of planners actually they don't know how to use the G's and a lot of them, their G skills probably they obtained from the uni subjects. So that's some of my observation.

Yeah.

Uncoded

So buildupon that I found that's quite interesting because I actually feel the same. So when you don't. So there are probably two points as a current state. The first point is that when you don't know a software or technology sometimes you mentally feel that's just like it's quite challenging to learn a new thing. But honestly you will feel that if you learn that technology it'll be so good. It's some extra points for your daily work. Yeah but as you mentioned about. I totally agree with that for the gis it is powerful and it is necessary but it's not you have to use or you have to learn that software in your daily work in the practice especially a kind of that. That's my second point is that it also depends on your position whether you are a statutory planner, strategic planner or planning consultancy or you are policy officer or you doing the more engineering side of things. Because for the engineering companies a lot of times they have the planning from what I know or what I wear. And for the statute planning team I don't necessarily think they would do this kind of broad or really detailed not I won't say I won't put in this. I just think they won't use quite often the GI softwares. The more they do is probably doing the site analysis at the block or parcel level and the more they engaged in is the statute controls and as Steve and Rollie spoke mentioned both the formulation and the administration and the statute is probably more inclined to that administration and the planning schema management is more

Human Actors; Non-Human Actors;  
Interaction / Relations; Translation /  
Enrolment

in charge in the strategic planning team. So my stereotype is that I kind of feel that the statute planners probably relatively less engaging the GIS softwares but they do have these kind of intersections. So for instance while I was at Bayside City Council I was participating in a digital twin program in the Bayside City Council. So basically they build up these kind of 3D digital models in the Bayside City Council and want to put into the planning applications and etc and definitely statute planner is going to be a part of Them because they want, they need to provide some advice and etc so that's some of the intersections. But in the reality, I do not think statute planner would necessarily have to learn the GIS software as you mentioned about.

Know, because you need to use the urban. Because you have to.      Uncoded

Right.      Uncoded

Of.      Uncoded

Yeah. And also this depends on your perspective. Right. So there is an argument in the literature is that planning engaged in everything but don't know everything. It must be heard that kind of perspective before.      Uncoded

So I kind of feel that that's really also depends on the orientation you give to someone yourself, whether you like to do more. It's kind sometimes I kind of visit from my. Because I, I'm not kind of really professional that kind of side because I'm currently full time students. But my experience led me away. It's a little bit like uni study. Right. Just like if you wanted to get a high score you can learn. But even just like in some of the subjects you can do the      Human Actors; Translation / Enrolment; Material Inscriptions; Legitimacy Work

hand drawing. So it's really depends on you.

Yeah. Uncoded

How good you want to be. So. But I think that's probably not that relevant to the interview. But that's just some of my business aside. Yeah, that's just some of the opinion. Uncoded

And also just like by the end of the day you need to figure out what's your ending goal and what's your process or what's your instruments to achieve this goal. Uncoded

So that leads to the next point, is that I think this kind of digital technologies is the way you achieve the goal. But in terms of the goal, that's the most important part because even you use the geographical design stuff. So for instance, the GIS, you want to use the GIS as a tool to achieve your high understanding of certain size or certain area, but you can do it in another way. So for instance, back to the last century, no one knows how to use the GIS because GIS is not being developed yet. Everyone just use the hand, draw, drawing or talking with the local communities. So that's various ways. So yeah, that's my point. I think it also depends on would you treat it as an ending goal or would you treat it as a progress to achieve that goal? Because for sometimes people might say it's a kind of ending goal. So for instance, when we do the GIS subjects, we wanted to achieve the high scores, so we to some extent we treat the GIS as an ending goal and also as the GIS producers, they want to provide the markets a higher quality of the GIS program, so they treat the GIS as an ending goal. So that's linked to our previous discussion is about what's your Non-Human Actors; Material Inscriptions

orientation to yourself, to the digital softwares.

Thank you. Q3.

Uncoded

Yeah, actually there was a time when I was at my previous job and there was a time because my boss knew that I can use the Arches Pro and he wanted me to handle a graphic design because, because they're back to that point and there was no one know how to use the GIS in the team and but previously we were a kind of relatively small team, so we have a relatively limited budget. So there was not sufficient budget to buy the ArcGIS Pro.

Human Actors; Non-Human Actors; Stability / Fragility

Sure.

Uncoded

Yeah, so that's the thing. It's that just like I knew how to use ArcGIS Pro but I don't know how to use other GIS related softwares.

Non-Human Actors

Yeah.

Uncoded

And so which means that I, because I try to communicate with my boss is that I use, I can use the university software, I can use the university's account. But my boss was he, he was really kind because he was like that's your university side. We shouldn't use a university using the work.

Human Actors; Non-Human Actors

A little bit take advantage of the uni. So you insist me to use some open source software. So, for instance QGs. But that's literally my stereotype is that that's literally so clunky and I don't know where to start. And also the learning resources is much more not that organized compared to Darkgs Pro because in ArcGIS Pro is you need to pay it. So they have a relatively organized SO software package about how to learn this software. It's quite straight to

Non-Human Actors; Translation / Enrolment; Stability / Fragility

the point and you can literally learn how to use the basic, basic operations or manipulations of the different data or layers in ArcGIS Pro within the day. But huge is that the software? When you open the software it's not that engaging to learn. You know, it's like, it's like back to the 19th century stuff like that. I was like oh that's my grandpa.

And so that. So back to the, back to, back to that point I tried to learn, spend two days, whole two days in the office and I just can't figure out where to start. So I told my boss is that sorry, I really can't do this task because it's literally just the technology limitations. And at the end my boss just outsourced this graphic task to other companies to do it. So that's quite. Let me feel it's a little bit let me down because I always thought I'm good at. I knew the bottom logic, I knew how to use the graphic design or geographical analysis but it's just the platform. I just don't know how to use the platform, that's all.

Human Actors; Non-Human Actors;  
Interaction / Relations; Translation /  
Enrolment; Stability / Fragility

And also does lead to the next example of also just like excellent. And is that just like I remember there was a time, you know, just like ordinarily the. The planning scheme is quite a reliable. Right.

Legitimacy Work

Yep.

Uncoded

It's open source, it's pretty user friendly and Etc. But there was a few times when I was doing my work in my previous job is just crashed the whole system.

Stability / Fragility

Yeah.

Uncoded

So the whole states must be stopped. Also working for just like one hour or two hours.

Uncoded

So I think that's also regarding the idea of resilience.

Yeah. Uncoded

So the redundancy of your system. So which means that if you in. If you just like wholly depend on the single source and if this source crashed the whole system gonna be crashed until you fix the source. So I think that's about resilient because I'm doing the disaster residing.

Stability / Fragility

Yeah. Uncoded

Yeah. I kind of feel that units have this kind of backup plans but I think, I don't know the software design. I think in the Boltzmann logic when they design the software they might have this kind of backup plans. But I just think this needs to.

Non-Human Actors

Cautiously to considering in the near future because the whole system is to rely on this software. The majority of the system is relying on the software. So that's the thing I think we need to consider further.

Non-Human Actors

Yes. Uncoded

First of all, I need to acknowledge that I'm also really professional.

Legitimacy Work

Yeah, sure, definitely. Thanks so much, Graham. And I think that's about. For my own situation. I think that's about the personality and also my ending goal as we discussed before because I really want to achieve a higher quality of. On my assignments. Outcomes.

Uncoded

Yeah. Uncoded

At the current stage. Uncoded

Yeah. Uncoded

And back to my work. I kind of feel that this software can give me some extra knowledge to achieve the ending goal in a more. Sufficient way. Yeah, sufficient and high quality way. I think that's about the two most important parts. Drive me to learn a new software.	Non-Human Actors; Translation / Enrolment
Yeah.	Uncoded
Because it's a little bit like you learn you need to apply for a driver's license right in here when you're doing your site visit, you don't need. You're waiting for the public transport, you can just drive your car to the site directly. So I think that's two of the most important parts.	Translation / Enrolment; Stability / Fragility
Yeah.	Uncoded
Because definitely the map you generated from the software is relatively higher chance in the quality side. It's higher than your hand drawing.	Non-Human Actors; Material Inscriptions
And more precise as well.	Uncoded
Yeah.	Uncoded
Yeah, sure, definitely.	Uncoded
Yeah.	Uncoded
I think that's really interesting question because I kind of feel that's also regarding the ending goal as well.	Uncoded
Yeah.	Uncoded
Whether I have to learn the software and also the time budget as well. So for instance, if I was a director of organization, I can give this task to my team and if they need to learn software to achieve the ending goal, but I also need to considering once they got the efficient, they got enough time to learn it to achieve the satisfied	Human Actors; Non-Human Actors; Interaction / Relations; Translation / Enrolment



outcome. If not, I need to outsource this task to other organizations or teams. Yeah, yeah. I think from my own perspective, if what things let me drive me to learn new software is that whether I need to use it or if there's any ways to use it. So there's the threshold, I think whether the plan B can achieve this outcome in relatively longer time, but this extra time within my tolerance, within my time budget. So I think it really depends on the tasks as well.

Yes. Uncoded

Not sure whether that answer your question. Uncoded

If. Uncoded

And also just like that's. So for instance, back to the uni study. If I don't, if I, if I don't have to be. If I don't have to do the, the urban coding. Yeah, I, I would, I would suggest I'll never learn exactly the Photoshop Illustrator because I have to do that. That's a mandatory subject. So I need to force myself to learn this software. Although I'm not in drying it, but although just like sometimes I knew that it'll be some extra knowledge or extra skills for myself in the future, but it's not necessarily if I don't have to do this subject. So sometimes I knew it's important, but it's not necessarily so I would decide, stay in my comfortable zone to not use it because I knew I can use all the skills I've already knew now to handle all the tasks I need to deal with now at the current stage for all the mandatory subjects or all the mandatory tasks.

Non-Human Actors; Translation / Enrolment

Yeah. Uncoded

I said think that's a, that's a good point because I can feel that this kind of Non-Human Actors

designated software use compared to your Explorer by yourself. Different people might have different opinions, but at least from my opinion, I kind of feel that that's to some extent it's a good thing.

Yeah.

Uncoded

Because the universities, their job is that. Teach you how to use this. Because sometimes not even in the software. Software as well. Because if I wanted to explore a new field. So for instance, if I want to use the arches to do some spatial time, this kind of projection based on the. Because one of the tasks I'm trying to do at the current stage is that use the GIS combined with the carbon dioxide dioxide projection by 2030 and 2050.

Non-Human Actors

Combine this kind of time spatial analysis into the geographic. Into the GIS design.

Non-Human Actors

And trying to project the disaster infected area by certain points on the certain carbon dioxide emission level. But at the moment the technical barrier is that I knew I need to learn some. The coding thing, the coding knowledge, the IT stuff. But I just have no idea where to start.

Translation / Enrolment; Stability / Fragility

Yeah.

Uncoded

So what I did recently is that I just chat to my, my cousin's boyfriend.

Uncoded

Yeah.

Uncoded

Because he's doing his PhD in the technical fields in the IT field.

Uncoded

And he just gave me some academic papers to show me where to start. I think that's really important for the digital software as well, especially for the university. We know just like you need to equip students with a

Human Actors; Non-Human Actors

high understand understanding of the spatial analysis. But if you just let students to explore by themselves. For some students like myself, it might be really hard to find the right angle to cut into the point. So that's to the point. University I think should give students at least 1, 2, 3 options. You can achieve this ending goal by these three pathways.

Yeah.

Uncoded

And my list maybe university can give students some guidance about which one from our perspective is more effective. So for instance, compared to the QGs this is the advantages for the ArcGIS Pro. And also the most important point is that if you give students this kind of recommendation, I think to some extent you need to give students this kind of free access to this platform.

Human Actors; Non-Human Actors

Yeah.

Uncoded

So for instance the good thing for the unimelbest does they provide students a lot of this kind of free access to different softwares.

Human Actors; Non-Human Actors

Yeah.

Uncoded

So I think that's the good point to fix this because I knew sometimes they might give you some options but do not give you this kind of free access. So they just knew. They just let you know that ArcGIS is good, it's effective, but we do not have this access. You have to pay by yourself. I don't think that's a good thing. So this really depends on situation as well. So for instance we need to use. It might be not a good example. But I can't visa for the. Don't tell Alan. But I can't visit for the statutory planning subject. You need to use the paperwork

Non-Human Actors

based stuff and paperwork exam and you need to bring all the materials with you to the exam. Yeah, as you knew, we need to print it a lot. Jesus.

And also that's not cheap, right? No, it's not, it's not. And also just like for the uni Mel, the only thing I found that can be improved further is that you equip. That's so much printers. You should give students some free points. Right. You need. You can just like freely print it out seven pages.

Human Actors

Oh, okay. So the thing is that when I was at MIT, if you, if you were new student at MIT they gave you 200 bucks or 300 bucks, this kind of free money.

Human Actors

So that's not about actually planning, it's creating a design. I think just like it's necessary because it's currently the generative AIs and etc.

Uncoded

You need to prevent the plagiarism.

Uncoded

Examination, you have to use the paper exam. I totally understand that. But I think if you decide to do the paper examination, you knew there's some extra cost need to be generated. Someone needs to bury that cost. Yeah, so that's really depends on the decision maker whether you let students to face that cost or you let the university to pay that cost. And same as software use as well. If you are decision maker, you let your organization to use certain softwares you need to considering the extra cost, who going to bury it. Q9.

Human Actors; Non-Human Actors

Love it.

Uncoded

I mean just like, just kidding, but I mean just like. Yeah, sure. It really depends on the software as well, right? Yeah, because same as it's because for the QGs and also

Non-Human Actors

planning scheme and also the big data, we all open access, right? Yes, they all open sources, but the quality is really hard to justify because for the big data and also for the planning scheme, it's relative. It's literally can satisfy all your, all your needs and also it's user friendly and they got enough data to satisfy the demand. But for the qgis on the other hand, you knew there's plan B you need. You knew there's option B which is the. Let's say just ArcGIS Pro.

Yeah.

Uncoded

And you knew ArcGIS Pro can generate relatively higher quality maps and it's more efficient because it's. You don't need literally to do anything regarding the. The satellite image. You can just the equipment with their own base maps.

Non-Human Actors; Material Inscriptions

Yeah.

Uncoded

And you can change the coordinations pretty straightforward compared to QGs. You have to learn from start. You need to figure out by yourself. And so it really depends on the. The open source software or data you are sticking to. And that's literally the point is that the government subsidy kind of is that by the end it's a market, right?

Human Actors; Non-Human Actors;  
Translation / Enrolment

Is commercial market if you want. If you expected the organizations to generate it a high quality free access platform software or data you need that let them to make profit because by the end of the day they do. Sometimes these organizations they might. I don't know how they operate but I assume if you can also generate enough benefits it will limit their realization of the ideas. They might have some good ideas about how to improve this software. They

Human Actors; Non-Human Actors;  
Stability / Fragility

do not have enough subsidy to do so compared to the planning schemes and also big data, it's a part of the state gulf. So they have the relatively sufficient resources to do that.

What would. Uncoded

I think it really depends on the countries as well, right? Uncoded

For the federation structure and the government compared to let's say just like the. The Chinese government and in Australia the governments have. Have relatively less budgets, right? Human Actors

Yes. Uncoded

Yeah, sure. And so I think it really depends on the countries as well. In at least in Australia I kind of feel that this model is fine because the free markets. Uncoded

Yeah. Uncoded

It's a kind of trade off trade offs for the decision makers as well. So for instance for the operations like Israel. Right. Did I pronounce. Uncoded

Yeah. Uncoded

They make profit from the licenses and. Etc Non-Human Actors; Stability / Fragility  
so which means that they have relatively higher budget to generate a higher quality this kind of softwares compared to the open sources. And also just like I think that's also from another point that gave the decision maker more options. Yeah, depends on their situation, their demands. Because from one thing, although just like it'll be cool, everyone can access to the ArcGIS Pro but not everyone's ending goal is the same.

Yeah.	Uncoded
Someone might be need to do an in depth analysis. Someone might just want to have a look the streetscape so which means that they can just jump into the Google Maps street view. So I kind of feel that this model is fine for me at the current stage. Definitely there are some conflicts. So for instance for the relatively small team this kind of planning consultancies they might struggling to access to this kind of high quality software to achieve their ending goal.	Human Actors; Non-Human Actors; Interaction / Relations; Material Inscriptions
Yeah.	Uncoded
But for the general society I kind of feel that this, this is fine.	Uncoded
Yeah.	Uncoded
Because different people have different demands and also for depends on if you have a high demands to some extent you might have a higher budget.	Uncoded
Yeah.	Uncoded
But definitely governments should have some subsidies or some programs to support these kind of open source organizations to improve their budget, to improve their ending quality of the product of the project. Q11.	Human Actors; Non-Human Actors
Yeah.	Uncoded
That'S a hard one.	Uncoded
I think there's no simple answer. Right. Because. Because that's relevant to garment structure. Structure as well.	Uncoded

So sorry Graham, I. I think I probably couldn't give you a really satisfied answer the current stage for this question.	Uncoded
Yeah.	Uncoded
Need to have some in depth knowledge about government structure. You need to have some in depth knowledge about the, the providers and also the costumers markets of this, of this size.	Human Actors
Yeah.	Uncoded
Because you need to understand the demand in the market also combined with the government structure to decide which configuration is more suitable for this consumer, for this amount of consumers.	Human Actors
Yeah.	Uncoded
Because from my stereotype I can't figure that there's three options. Right. The first option is that the government do it by itself. But as well knowing that in Australia the federation structure is pretty hard compared.	Human Actors
Yeah, sure. So which means that they can provide all sources to the other companies. But on the other hand other companies is just like making profit from it. So which means that.	Uncoded
The relatively high quality discount software and option three is that you can generate buy some just like NGOs, this kind of reorganization, this, this kind of non profit organizations and they can generate a lot of good softwares as well. But on the other hand they need to, they need to. By the end of the day they are individuals, they need to make money. Yeah, sorry, it's not a good phrase but.	Human Actors; Non-Human Actors



You need to leaving. Right. Just like so which means that you need to make people make money.

Uncoded

Yeah.

Uncoded

So you need to have the subsidy cheese, pork support them to achieve a high outcome. So that's the three options in my mind as the current stage, but from my current knowledge because I do not have enough experience in this digital design field. So yeah, I'm afraid I probably couldn't really generate a kind of really satisfied answer which is the best option at the current stage.

Uncoded

Yeah.

Uncoded

No, just thanks so much for inviting me again, Graham, it's been a really great pleasure to participate into your.

Uncoded

Also, I knew it's a really meaningful project as well because it's not that traditional planning research, but I think here's someone needs to fill in this gap as well. So. Yeah. Wish you good luck.

Uncoded

## 7. Participant #7 : Master's Student / Urban Design Assistant - Melbourne University / Urbis Melbourne

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Direct Quote (Subject)

ANT Code(s)

I did my bachelor's in planning and I finished that. And then once I finished, I worked the Mornington Peninsula Shire.

Human Actors; Interaction / Relations

And actually, sorry, I should say prior to that, while I was studying concurrently was working for a developer for three years doing planning assistant work and yeah, worked as a planner for a year. But my current role started when I was halfway through my master's degree and I just applied for one of the student planning roles at Urvis, but it's, it's like called Design Assistant and I assist with the urban design and landscape architecture team at Urvis, the Melbourne office. Yeah, and it's good too. Yes, that's what I'm doing now.

Yeah, you know how casual it can be and you often come into the end of. You often come into the end of projects and like finish them up or tidy them up. And a lot of the time the consultants and students do more of the heavy technical stuff than what the seniors do, so. So we're very much using these systems.

Human Actors; Interaction / Relations

Yeah, of course. I worked for three years at R Corporation, R Corp. Which is a developer based in Zapiero.

Human Actors

Very small team. And a lot of what I was doing was using the government planning software that they have open access to, I guess. Yeah, it's all good. Yeah, yeah. And assisting with their project which was being developed in Fisherman's Bend, which was a really interesting time. It's like around 20, 2018, 2017, when all of that change started to occur in those. And. Yeah. And then worked at the shire, which they often used quite a lot. Obviously the same like government software portals, but they had their own system. Yeah. GIS system which had, you know, like, mapping of water extents with, like, erosion, etc. Which is often open to the public.

Human Actors; Non-Human Actors;  
Interaction / Relations; Material  
Inscriptions

Yeah. But like their own interface.	Uncoded
Yeah, thank you.	Uncoded
It's very much more, I guess, like I had worked for a developer, then had worked for like public service and then now working private again. The fundamental shift has been like, what's the best way to communicate? Communicate things clearly.	Human Actors
Rather than like, I guess, extracting information.	Non-Human Actors
Yeah, exactly. So my typical day is like, I often come to the end of a project with a director, project manager, and a lot of what I'll do is be given small tasks. Like they'll have like an urban design. Like maybe an architect has come on board and a developer is wanting to put forward a new proposal. And so the team is meant to analyze the structure in the context of the space and give their own independent critique on that. But they'll have a set of principles that they think the site should require. So my job will be. Okay, how do I.	Human Actors; Interaction / Relations
How do I look at the site independently from the architecture drawings, etc. That are very, you know, technical.	Material Inscriptions
And yeah, it's often like, quite in the role itself. It's quite like you don't want to draw it exactly how the architecture has drawn it. So they'll often say, like, can you just like, roughly, like sketch this? And I'll use like Adobe software to do something like that, or I'll use Rhino and extract more things out of it to not give as much context. But they'll have the defining principles, or they'll ask me to do a map to give the context of the site and the information that they think is relevant, like what the DDoS are, what the setbacks, building heights on	Non-Human Actors; Material Inscriptions

looking at like the sections of the architecture plans and trying to kind of show that it's like fine. Yeah.

Yeah, it's about communicating that. Yeah, that kind of principles.      Uncoded

Trying to not take on, like, how the architect or the planning consultant has directed the story, I guess.      Interaction / Relations

I could probably say there's been more challenges solving.      Stability / Fragility

I think. I think a lot of the time, I think Urbis themselves only have a limited number of Rhino licenses. I think there's only like 15 or something. And it shared, like, with the whole entire team, like, nationally.      Human Actors; Non-Human Actors; Interaction / Relations; Stability / Fragility

National.      Uncoded

And so it's landscape and urban design. That is. Yeah, they only have a small. I don't know if it's 15. Maybe.      Uncoded

But, yeah, just a small amount. And. Yeah, so it means, like, you know, if you're like a planning assistant, maybe you're doing something really small.      Uncoded

And someone else needs it, you have to jump off so that they can use it. And, yeah, it's a bit. It's a bit annoying because, you know, everyone's trying to get their work done on time. I think that's the major challenge. But it seems like so much of the work is people have their software that they're really comfortable using.      Non-Human Actors; Stability / Fragility

So, like, it's kind of an even split. Like the team itself is maybe, you know, 20 people, but people have their preferred. They'll use either SketchUp, Revit, or Rhino. And a lot of people, like, I really like using Rhino.      Human Actors; Non-Human Actors; Interaction / Relations

There's maybe like four in my team who love using Rhino as well.

Other people prefer Revit, and Yeah, others use SketchUp because that's what they like to use.

Non-Human Actors

Yeah.

Uncoded

It's meant that I've had to really upskill myself. Yeah. So yeah, I didn't previously have a lot of experience in all of those 3D softwares.

Non-Human Actors; Translation / Enrolment

Like as a planner you'd probably know like you Quite heavily use ArcGIS or QGIS. I prefer QGIS because I could always use that on my Mac.

Human Actors; Non-Human Actors

And then coming into my master's degree in indesign, Mac just didn't cut it anymore. I had to buy a new computer and luckily, you know, at work I also had a Windows computer that has like all of the, you know, expensive Nvidia like chips that can handle having multiple.

Non-Human Actors; Stability / Fragility

Yeah. So yeah, it's just, it's been like an upscale. Like there's lots of softwares like I think at work they use LinkedIn learning for trying to upskill people with really basic. Like they'll kind of say like we need you to upskill in this area. Maybe watch some videos or something. Yeah, yeah. And actually one of the. And maybe this is probably a good software that I hadn't previously known before. It's called Giraffe.

Non-Human Actors; Translation / Enrolment

Yeah, yeah, so we use that. That's not actually that. It's not that great. It's good for like initial. Maybe you're looking to up a lot or something and it can show you like what, what the different land uses percentages can be.

Uncoded

But we've started to use Forma and implement it with SketchUp which is something that I'm not super proficient in yet. So. Yeah, trying to upskill in those kind of areas.	Non-Human Actors; Translation / Enrolment
It's kind of like Giraffe. It's an, it's an independent software that you use via Internet but you can, you can start with a base. So say the Architect has the SketchUp or Revit file. You can implement that with Forma and do basically the same thing as Giraffe, but it's not as easy. User friendly.	Non-Human Actors
So let me have a look.	Uncoded
I don't know, it's an AI powered cloud software.	Non-Human Actors
It's Autodesk. I didn't realize that.	Uncoded
Yeah.	Uncoded
Yeah, it helps with the concept design.	Interaction / Relations
No, no, I'm very interested. I. I think I. I haven't felt super limited. I probably just felt like sometimes they're a bit clunky to use.	Stability / Fragility
Yeah. A lot of the time, like I'll use gis, like a lot of mapping as well. And I think sometimes it's not as like you have to go into Illustrator after to kind of edit the layers and it just takes a long time, I would say. So. Yeah. I think if anything it's just a bit more clunky.	Non-Human Actors; Material Inscriptions
There's just multiple steps.	Uncoded
And when you're, you know, under time pressure, you just want something that can simply do it.	Uncoded
Yes. You had to partition your computer.	Uncoded

And you think a Mac is going to like get you all the way because they sell it to you? Like, it's going to be the best thing for designers to buy. They are very user friendly, but.	Uncoded
Yes.	Uncoded
Yeah. I wonder why that is.	Uncoded
And there's all these, there's all these apps that you have to have on your computer.	Uncoded
Yeah. There's just so many.	Uncoded
Yeah. And as a planet it was more similar where you just have. Have to, you know.	Uncoded
Have that many to use.	Uncoded
It's a good question. I really think it's like, I think it's. If you're in a full time role. Yeah. A lot of the time they wouldn't perhaps always give you like that investment time to give you the chance to learn it unless they knew it could shorten the time frame. And it's just like trial and error. You don't know that for a fact unless you implement it into your daily routine. So a lot of the time I think it's just like you have to do that training on the outside and then bring it forward if it's something that you think is gonna ultimately change the. Yeah. Change the pattern of how you work generally. Yeah. And so I like a classic example of this was there was just like a really great GIS geek and he loved qgis.	Non-Human Actors; Translation / Enrolment; Stability / Fragility
So he just like made the. Just like a base map template that we use every single time we have a new site and it has all of our. It's extracted our GIS groups data so that we can use that in every new project. So it is a bit more seamless but you still have to go into Illustrator and change it. Make it look. Look really pretty.	Non-Human Actors; Material Inscriptions

Exactly.	Uncoded
I think it's the time and the. Yeah. And yeah, I guess maybe that. Maybe it is a bit of culture, who knows? But yeah.	Interaction / Relations
I think it's difficult when it's just so busy all the time.	Stability / Fragility
Yeah, I think it's just when Adobe like gets really slow.	Non-Human Actors; Stability / Fragility
Just lags because you've got lots of different layers on the one thing.	Stability / Fragility
Same as like a Rhino file having to make a work session so that you can just keep it running. Yeah, yeah, yeah. We've got pretty hearty computers. Is. But it's always. Even at uni, it tends to be the case. It's just the way the software is. Yeah, yeah.	Non-Human Actors
Yeah, I mean, I think because I am already studying and I already have the educational license licenses like for Rhino, which I can keep now forever and don't have to pay for until like it upgrades. But I have Rhino eight, which is. I won't need to upgrade for a while. Yeah, I would use QGIs, I would use Rhino and I just. I'm really done with Adobe, but I think my life kind of has always revolved around it, so. So I think I would find it really hard to go onto like, affinity or.	Non-Human Actors; Stability / Fragility
Never heard of it.	Uncoded
It's Yeah, I just, like, wouldn't know that they existed unless someone was like, oh, you should try this. It was even Blender last semester. Yeah, I never heard of that before.	Non-Human Actors
No, no. It's just easy. But, yeah, I really don't like how they've changed it now. Like, I know there's a way that you can get out of	Uncoded



paying for things, but it's just like. Yeah, it's.  
It's annoying, like, when you want to  
change your plan or something.

Yeah, it's. It's very expensive for.

Stability / Fragility

It's like.

Uncoded

I still have a box. I. I had a box that I was  
given. I think it. I think someone, like,  
would have bought it for, like, \$1,000 or  
something, so I just doubt it would work  
now.

Uncoded

Right. Yeah, I think. Because when you're a  
student, they've changed it now it's like  
one, two, three years, and then it changes  
your price according to, like, how you're  
moving up. Yeah, it's really stupid, but I  
think it's around \$29 a month.

Human Actors

Which is very expensive.

Stability / Fragility

I have friends at uni who have like, just like  
a WeChat and they're able to get the Adobe  
software for free. And they're like, you  
know, if you, if you want that, you can do  
that. And they do it for Rhino as well. Yeah,  
I just like, had no idea that that's. And it's  
like where there's a will, there's a way, you  
know, there's little.

Non-Human Actors

It's a bit naughty.

Uncoded

Yeah.

Uncoded

Yeah.

Uncoded

They just talk to each other.

Uncoded

Yeah. Well, it is helpful when you can watch  
like a tutorial on something that you're not  
too sure about. You just always refresh.  
Does take a while, though.

Interaction / Relations

Yeah.

Uncoded

I think in terms of like a company and a business, I think maybe when I think of maybe open access, I think maybe it's not as private. Like it's a bit more like your data could be taken, like maybe you have a confidential site that, you know, you don't want people knowing are going to be developed on or, you know, like what maybe security might look like in those instances. But it's something that I think I don't have that much, like, knowledge about.

Non-Human Actors

I think that's my impression.

Uncoded

I don't know if that applies to open source or open access, because I'm not even too familiar with.

Uncoded

And I think like, even, like I'm thinking, like, if you're a planner and you're trying to like show you know, where something is happening. And I know sometimes they'll give you physical letters or they'll give you an email. Email that shows you like where it is, like on a map. Maybe. It's not always, like easily.

Human Actors; Material Inscriptions

A lot of people. I think those kind of things, like you take, I guess, like, maybe more so in like, like urban planning, like engagement and consultation. Like those kinds of things.

Interaction / Relations

Aren't always easily read. And I think there's sometimes like this kind of imbalance of, you know, if you are a civilian and you're going in and they're showing you like a map or you're having to look something up, like, what is this? It's not always. Yeah, yeah.

Material Inscriptions

Yeah. And actually on that point like I was, I think I emailed you, you just saying like that there was this open access software.	Non-Human Actors
I need to find the presentation about it but it kind of like it was like they were. And I want to get my language right. When I find it I will let you know whether it's open source or open access.	Uncoded
They landlocked it for like specific site and they like. I think it costs a bit because they're obviously putting their own funding into.	Uncoded
But they like if the government or if like a private developer was like looking into a site and needing to consult with the locals in the area. They've trialled using it to. And it is very easy. It's almost like Waze. I don't know if you've used that. Yeah, yeah. It's like very, very simple. Map.	Human Actors; Interaction / Relations; Material Inscriptions
But it kind of used AI to like an example of how the community could use it was that they used AI to kind of generate images based on like maybe some things that they were suggesting they wanted. And then they would get to pick the picture of what's more closely aligned with what they were envisioning or, like, they were. They were able to, like, draw circles on areas that they want to change or. I thought it was pretty cool.	Translation / Enrolment
I've never heard of.	Uncoded
Yeah, it was a Dutch investor and, yeah, he had a team. I'll. I'll find it.	Human Actors; Interaction / Relations
No, no, it's very close.	Uncoded
Or the Hague.	Uncoded
Oh, yeah.	Uncoded

They're hard to navigate, though, if you don't know where you're going.	Uncoded
Yeah.	Uncoded
It's not that bad. But yeah, I mean, when you have the facilities and.	Uncoded
And your government is like, you know, actively putting it forward, wanting change, I think that's the difference. We're like so lobbied with cars. Even car parking at the airport is like, it's so lovely.	Human Actors
Yeah. That actually reminded me of with when I was working at the Shire we had like an extent of sea level rise and where it was going to hit and I remember looking like I had a site that I was looking at in. I think it might have been like close to Sha. I'm trying to think of the suburb. It's not coming to mind but it's like that western Fort Bay and they had like the 50 year, 100 year. And then I remember someone saying to me like all that data is like out of date. It's actually like way worse than what it is. And I was like, excuse me, like why is this not on here? Like we're telling, you know, these people have bought this property thinking they're going to develop it and then in 100 years years time like it's no sea wall is gonna like survive forever.	Non-Human Actors
So yeah, that was like a really. Yeah. Scary realization. But that comes to funding.	Uncoded
Yeah.	Uncoded
Truly important.	Uncoded
I think I would have to watch a few videos on how they work.	Uncoded
And I think I would have to see in. Yeah. In my work. Well, I mean it's like they've already paid for these base things that we	Uncoded

have. So I think, I think it would honestly like I would have to flip it and like make them see that they don't have to pay for those things.

Yeah, exactly. Yeah. So yeah, I think, I think in this case it's like at an individual level like you have to do the research and then bring it in. And I think I would have to, to, to feel comfortable I'd have to. Yeah. Watch how I can, how I can supplement it for what I'm currently using and that it can do the same thing, yeah, Because I have been very comfortable using those range of software.

Non-Human Actors

So, yeah, I'm not saying I would never, but yeah, I think I would have to. Yeah. Take the time to do that.

Uncoded

To navigate, I think as well, when you're working for like a private company as well. It's like. It's always. I find my personal experience like that is research that you do in your own time. You don't do it while you're.

Uncoded

I think I had the same talk. Yeah, I did the GIS subject last year. I think I'm recording.

Non-Human Actors

Hippie guy and he said you could always go and ask him any questions. Yeah, yeah.

Uncoded

I've never really questioned the influence more openly way. But yeah, they have a lot, actually. Yeah, yeah. It's almost like you can't do the work without them. I think that's the way that. Yeah, yeah. Even like. I don't know. I don't really. We use like InDesign as well to like set up our templates. Like, we have our, like corporate. Yeah. And the plugins. Like that too. Yeah, yeah. It's like we couldn't do that work without it. Yeah, yeah, yeah. I think they have quite a lot.

Non-Human Actors; Material Inscriptions

A lot of power.	Uncoded
So I'm even just thinking about some of the landscape people in my team. Like, I haven't had to do this directly, but I have with Uni. But like using like even like rendering software as well. Yeah, like, you just. Yeah, you just have to. We use like Lumen and Skate.	Human Actors; Non-Human Actors; Interaction / Relations
But yeah, I'm like trying to. I think TwinMotion would be like a really good one to use. Yeah, it's more simple, but I think a bit more. It does lag quite a bit. They all do.	Non-Human Actors; Stability / Fragility
But yeah. Yeah, I think like, that's a specific thing that you just like. I don't know if there would be like a alternate thing to use for that.	Uncoded
Oh, really? I didn't know that.	Uncoded
I think, I think it's just in terms of like the. I think the financial thing is like something that probably would be the turning point. Like that maybe if there was something that, I mean, they're all like, I guess competing with each other, the different types of rendering or. Yeah. Or 3D software kind of. But yeah, I'm actually not too sure, like what, what the licenses are like how much it is for, for the company to have like all of them. And I think they had thought of maybe like moving to one that everyone uses but everyone likes their own.	Non-Human Actors; Stability / Fragility
Yeah. I think it would come to like maybe if they had to cut budget or something somewhere.	Uncoded
But I'm not sure, I'm really not too sure how. So how they would question, how they would question it like to these big.	Uncoded

Yeah, yeah.	Uncoded
Yeah. I think, I think the only change that I saw maybe was when, when I was working for our corporation and they like signed a deal with Land Checker and yeah, like, and that was something that was going to give them the planning report with more detailed information than maybe what they would have had to do using like VIC Plan and also the planning scheme. And. Yeah, but I mean it's not, it's obviously not free everyone. I don't really think I see it unless like, yeah, I, I wish I, I wish I did. I think, yeah, I think there's a lot also like yeah, you need the change makers and I think it's like the younger people coming in as well because I think a lot of people have like learned when these systems were first in place. Just has continued to use them throughout, so. Yeah, I know, exactly. I think that's excellent.	Non-Human Actors; Translation / Enrolment; Material Inscriptions
Like I just. Now I'm thinking about all the software and it's just like there's a huge list. Yeah, it's like near. Near maps. I think that's the only one I. Yeah. Ordering. Yeah. There's just so many and, and they're all really expensive.	Non-Human Actors; Stability / Fragility; Material Inscriptions
Yeah, that would be interesting if you could find something about that.	Uncoded
It's like very small things. Yeah, yeah, I'll send you when I can.	Uncoded
Yeah, I'm trying to find the like notes and the, the presentation. They haven't sent it to us yet.	Uncoded
Yeah, Two weeks. Well, I think that's about it. Yeah.	Uncoded

## 8. Participant #8: Master's Student - Melbourne University

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Direct Quote (Subject)	ANT Code(s)
Okay, let's start with my story. After I graduate from my campus, from my undergrad back in my country.	Stability / Fragility
Not really after my study ends because my journey going into geographic sciences even started before it, because in the past, I joined the geography in both national and international. That's how I learned urban and regional planning. That's why I applied for urban and regional planning back in my undergrad.	Material Inscriptions; Legitimacy Work
Then I got graduated after that. I work for a government agency. Government agency in Indonesia. It's about. It's in the. It's a planning agency. Ministry of National Development. Planning.	Stability / Fragility
I actually not really work in the field of urban planning because I work in the field of regional finance. Basically we are talking about how do we ensure local governments back in Indonesia they can finance their own government revenues because most of them rely on national spending to be given to them. And how did I come to my current role? I applied for that to my supervisor during my internship time because I did my internship in the same place. And what does my professional identity look like? I was a fresh graduate student, so I learned a lot. I didn't have a really, really professional background before because I've just been graduated.	Human Actors; Non-Human Actors; Legitimacy Work



Yeah. So basically I just, I just became a junior. Technical stuff. Did some work mainly dealing with maps.	Non-Human Actors; Stability / Fragility
But I didn't really create the map because one of my friends, he did that map as well. Right. But I help to describe the location of Indonesia's local government areas. Where are the areas that need more government support and where are the areas in which they can be let it go. I mean, an area that is. That already has a lot of money. For instance, my hometown, Jakarta. Jakarta has a lot of money. So it doesn't really rely on the government to finance itself. So we map those ability of each region in terms of their ability to finalize themselves.	Translation / Enrolment
Oh, okay. So actually I helped with my friend because my friend and I, we had a training how to use.	Human Actors; Non-Human Actors
How to use jugis. It was a workshop we did it for. For a day. And then. And then we learned. Okay, how to use this, how to use that. Because in the past when I did my undergrad, I only learned G ArcGIS.	Non-Human Actors
But it's. But it's. It's not free. It wasn't free. And also. So I couldn't really implement my ArcGIS skill because the interface of GI QGIS itself is a bit different.	Stability / Fragility
Sadly, when I studied in my undergrad, I had to use hijack class.	Stability / Fragility
A cracking cracker.	Translation / Enrolment
Because we need to learn gis. But my campus wasn't prepared for that.	Interaction / Relations
Yeah. Because we don't have enough money to buy the license.	Human Actors
I think for my campus. My campus already stated that. Okay, we will use ArcGIS, but	Human Actors; Non-Human Actors

we only provide you with the correct version.

Please install that.

Non-Human Actors; Stability / Fragility

Because we didn't have enough money to buy the license.

Uncoded

But then in the next year after I graduated, my campus realized that it's not an ethical way. So they started to change the way they teach GIS using qgis. But then I already become a person who is graduated with dark GIS skills.

Human Actors

And my office wasn't really care about the license thing. They only asked me to. Okay, please create this map. We don't really care about the way you create that. We just want to see the result. Because we were in a tight deadline to create a national development platform.

Material Inscriptions

So what does.

Human Actors; Non-Human Actors;  
Legitimacy Work

So when I came to Australia, luckily they again used ArcGIS, a skill that I already earned back in my undergrad. But they provide us a license, so I feel more comfortable on that. I just worry on myself after I graduate from planning school whether I can still use ArcGIS or not, whether it will be provided or not by my employer. Some sort of. But probably I'll just navigate myself. Probably I need to learn about QGIS again. They might be different, but the differences might not be as significant.

Legitimacy Work

My typical day is just is a student going to campus especially for this semester. I don't have any class classes accept thesis. So I'll just come to campus for doing activities like this interview, meet friends, our

Human Actors; Non-Human Actors

vocational placement supervisor. And the way digital tools shape or structure me is that it helps me to arrange schedules at least. I also use digital tools to finish my work because I have to use Microsoft Word to use another software maybe to make presentations. And also if we talk about previous thing I did in the past, we also use free software such as.

Yeah, I created my CV using canva.

Interaction / Relations

And also I also use many software especially, especially in last year because we have urban coding. Yeah, I use Affinity Designer.

Stability / Fragility

Which is free because campus provided us with the license.

Human Actors

So I qualified. I also use another software such as SketchUp. Yeah, I think for SketchUp because it's. It wasn't free even. It's. It's not free until today. For us to use we have to pay certain amount of money. So I have four or three accounts.

Non-Human Actors; Stability / Fragility

For an account.

Human Actors; Non-Human Actors

Yeah, I use that seven day trial. So I try to finish all of my work within the trial days.

Translation / Enrolment

And after it expires then I will use another account. I think I have three or four account to create.

Stability / Fragility

So.

Human Actors; Non-Human Actors

I think when I. When I did my undergrad, there was.

Uncoded

It was a. It was an assignment.

Material Inscriptions

We need to create. We need to create the site layout for housing.

Uncoded

So I learned the way I use AutoCAD. It was really useful, actually. Oh, okay. So this is the way we used it.

Stability / Fragility

We create this kind of curve. Do we create. Create roadblocks? Let me create pipeman pavement areas. To what extent does this area should. As wide as what width? And also when I did my undergrad, I used SketchUp. That's the way I learned how to build. Building. Oh, okay. So there is a software we. We can imagine, we can create that we can use to create this kind of building or just put. Put it up and then put it down. So overall, my experience mostly is in a good way regarding software.

Non-Human Actors; Stability / Fragility

There is a moment when I did my GIS subject back in my. In this urban planning school in Unimel. Yeah, I think it was last year. It happened last year, but I took GIS classes. I finished my assignment, but it was very terrible because the app kept crashing when I used that. So I opened this project and then there are a lot of functions, a lot of tools that I use at the same time. Because I need to create a model builder.

Legitimacy Work

But then it crashed. Oh. Suddenly the application was closed. Oh, no. What happened? Where should I do that? Then I tried to use campus computer and then it worked, but then I used back my laptop. Then it cracked down again. Oh, God. It happened a lot. And I was alone. I was alone at that time. So I was really nervous. I didn't have any person to tell with because not so many of my friends at the time were taking that subject. Even there are some of them. I think I wasn't so close with them at that time. So I just felt that I felt alone when I dealt with the troubleshooting.

Stability / Fragility

At ArcGIs.	Human Actors
That's a moment which makes me completely. A bit. A bit completely go down.	Uncoded
Yeah, I just kept trying, trying going on do another way, this way, another way. Because anyway, the Deadlands doesn't care about our troubleshooting problems. So I just have to go away.	Human Actors
All done. Two hours before the deadline.	Human Actors; Non-Human Actors; Legitimacy Work
PCs sometimes if you happened when I was in campus, but then most of them or maybe 50. 50. 50 happened here. 50 happened in my apartment.	Human Actors
But sometimes it went worse when it happened here because I had to mobile from one point to another point. And also it was during winter and I think last winter was very cold.	Translation / Enrolment
So I think I become more confident to use that in these days, especially in people because I think recently I've got a lot of friends. We've got a lot of friends recently. So if we have any problem then we can just discuss with them. I already know the way we consult with our lecturers, our teachers, so it makes everything a bit easier. I also already have some experience using those softwares. Let's call RGS SketchUp. At least we already use that once. So if you want to use that again then we might still recall some of our memories back in time when we were doing that in the past.	Legitimacy Work
So I think I personally become more confident in my sort of senior or special as role probably and I might use that more in the future because I think in the future our	Legitimacy Work

work will be more diverse. We will have to do a lot.

Yeah. Also you will become a person that is, that is beneficial for the institution that you are working on. It will be also beneficial for your career. Oh, this person is good in many things. So I'll proceed with your career path and so on and so forth. That's what I'm looking for.

Material Inscriptions; Legitimacy Work

Because my friends back in Indonesia, they started to learn a lot of software because it just be so useful in their homework.

Translation / Enrolment

I think. Yes, I have. There are some moments in which oh, I want to create these features in ArcGIS or I want to create this kind of layout in Canva, but I couldn't do that because it's paid.

Material Inscriptions

Then how to solve it? I just look around or maybe I try another way in which the result can similar as what I'm looking for.

Human Actors; Non-Human Actors;  
Legitimacy Work

So trying to go around a bit, try another way and also find some alternative will be. Will be my own personal preference.

Legitimacy Work

For instance? For instance ArcGIS.

Material Inscriptions; Legitimacy Work

I think in ArcGIS there are some features for clipping an area. A certain areas.

Human Actors

Sometimes I want to clip this area but keep the information be the same.

Human Actors

Between two areas or even combine both of them.

Translation / Enrolment

Actually there is a simple way to do that but then I didn't know in.

Human Actors; Non-Human Actors;  
Legitimacy Work

But I cannot say what's the name of the future.

Uncoded

Yeah it's. But I think I got a moment in which I want to combine some features and keep all of them be the same in the same attribute table.	Uncoded
How to do that? I don't know about it. So I just going around find another way in which I know it and then finally I arrive in my destination in my aim.	Human Actors; Interaction / Relations
Oh, actually there is a more simple way but I didn't know that.	Translation / Enrolment
I just used the same software but.	Human Actors; Non-Human Actors; Legitimacy Work
Or maybe sometimes use another software.	Material Inscriptions; Legitimacy Work
But it's for personal, it's not for assignment.	Human Actors; Non-Human Actors
I use that a lot.	Human Actors; Non-Human Actors; Legitimacy Work
The website. Going to website. Find the way people solve that problem.	Legitimacy Work
I would say say 50, 60, 70% of their solution works.	Non-Human Actors
So I think it's a reliable way to get a solution if you find some problems. But then for some people who are not really familiar with the software itself.	Non-Human Actors
Even it they will find looking for information in those websites will be terrifying or in a horrible. And become a horrible experience.	Non-Human Actors
Like oh no, I cannot use this software. Even I cannot use this software. Then I have to explore its solution by myself online. I would instead just ask another person to solve it because that's what I'm doing. In the past.	Uncoded

I didn't really like reading solutions in website.	Interaction / Relations
Because I'm here in Australia then I.	Stability / Fragility
They're just afraid that it will take longer. After my deadline.	Material Inscriptions
Even after my deadline I just reject it.	Human Actors; Interaction / Relations
I think the best solution is still asking to ride.	Human Actors; Non-Human Actors
I think it's both time and training.	Uncoded
Because we need more time to learn. And also when I was working in my agency, we have less time to do that because we were really busy with all administrative stuffs. We need to create memo, presentation, report and so on. And we don't have any energy anymore to create, to learn softwares.	Uncoded
Because after work we just want to have a rest.	Translation / Enrolment
But for culture. I don't think so.	Human Actors; Interaction / Relations
Because even we are encouraged to learn more. It's a good way. But we just don't have time and sometimes lazy.	Human Actors
So I think I'll tell my experience back when I was working. So my office hired a trainer. Hired a trainer. And then we have a training online. Online and offline, both a hybrid and in a hybrid mode. So everyone opened their laptop and then the instructor told us to do this, to do that. That's the way we are doing training.	Material Inscriptions
I think I haven't.	Stability / Fragility
Software that actually you feel like it.	Legitimacy Work
I think no.	Material Inscriptions; Legitimacy Work



I think no.	Non-Human Actors; Stability / Fragility
Every software helps you, but in the different.	Uncoded
I think the way I know my answer. What.	Human Actors; Interaction / Relations
Use software, I feel that I'm. It was. It's really helpful. Yeah, it's helpful, but in a different way. There were some certain stories in which the survey is easy, accessible, easy to use. The interface wasn't really technically. But then at the other moment, there are some softwares that seem to be really complicated. So my only challenge is to. Is to navigate to all those functions within the software itself, because that's a.	Non-Human Actors
But I think I haven't got any problem. Any issue in which the software works against my intention.	Material Inscriptions
I think the software that I'll keep using is basically Microsoft Office.	Legitimacy Work
Because it's the basic. The most basic.	Legitimacy Work
And also the other one is I'll probably keep ArcGIS because I will work in the field of urban planning and urban planners really need geographic software.	Human Actors
But for other softwares, just like for statistical use, like Stata, I'm not sure whether I will use Them or not? Because it's more like for research. Yeah, heavy on research, but it will depend on the office needs. But if you ask me what software will I keep the most? The first one is the Microsoft Office Family and then the second one would.	Human Actors
It's because. It's because in the past I was trained in using ArcGIS, not QGIS. Actually	Translation / Enrolment

if I cannot get the license or any kind of license for ArcGIS.

It will take more time. But I'd be more than happy to use rgs. Human Actors

Cuz I have the modules and so on. Uncoded

Yeah, I think I know what the mean is. I just associate the mov and the software that is free. Interaction / Relations

That's the first impression I've got. That I've got. And then some names that comes to my mind were GGIs, Canva. I don't know whether Affinity Designer is free or not or it's free because our campus has its license. I don't know. Yeah, I don't think it's open source. Uncoded

And also what's the other one? Open. Open OpenState Map. Legitimacy Work

Open Source. Sorry, could you please explain to me again what does Open Source mean? Non-Human Actors; Stability / Fragility

Can you give an example of open source tools that is common for us to use? Non-Human Actors; Stability / Fragility

An example of any open source tools. Interaction / Relations

I think, I think if I feel comfortable to integrate that. Human Actors; Non-Human Actors; Legitimacy Work

The way I become comfortable is the way I can finally learn to use it. Non-Human Actors; Stability / Fragility

If I, if I learn, if I understand using that I can be feel comfortable possible because I know the way to solve any solution. Because if you do any work that in which you are not understand how do you use that? It will be terrifying. Legitimacy Work

Will consume a lot of time. So I'll just instead teach it.	Human Actors
I really hope this campus teach us any software that is open source.	Non-Human Actors; Stability / Fragility
I want the campus to teach us using those free softwares in case in the future we were asked to create maps in a condition where our employer doesn't give us any license for gis.	Legitimacy Work
It's a bit tricky.	Material Inscriptions
I don't really know the condition behind the window, but my suggestion is that it's a bad thing. We need to know who funds the.	Material Inscriptions
I think the UNI has a role, but it's not really significant.	Human Actors
Because finally we use software that is asked by our employers or maybe if the campus, the uni use ArcGIS, but then in our working daily work we don't have any access to get that, then we have to learn another software.	Human Actors; Non-Human Actors
Ah, it also can happen. Yeah, I think. But then in my real thoughts, some of those. Because I don't know why, I don't know the condition in Australia, whether employers provide their employees with paid license or what usually.	Material Inscriptions
Yeah, but then I use the contacts back in my home country.	Legitimacy Work
In which we are not really provide any source sources on or maybe license for using those applications. We just go ahead with using any open source or sort of free. Free applications. Because it can save government money.	Non-Human Actors

And also not only government budget, but if we work in a private firm that it will save a lot of. So I assume that in the context of efficiency, probably efficiency for money, probably people will instead choose to use open source free applications, regardless of what applications are they talking being taught in the uni, except for certain profession in which you said before, architects maybe have different contexts.	Human Actors
Then if we are talking about urban planning, we have two alternative. The paid one, which we were taught by the uni.	Non-Human Actors; Stability / Fragility
And also the free one. But we are not being taught when.	Material Inscriptions
We need to start the conversation to not focusing on the software itself, but then the usability of the software.	Non-Human Actors; Stability / Fragility
Which application does. Does work well, which application does provide more functions and then. And it's more reliable, which one is more reliable to use?	Material Inscriptions; Legitimacy Work
And let the companies, the large software companies to work on that, to compete on that. Good way.	Human Actors; Non-Human Actors
So we hope it happened. But if we see the current world in which companies with More resources, with more money, funding, they can give more resources to campus. Okay, you can use this software for free. That's the way they market their product. And then it will become a thing that you have mentioned before. All graduates from many universities already know to use this software. And then industry workers, they don't have any use any, any, any solution to do that unless they will spend a lot of money and time just to train them to use softwares that already been used in	Human Actors

institutions. So I think, yeah, as what you said, they have a lot of power, especially if it deals with the help with the donor or what given to the universe.

So I think in this case the university plays a significant role to sort and filter. What application does it feel to be more reliable in the industry. Industry world and also in the academia? So it will create a more efficiency in both for. For campus. Because. Because its grade weights can work in both private or public sectors in the professional world or either become a teacher or a candidate in the campus.

Human Actors; Non-Human Actors;  
Legitimacy Work

If I want to give, to give a normative answer, every party has their own role. But if I were to give a specific answer, my answer is that the best filter is actually in this case is the private firms or private firms or maybe industry. Industry world because. Because campus usually they respond to what industry needs because there are more, there are more influence.

Human Actors; Non-Human Actors;  
Legitimacy Work

Campus should fly it with the industry world because it will help them to, to channel their students after they graduate.

Translation / Enrolment

So I think starting it from the private firm, from the industry world of planning industry, it can be a good way for us to start questioning, okay. Why this happened, why they only use this kind of software. It doesn't free it costs a lot of money. It runs government budget.

Human Actors; Non-Human Actors

So they can give some sort of pressure to campus to start filtering what application should they use and also start to question the software firms. Oh, okay. So this is the needs of those working in planning industry. If they want free or less charge software, then they start to adapt to suit

Stability / Fragility

with them. So finally the determinants on the K case, that should be the planning industry itself. If you want the normal.

The first one. Yes, yes I do. Yes, I do. It plays a role to give planners and designers more in the future because they can determine which application that is more suitable for them without any non technique, without any non significant barriers. I mean non significant here is things outside the technical skills itself.

Human Actors; Non-Human Actors;  
Legitimacy Work

More independence that. Because finally planners can decide on their own based on their technocratic ability.

Human Actors; Non-Human Actors;  
Legitimacy Work

Oh, okay, this is usable. This is not usable. They have more application. This is not. So they can work in a more objective way without any non technical barriers which shouldn't happen. That's what happens. And also for the second one, what would need, what would need to change for this alternative to become a real part? Oh yeah, okay. So I think what has to be changed is that is the way we see software itself.

Material Inscriptions

Let's start again about the functionality of each software. Not really talk about their price, not about their politics of circumstances.

Non-Human Actors; Stability / Fragility

Okay, because this campus has a strong link with this software firms, then they only use this kind of software firms because it happened because the dean of this campus close to certain people who is the owner of certain softwares.

Non-Human Actors

No, no, no. We have to go away from that matter.

Uncoded

Because it will just. It will. It Will this discourage people to learn?

Human Actors; Non-Human Actors;  
Legitimacy Work

And discourage a lot of time, money, resources only for benefiting certain goals. So I think it's a good, it's a good discourse to have a starting point in this topic. Not so many people are talking about this. So I think from. You can start from this research to question.	Stability / Fragility
Start questioning the role of software.	Stability / Fragility
I don't think so.	Uncoded
Because it will make a tendency that this class is sponsored by certain software. I'm not sure.	Human Actors; Non-Human Actors; Legitimacy Work
Yes, it can be a useful one. Sorry. It can be a useful one because you learn a lot of software supposed to be GIS software. There is ArcGIS or maybe another software but then it will come to another issue. How many people will take that subject? Can it be an elder eligible reason to create a new subject? And it will come to the university technical issues regarding. But I think if they have significant students on that subject they can just go ahead with the solution. It's a good way to learn.	Human Actors; Non-Human Actors; Legitimacy Work
Good luck on your thesis, Graham.	Uncoded
I'd love to know it.	Uncoded
Read your thesis as well.	Uncoded

## 9. Participant #9 : Transport Engineer - Maribyrnong City Council

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Direct Quote (Subject)

ANT Code(s)

Sure, yeah.	Uncoded
Happy for you to record this.	Uncoded
Yep. Q1.	Uncoded
Sure. So in my current role here, I'm the senior transport engineer at Maribyrnong Council, which is an, well, so local council in the inner west of Melbourne. If you haven't heard of it.	Human Actors
I.	Uncoded
Think a transport engineer's role is quite broad in a local council. It has. It involves a number of different things, everything from customer service to, you know, data analysis, spatial data analysis, like what your researcher is surrounding around, and even like design services and project management. There's quite a lot of things here. My previous role at IV actually involved a large amount of spatial data analysis using gis, which is probably why Cath suggested that I do this. But GIS in this organization, primarily because of the way that our IT department controls the availability of programs and the capacity of our computers to run programs like ArcGIS. It's almost entirely confined to a program called Ringtail, which is like a GIS platform that includes a whole range of different things for different departments. So it includes. I've got it open at the moment, which is good luck. It includes a map of all council's assets overlaying on a. On a. On a high quality aerial that's updated periodically through Near Map. Near Map is a product we regularly use in councils. It's really good for planning enforcement.	Human Actors; Non-Human Actors; Translation / Enrolment; Material Inscriptions
Yeah.	Uncoded



It's also good for development of concepts and other things. Our GIS system has several different little portals. One for council's assets, one for general use, another one for planning matters, property and transport. An urban forest as well.	Human Actors; Non-Human Actors
So the ones that we tend to use the most of our council's assets in my team, that is and general use. The two things are that those just help us identify where the boundaries for our land and private land or other department.	Human Actors; Interaction / Relations
State or crown land might be.	Uncoded
Yeah.	Uncoded
And that's, that's a large portion of what we're doing. But at the moment I'm also looking at crash statistics. Okay.	Stability / Fragility
Yeah.	Uncoded
So road crash, road trauma statistics at a very fine individual level.	Stability / Fragility
Yeah.	Uncoded
And I've been recently mapping that on my private. My PC at home so I can bring the outputs here.	Material Inscriptions
Yeah.	Uncoded
And use them in Maya, you know, day to day work for. So that we could sort of see the spatial correlation between different features and roads and where crashes tend to occur in the road network and you know, what kind of road users are involved in those crashes. So that's one another aspect of, you know, unfortunately because of IT restrictions we can't use the program that I'm most comfortable with on our work computers.	Non-Human Actors; Interaction / Relations; Stability / Fragility

So I instead have to use it on my home computer. And there's been several requests by different staff to involve to allow us to download this program and use it in lieu of the one that's sanctioned by the organization. But it has simply not budged.

Human Actors; Non-Human Actors

It's an interesting profession. It really depends which place you work in it.

Uncoded

Yeah.

Uncoded

Transport engineering can mean a lot of different things to different people. But there, there are some fundamentals. But transport planning is an often completely different beast as well. It more closely resembles an actual strategic planning role with a focus on transport. But look, I'll move on to the next question in the interest of time. Q2.

Human Actors

I think Ringtail is the organization's GIS system is a really good example of how. Of things that shape daily rhythm because it's something that I will refer to at one or another point during the day for a range of different reasons. Say for another safe. For example, we have rights data as well within the GIS system. Other information that's really helpful for doing things like community engagement is all within our GIS system. So the uses of it are pretty broad. So I think. I don't know, it's not a strict rhythm because it's not the core function GIS related work, but we often come into contact. Contact with it and the specific tool and the course of business as usual.

Non-Human Actors; Interaction / Relations

Yeah, yes, absolutely. I was thinking of. Yeah, I was just thinking of geographic sciences specifically.

Uncoded

Yeah.	Uncoded
We have a. We have a customer request system set up in Salesforce which allows us to track every time a resident or customer business, whatever submits a query to council. An inquiry to council that's logged into a system is distributed in inquiries distributed by a customer service unit into the respective officer area. So the subject matter experts who draft a response either to a manager or their. Or their. Or the resident or business directly in accordance with the customer service policy that we have in. In place. And that's all tracked through the Salesforce system.	Human Actors
Correct.	Uncoded
Yeah.	Uncoded
And there's other. There's other programs that do the same thing depending on the department. So Public Health has their own system for their. For their needs and Asset protection Protection have another system called Authority Authority 7 which is they. They use for the same. The same sort of workflow but it's specific to the inquiries that come to them and applications for things like new road openings or legal point of discharge and so on. Yeah, it also helps. Helps with collecting revenue, having a system that can track things. Q3.	Non-Human Actors; Interaction / Relations; Legitimacy Work
Not in this current role, but in previous roles.	Uncoded
In previous roles, GIS has been really helpful in solving spatial correlation questions I have, but I think it's not as. It's. It's not as black and white as, you know, a software either solving a challenge perfectly or.	Non-Human Actors; Interaction / Relations; Stability / Fragility

Yeah.	Uncoded
Or letting me down entirely. What usually happens is we tailor our approach to whatever serves the software's needs. In particular, how would I say.	Non-Human Actors
Where.	Uncoded
I'm. I just can't think of an example.	Uncoded
It's tough.	Uncoded
We don't use a lot of that here. We do have. I'm. I'm speaking to you on Microsoft Team. Microsoft, not Microsoft Teams. Zoom. Yeah, And Zoom on occasion is known to let me down.	Interaction / Relations
Just by. For example, if an external person sets up a meeting, it cuts out after 45 minutes.	Uncoded
If they don't have a license. So it's something worth remembering. But yeah, apart from that, I can't think of a specific occasion where it's let me down. Perhaps because it would have to have worked in the first place to let me down. I'll just look at what we've got now, maybe. Perhaps. Let's move on to the next question. I'm sorry, I can't help you there. Q4.	Interaction / Relations
Oh, sorry, I just had a. I just had an example of three. I just haven't used it here since I joined. In previous roles, I used a lot of Python and R. Yeah. So I used Python IDEs and RStudio a lot and they've solved massive data analysis challenges for me. In particular, looking at large, unwieldy data sets that the state had given us to understand. I think they gave them to us without the expectation that we would be able to analyze them. But through the development of, you know, scripts in R or Python and Python PyQGIS and the	Non-Human Actors; Stability / Fragility

integration of at least one of the two of them, we were able to produce some really insightful, you know, insightful readings of summaries of that information. So it has been, it has been really useful, but it's mostly been the open source stuff. That's extremely useful.

Yeah, yeah.

Uncoded

I'm sorry.

Uncoded

Ah, right, yeah, well, look, I, I've, you don't have to worry about that. I, I, I've, I've, I don't get, you know, it doesn't, it doesn't scare me that, that kind of discussion. Yeah, I had, I, I really enjoyed working with those analytical tools in my previous role, but I simply don't have any, I don't have any purpose for them here.

Non-Human Actors

If I do, then I just haven't found it yet. I've done some analysis before using. I read through six and a half thousand customer requests individually and categorized them night after night until I finished about 10 years worth because the system hadn't categorized them properly and there wasn't any. I couldn't find a script that could accurately detect the, the meaning of each of each request and categorize it.

Legitimacy Work

Yeah.

Uncoded

But now in reflecting on that, I think I should have just tried to use Copilot or chatgpt a bit more strategically.

Uncoded

I think even some, even some of the content of that was so nuanced that I couldn't really understand it unless I read it and read between the lines and I wouldn't have gotten the same outcome had I not just looked at it myself. But anyway, that was done and then it was plotted over a map in

Non-Human Actors; Material Inscriptions

GIS and different categories were aggregated so that we could see where requests consistently arose in the municipality.

Yeah.

Uncoded

And some maps were produced to help explain that situation. So that's another example of where it solved my. A major challenge here at this council rather than in my last job. Sorry. Now you've got me. The. The wheels are turning. But in answer to question four, I use it differently now. I use it. I use it less and I use it. The things I write now are much less complex or unwieldy.

Human Actors; Interaction / Relations;  
Stability / Fragility; Material Inscriptions

Yeah.

Uncoded

And there's no one here who is even remotely familiar with that kind of.

Uncoded

Yeah.

Uncoded

That kind of analysis.

Uncoded

All the tools used for it even we have a Smart Cities team sit on the other side of the room.

Non-Human Actors; Interaction / Relations

Yeah.

Uncoded

It's not on there on their horizon. So that's the difference. It's just less technical environment when.

Uncoded

Well, I'll give you another example. I used crash statistic data a few days ago to look at. Just to aggregate it in Excel and try and understand the different by. By mode of transportation. Whether it's walking or bike or car. What the. The time series. I don't know why I'm struggling to find the words now. What the trends were over time for the crash data.

Non-Human Actors; Stability / Fragility

Yeah.	Uncoded
The. The.	Uncoded
The.	Uncoded
Across several years actually.	Uncoded
There's no clear patent. It's very random.	Uncoded
There you go. Q5.	Uncoded
That's. And that's the main thing. And I think. Yeah probably run with that. That's. That's really the main issue here. Also our hardware can't take even the programs that are sanctioned like ArcGIS. Our hardware can't take it. The computer crashes. So it's a. It's a bizarre sort of choice on behalf on oit's part but that's is what it is.	Non-Human Actors; Stability / Fragility
One I'm used to.	Uncoded
Yeah.	Uncoded
It's, it's. I can tell you where it comes from. It's. It's open source and it's free.	Uncoded
Yeah.	Uncoded
And it's easy to use. And in the private sector, it's widely used because it, it can do all the same things that ArcGIS can do. More.	Non-Human Actors
Yeah. And.	Uncoded
I think when people transition into the public sector, they bring it with them. So at DT in the state government, it's actually quite widely used and the, the IT administrators for state government permit the use of it. It's just here that, you know, what they don't know scares them.	Uncoded

There's no, there's no risk deploying it from the back end. They just don't want to do it.	Stability / Fragility
Yeah, it's. Yeah.	Uncoded
Anyway, that's my gripes in a nutshell.	Uncoded
Yeah. Q6.	Uncoded
I'd say mostly time and application.	Uncoded
Yeah.	Uncoded
There needs to be a purpose for it. If there was something that, if, if there was something that was really challenging and I didn't have an answer to, I'd go online and see what a good tool for it would be.	Non-Human Actors
Yeah.	Uncoded
Yeah, yeah, it's, it's, it's all those things and more.	Uncoded
Yeah.	Uncoded
You know, it's the looking at different, different forums, stack overflow, a lot of that. You know, Reddit, even if I have to. The Internet will have the answer to every question you want because you're never the first person to attempt something. You just have to know where to look.	Uncoded
Not that I. No, I haven't been that person yet. I mean, if I. Q7.	Uncoded
Yeah.	Uncoded
On the computer that I'm permitted to use it on, it is extremely slow. So it's easier not to use it because it's too frustrating.	Uncoded
Yeah. Q8.	Uncoded
I don't know. I think I. I have no idea. I mean, there are some things that I think are so integral to government and council in	Human Actors; Non-Human Actors



particular that we wouldn't really survive without them. So the thought of them not providing that software is. It's almost unthinkable, let's say, from the.

Well, I'd use, instead of our document management system, I'd use OneDrive and I'd have an office suite that is more recent than 2016. I would use obviously QGIs as discussed and probably I'd like access to some of the data IDEs like Python and R, but it's not essential in my day to day work. Yeah, not at this stage. Yeah, we already have access to like an AI companion through Copilot, Microsoft, so that's useful.

Non-Human Actors

Emails.

Uncoded

Yeah. Q9.

Uncoded

Higher quality, more reliable.

Legitimacy Work

I, I find especially with the OpenStreetMap. OpenStreetMap is the most current of all the online maps. OpenStreetMap. I've used it time and again in official capacity and we've only. We've recently used it as well for some mapping exercise internally. Open source is. It's depending on what you get, obviously, but most of the time it's. It's some of the best products on the market. Q9a.

Material Inscriptions

Because I'm exper. I know my, these are my expectations.

Uncoded

Yeah.

Uncoded

You know, and an open source, an open source software has a strong community. If it's a good software.

Non-Human Actors

Yeah.

Uncoded

It has a users forum which is made up of people of all different skills, not just a, A

Uncoded

small set of individuals who are stretched across an entire user group to assist.

Yeah. Uncoded

There's. There's notice boards and discussion circles and tutorial videos and everything you need online. And it's never rigid because it has to respond to a wider group of users and, and, and more. A larger pool of people's expectations. Uncoded

That's right. Uncoded

So it reinforces itself over time. Uncoded

That's. Uncoded

Although importantly, I'm sure there are a core of key people who maintain things like R and R Studio and all the different packages that go into it. They're really important, they're committed and they work for free. They do it probably because of their worldview, but they do it to the benefit of every other user. And there might be others waiting in the wings who might take their place when they step aside because they see the, they see it almost like a, like a, like their obligation. Uncoded

Yeah. Uncoded

To upkeep something. Uncoded

Way, maybe, but I think it's more than just that. Uncoded

Yeah. Uncoded

Anyway, keep going, Keep going. Uncoded

We're getting into some pretty deep stuff. I think some people, some people, I don't know what to say. They just get it. Uncoded

Yeah. Uncoded

They just realize that you could work on a lot of things and you could work, you could do charity work all your life and you can, you could build, you could build a school for children in a developing country, or you can build a software package that millions of people across the world use including in those same countries. Yeah, so that they can, you know, so they can achieve things that, you know, would cost you tens of thousands of dollars in, at least in, in license fees from a corporation based in London or New York or Paris. Yeah, there's a lot of great things being done with the open source software in places all over the world and you can see that just go by going on their blogs. It makes, you know, high quality analysis available to people who have no money to pay for exorbitant license fees. Maybe not exorbitant license fees are just costly license fees and people like me just piggyback off that.

Non-Human Actors

Well, I still prefer chatgpt over yeah, copilot, to be honest. I think they'll always be a good, there'll always be a decent open source alternative to the, to, you know, to some products. But I've never had a computer that didn't run Microsoft. I've never bothered to learn how to install Linux and deal with the complexities of downloading different software or a Linux system because ultimately there'll always be something that I want to, I want to put on for convenience sake.

Non-Human Actors; Translation / Enrolment

Yeah.

Uncoded

Which works or can only handle a Windows system.

Uncoded

Yeah. Q10.

Uncoded

So, you know, there's obvious advantages to trying to dominate a market and corner

Non-Human Actors

it and force people to repeatedly pay light, pay you money for the upkeep of a product. I'm just thinking of, you know, Apple or Windows or. Yeah, but so what does it become? Wait a minute, when you use it? How much power software comes out of shaping it? Yeah, we could question this influence, but we could probably, we'd probably have to do it face to face instead of through their product because they're recording this.

Well, they don't even need to record it, Chad. There's already a, you know, the hive mind is consuming this information and identifying us and building a case against us.

Uncoded

Is ChatGPT not open source.

Uncoded

It'S free to use, though.

Uncoded

Sure. But what, how different it's going to be from how different it's going to be. I don't know. Yeah, I mean, isn't, isn't. Yes, yes, I, I think so. But who's going to maintain it?

Uncoded

Yeah.

Uncoded

It's the same question. You could ask that of anything. But I don't know. I mean, I don't know. A group of enthusiasts, like, I, I'd have to first understand how the whole system works.

Uncoded

Yeah.

Uncoded

And how that, how it's trained. Before I could, because I was thinking we could actually, as a council, we could have a product that reads through all our strategies, policies and procedural documents and then does customer service for us, but it wouldn't have to know anything about the outside world. It would

Human Actors; Translation / Enrolment

only have to know about the functionings of the hotel, the body of the council. But that would still be a proprietary product that is only relevant to this organization. But an open product developed by a group of enthusiasts that is available the entire world. Sure, I don't see why not. I'm kind of surprised that it doesn't already exist.

Yeah. Uncoded

I use Overpass API and OSM a lot. Yeah, it's very high valued, but I didn't realize it was AI. Uncoded

I don't know. Q11. Uncoded

And analysts? Yeah, yes, absolutely. They've given me independence already and I can see them giving independence to plenty more people in future. Uncoded

Yeah. Uncoded

And I can imagine that, you know, 2/3 of, 2/3 of the every. Well, look, without being too presumptuous, probably every economics consultancy in Bangalore uses an open source software to do perfectly good work. Yeah. So it, I think the question is really what's the Ethics of a private business making money out of an open source software that was developed for public good with good intentions, when sometimes the outputs of the work aren't always as socially defensible as the software that it's used to make it. So there's that aspect because I remember frequently working in consulting, I would say we're using open source packages to do things that we would often scratch our heads about. Were these really environmentally sound outcomes or, you know, but we use some very good. It's not answering your question, but I enjoy this. It's. It's Non-Human Actors; Interaction / Relations; Material Inscriptions

something that. I'm saying that you might find it, you know, it's a, It's a question of ethics. It's good for academics to consider. Do you. You get. You take the good with the bad when you develop something great people to use?

Yeah. Uncoded

Yes. The short answer is yes, it would be very useful in everyday practice. Uncoded

No, no. You could. I think the most powerful thing is just showing how valuable it is. Uncoded

Yeah. Yeah. Uncoded

That's what's encouraged other, you know, budding analysts and people in, you know, roles where they had to do either GIS or analytics or anything like that to select their tools. And instead of going for a proprietary tool, they could, you know, like SQL. Or they could just go for something which does the same job but without. I think there's a precedent's really important and having people who are skilled in that role. For example, I only got into open source coding because I attended. When I was at University Monash, I. I took a class with someone named Simon Angus who did. He showed us, you know, modeling. He introduced us to modeling using R. Yeah. And I was spellbound by the whole thing. Non-Human Actors; Translation / Enrolment

Yeah. Uncoded

I thought it was the coolest thing I'd ever seen. Even though we'd used Matlab in engineering. Human Actors

Yeah. Uncoded

And I was like, oh, that's interesting. But I felt R had so many different applications Uncoded

that it was just. I had to. I taught myself  
over a summer.

Locked in my room in the dark while my friends were out playing in the real world.

That was my favorite. That was my best summer ever.      Uncoded

Yeah.	Uncoded
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Yeah. Uncoded

Yeah. Uncoded

Yes.	Uncoded
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Yeah. Uncoded

She's a wonderful, supportive colleague at Ivy. Human Actors; Interaction / Relations

I think Kath was one of those people who initially saw me coding when I joined Ivy. She didn't understand why I was doing it.	Uncoded
Yeah.	Uncoded
And I felt that she wasn't fully. She thought it might have not been the best choice of things to do with my working hours once she saw the kind of things that could be done and the value that they added into the work that we did at IB had tune changed entirely.	Uncoded
Yeah.	Uncoded
And among other things, I'm sure there were other things that helped, you know, help grow our relationship, but that one definitely. It definitely turned a lot of heads. And to really. To really maximize how. Maximize the value of the output of each of those open source software packages. Now there's someone who does all that at Infrastructure Victoria. And there's no squeamishness about using open source so long as you can verify the inputs and the outputs.	Non-Human Actors; Interaction / Relations; Material Inscriptions; Legitimacy Work
Right.	Uncoded
Okay. That's it for me.	Uncoded
Yeah, you're welcome, Graham.	Uncoded
I'll.	Uncoded
This.	Uncoded
You're welcome. I look forward to reading what you produce.	Uncoded
You too. See you later.	Uncoded
Yeah.	Uncoded



## 10. Participant #10: Strategic Growth Manager - Greater Dandenong City Council

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Direct Quote (Subject)	ANT Code(s)
Yes.	Uncoded
So I started studying architecture because I was really into something between the engineering and the arts, which sounds like architecture best way. And through my study architecture, I had a couple of the urban design subjects that very attracted me. So then I moved and did I finished my Master of Architecture and then I started a master of Urban design. So which really attracted me. And probably since I started, I never practiced as architect and I stayed as urban design designer and work through strategic plans and urban design projects. And then after a few years of experience as urban designer, I studied my PhD at Melbourne University which my PhD with architecture and urban design background. When I commenced my PhD and the project that I or the subject that I was looking at or the challenge I was looking that I was expecting that would be very related to the architecture and urban design and very physical aspect of public spaces. However, throughout my journey of my PhD doing similar things that you are doing, interviewing with people, gathering the data. In the middle of my PhD my work became as instead of just looking at urban public spaces and the physical aspects of that, I realized that how much the social	Human Actors; Legitimacy Work

aspect of the place really influenced the way that people use and perceive that that was the topic of my research. So I started to get too much to the social science and that aspect of that. I finished my PhD and I started to look in the local governments and interestingly started to do some first some place making projects. And again throughout my career I always carry this kind of the holistic lens of the physical structure. Structure, social structure. Yeah, of course working in the local governments gave me at the start and then I moved to the state government and I was in the state government for nearly nine years and working on the different projects. So working in the government in that level, probably you do less of the practice of the urban design and more strategic policy making. And then from last year is now 18 months that I started here at the council as one of the executive, which my title is the executive manager of strategic growth and advocacy. So now my journey from an architect is ended up executive leader in a local council, the most multicultural organization council in Australia, which you know, I have asset as part of my portfolio, asset management as part of my portfolio. And but also I have corporate planning and also I Have advocacy. But what all of them has. I believe my role generally in organization has involved is really my strategic thinking and my long term thinking. And that is the value I bring to organization. In comparison with the other leaders that they are very service delivery and they do a great job in the service. My role is more about their heading and our vision for the company.

A very, very good question. Because the digital we are in our organization very in a very very poor stats with our digital

Human Actors; Non-Human Actors;  
Material Inscriptions

systems. The systems are not integrated or all of that. But I will get to that. But yeah, that is very interesting. So of course for me as an executive and the leader roles I don't. I'm not very very hands on on the work. However, I really. These digital. The digital tools and the functionality of that could really change my day. So with the asset, for example, with our asset management we use. This is all based on our asset database. This is a very, very important tool for us. And this is something that makes us as the council make sure that we are looking after our asset, which is \$3.5 billion asset. Also one of the huge aspects of my job is our organizational performance. We have our obligation to report on the things that we are doing, the services and everything. So we have a kind of the quality report. We have every six months report to different organizations, to authorities, to local government, Victoria and for all of these we use our systems to capture this data and use that. When it comes to advocacy, probably we use less of the digital. However we started to use that digital tools and the softwares, for example campaigning around things or mobilizing community campaign. So I use these softwares, you know, my team and myself use these softwares and also as my role in the organization, as part of the executive. We always look we don't have it properly here, but this is something we are heading to have some dashboards. So the software is a dashboard. At each point of time we can get very accurate understanding where we are at financially, where we are at in terms of our service delivery, where we are at in terms of our obligations.

Is this something that you wanted to hear?      Stability / Fragility; Non-Human Actors

As that is the right answer to your question. Non-Human Actors; Material Inscriptions; Legitimacy Work

Yeah. I can think about a lot of letdown specifically around, as I said, the reporting one, the dashboards because we had a very, very limited progress in our dashboards and just trying to get some kind of the very quick information to provide to governments or which I know is there. But because our system are not integrated and the dashboard is not developed as much, it is really letting. Let us know. Let me now. And it has been the moment that experience. I'm just trying to think about the moment and of course I this is not fair to say that it doesn't help because I think now we have it and we used to it. Non-Human Actors; Material Inscriptions

Like with all of the data that we put in our asset management database. Of course they are. Oh yeah. So I can tell you that once I wanted to go to a meeting that was around our. I think it was about the social housing, the rooming house that we have in Dandenong. So I went to the GIS team and I wasn't sure if we have that and I asked them, can we have a map of the distribution of the rooming housing? And very quickly they produced a very informative, beautiful map for me and that showing the distribution of the rooming house around Daniel, that could help a lot in my conversation that these moments is really helpful. Human Actors; Interaction / Relations; Stability / Fragility

No, the dashboard is something that can be in any shape or form and a lot of the council and organization use that. In the city of greater than Denen, it's more about our resources at the moment, but we can. And the licenses you get and you use that. Non-Human Actors; Material Inscriptions

That is something that can be easily get is more about. We are a bit behind and we don't have enough resources. And when you look at the priorities, there are some more critical areas that we really need to fund before we.

Non-Human Actors; Stability / Fragility

Yeah, It's a good question. No, a lot of them are in the digital software. So give you again in the organization like the councils. We are. We are very. We are very limited with our budget. So because our budgets come from rate and it's a limited.

Human Actors; Legitimacy Work

And we are providing lots of services. But it's. It's one part of the problem. The other part is that this. And it's not just City of Greater Dynamics, it's happening a lot of organization. They're all trying to address that, but people work in silos. So it means that at every department and every business unit they need a software. What's happened in the City of Greater than the north, which I observed throughout the years and years it hasn't been very centralized, centralized, coordinated place of really overseeing the digital platforms and the software we are using. So I forgot the number, but it's more than 100 I believe. So it's more what happened that each business unit started to commission a software, a tool, digital tool to help them at that point of the time. And it worked for them, but it's not a system. So when our CIO started here, he mapped out and it was wow, so many systems that they are not talking to each other. And also sometimes we have some of the softwares that we bought, but we just utilize one aspect of software, didn't utilize the others. Yeah, let's say governance. Governance can have some software that can look at the risk, can look at the legal blah, blah, blah. But they just, they may. I'm not saying it's us at the

Non-Human Actors

moment, but they may just utilize one aspect and then the other team will buy another software for that part. So it's all. It's a lot around the governance of maintaining the digital platform in such a big organization. And also this collaboration and a kind of divisioning. Exactly what happening coordination.

From what I know we usually buy the license of this. Yeah, usually. So that is. And as I said there's so many softwares and I'm not a software engineer, but I know the areas I am looking at a lot of again and is the local council. So my private sector is different. But from. For us there are some very Common you know, there's very similarity in the local council. We all have to have do the reporting. For example, Pulse is a software that we use. Most of the council may use some of them not, but we use. So usually with the softwares we see. You know, I cannot tell you how the process has been but usually you identify a need. You say the classic example we had recently so identify a need that our system for booking our facilities that community can book our facilities was very manual. They called the center, they put it to the exchange something.

Non-Human Actors; Human Actors

So and it was very clearly identified. We need to have a system like bookable something that people can. Because some other council has that you as a community member you go to the website, you choose the date the things and put your request request come. You know what I mean? It's a more digital platform. So we often get like depending on that manager or whoever responsible they get some kind of. They know what they need. So it's usually come from our needs because usually are reactive, proactive. So this is what we need

Human Actors; Stability / Fragility

we put in it. Sometimes some of the. Some of the software is very well known as not a lot of competition around that. In that cases you know what you want. But we also have a procurement process regardless. So you get get the three codes. Do the assessment which one was what I see see as the challenge after you buy the software or the license for the software is the implementation.

And for the councils and I'm sure for the others but for us at least I can say that in because again the limited resources and the money that we have a limited personnel. The practice is that a lot of time we underestimate that how much we need to put could afford to implement that. Sometimes with the software provider you get some kind of the support after that. But a classic example we have still grappling is our asset management model. We went through a very very thorough process for our the software of the asset, which also is meant to be the enterprise software. It means that our finance, our asset, everything used that it didn't end up with that, but just the parts that asset team use. So this seems a good kind of the software, but it hasn't been considered how much time is because we were used another software. So the transferring all of the data that we had from the previous software implementing training and integrating with the other systems in the council they all hadn't been supported. Think through towering term of the resource and the timing. So then even the software might be good. The implementation failed, not failed. But implementation was not as Smooth as was expected. So the software couldn't be used in its full capacity.

Human Actors; Non-Human Actors

Good question. I think I touched on that.

Non-Human Actors; Human Actors

But yeah, I think I became. I'm using it less in regards to. Use them as producing data, producing results. Yeah, I'm using it as just more getting the information. Information and sometimes even in my role I don't use them to get information. I ask my team and so it's getting less and less. So I'm playing less with this. You know, for example, with Pulse, I know the person works for me, she really works every day because she has to produce these reports. I just read the reports, but I know the outcome of the report. The reports are coming from Pulse, but I never use it myself.

Non-Human Actors; Legitimacy Work;  
Human Actors

You call it pauls.pauls.p u l S P U L S. This is a software we use. This is the name of the software we use for our reporting system.

Non-Human Actors; Stability / Fragility;  
Legitimacy Work

Nice. Yeah, but it is, but it is just a software name. But what I'm saying that. Yeah, that's as an example. Yeah. So back to your question. Yes, I use it less now these days. But again if you have a dashboard, for example, as an executive you may, as a senior person you may use it. But again you are not entering data, you use it to get information.

Non-Human Actors; Stability / Fragility

Exactly. I'm less hands. I get this. You know, I started architecture and used AutoCAD as drawings but now I don't know how many years I didn't touch AutoCAD when I was doing urban design I used InDesign Illustrator again. I interestingly when I came here last year I said oh, I need InDesign because I wanted to do some of the reports. I had the license, I just give it to someone. Because you didn't get chance now. I didn't.

Human Actors; Legitimacy Work;  
Interaction / Relations



I'm not across the details of that. We have an IT team. You just say what you need and.	Human Actors; Non-Human Actors; Stability / Fragility
Yeah, yeah, I think. I think it happened. I cannot say that, you know, I have to recall that if it was the time that it happened because of my lack of knowledge that how to use that. For example, when I was using InDesign previously, of course, sometimes I was frustrated, but I'm not sure if it's just because I wasn't good in InDesign. Using InDesign, it was the limitation of the suffer.	Human Actors; Interaction / Relations; Legitimacy Work
Or the GI is the same. GI is the same. It can be very useful. But again, I'm not a very professional in using gis, so I feel that, yeah, I definitely had this experience, but I think that a lot of them came through my not proficiency or lack of knowledge in that.	Uncoded
So you are looking at the specific.	Uncoded
Categories, like the PDF.	Uncoded
So I got what you're saying. Yeah, yeah, yeah, yeah. So, yeah, again, you have to look at it as my role in the council.	Uncoded
Because I. Because what I use, of course, is Outlook and Teams, for example, at the moment. And also all of these, Adobe, I mean, the PDF, the words, the powerful. Interestingly, in the organization, we use more Canva than PowerPoint.	Uncoded
Or the Canva instead of InDesign, we use PowerPoint a lot. These are the ones probably Canva, let's say again, my team produce the report, but for me, these are the ones that I really need. I cannot perform without them, of course.	Uncoded
You Know but for more the technical and, and dashboard if I had that, but I have had that, I had to keep it because it could give me all of the information I need. We have	Uncoded

Intra Map which is our mapping system but the rest of the things that we are using of course it will be impact what my work because I need all this information but I'm not the user of that software. This makes sense.

My role, even looking at that one, the Pulse for example I mentioned you and asset management data which is the ones we are using is brightly or aesthetic and these are the ones that I cannot do my job as I'm not using them but because of my team using them I couldn't and I'm responsible for that portfolio. So I need them.

Uncoded

Hi, can I ask you a question?

Uncoded

When you say community driven you mean some professionals in the project or the community.

Uncoded

For me is that it can be used freely and you can access, have unlimited access to all of the information is there but at the same time it. And again it might be because of my role in government same time quickly flag with the red flag for me is the privacy and confidentiality. So it's come with a kind of oh great, we will have an open source data, everything can be accessible and confidentiality and the privacy and of all of this problems that it created.

Uncoded

Yeah, I think it's related so accuracy of the data. It's something very, very important because when it's open source, when everything can be put there how the accuracy exactly. And sometimes the data is accurate but the accuracy is not maintained. And we had this conversation interestingly we were talking about not necessarily open source data, but just as a background. We have about 400 community groups that work in this

Uncoded

community because we have very social disadvantaged community and they are providing so many type of the services from homelessness, family violence, food, everything for different groups of community. So we have been thinking about that in the council and in the local council. We work with different schools, groups of these committees. We are talking about, okay, how it can be helpful for the community if we create a database that we have all of the name of this organization contact what they are doing. So anyone newcomer or anyone to this can go to our website and say okay, I need that kind of the support. This is the place I have to look at. Then the first thing came to me. I thought who, who is maintaining that we get this, we get, you know, we at the moment we have information is it them that they can commit that anything change in that organization in terms of contact person they come to this database and change it. Do we give them access? Should we provide a support but again a support person. How we can maintain that because we don't know when the change happened. You know what I mean? So accuracy of the data in this open access ones in any database. But open access is important as I mentioned the privacy because again and also if we are just the users or from these open access ones we are expected also to come through, isn't it? Sometimes it might be that you also, you know and, and it might be depending on the software. But if it's open access, if you are. And I think the AI probably is a good example. I don't know if.

Yeah.

Uncoded

Yeah, yeah, yeah, that is interesting and it's a good question for my GIS team because I

Uncoded

know we use some of these open data platform for the GIS for example things that it has been and again there's a pros and cons, we were happy to use that and we use that in some extent because they're free and you know we could afford with all of. Because again we are a council, we always have to balance and you know having the maps is especially how much we needed. We would like to have more maps but at some extent from my understanding that the information in that open sources was not enough and we had to think about what else we can. So they always tell me that oh, we need to really pay to get more. So I think always this limitation that how much support is and again on the other hand if it's the open source, so how it can be sustained but how it can be, can remain sustainable.

Financially, I mean.

Uncoded

I think there are a lot. Yeah, yeah, I can see that. Again, I'm not practicing architecture but my husband is architect and he's working with Revit and I could see the changes like you know, and also I think talking about power, I think also because the new technology coming by these developers or again thinking about architecture, you as the human, if you are not updated with that, you can be very outdated very soon. Yeah, isn't it, is it just a life that now you, you just think about, you have been architects like 20 years ago. If you hadn't keep up with all of this new technology, you're.

Uncoded

Exactly, Exactly. So your AutoCAD skills at that time would be very novel. It's not working anymore.

Uncoded

Good question. If I look at it as where we are at in the local council, so I'm not looking at how ideally could, could be, but as we are government bureaucracy, very mandated, like most of the things we are doing, it's our obligation based on the Local Government act, we have to do that and we have limited funding. So with this, all of that, I think the role we can play is just about advocating and advertising and probably sharing better our challenges. You know, what kind of the challenges we have and how software can help us with these challenges. And I believe that probably a lot of these software was really created based on the needs that was there. But back to your question. I see at the moment, with the structure that we have in local governments, our big role can be really articulating, more clear, more often comprehensively the problem that we had. Then leave it to the community to develop that and help us, because this is not our role. Yes, we have the IT people in digital tech, but we are not here in the local council for providing, developing a software. At the same time, there is so much similarities on the challenges we have. So I think we can, the local government, we may be able to just all share the challenges we have which can help create the solution. And that is my view. I don't think, you know, if, if it's a kind of the change in the role of local government, you may think about, okay, it can be other ways of developing the tools, but at the moment, I think, no, we can just share the challenge.	Uncoded
Or the problems or the needs we have.	Uncoded
To have more of this. Digital twins, you mean?	Uncoded

So I think it is. Yeah, this is also a good question because, you know, I'm Aware about digital Twins when I was in state government but you mentioned that City of Great. City of City Melbourne. City of City Melbourne has. Is much richer also probably the workforce, the community that they are serving is very different. So I think in the long term what so for example digital twin may help us as well, but we don't have these resources and this is all the priorities. I think what again talking about the current context of the local council, our obligation and how we perform in Victoria. We have 79 local councils across Victoria very, very different. Some of our needs are similar but in terms of the capabilities the community needs, the budget, resource, all different. So I think if the developers or the communities develop the softwares in a way that can be adaptable to the needs and diversity of the community or committees and the local councils. If you are talking about the council, I think the adaptability of that, it can really help like if. If the software is in a way that needs this amount of the resources for implementation. So of course a regional council cannot afford that. So I mean this flexibility can be something that putting forward it can plus the needs that it can respond to.

Uncoded

Mostly yeah, I think again, if you are talking about the local government context, I think there is a role. We have the authorities like local government Victoria or we have the peak bodies like mav, Municipal association of Victoria. So I think if there is a coordinated the governance in a way that's a coordinated body of the local governments that can really articulate the needs and what kind of the software can help all of the councils, what can be more

Uncoded

specific on the needs and then it can be very linked with. Again, I'm not sure about this software. So of course you cannot see the software. It was a kind of the body that it was clear or for a developer when they wanted to start, they have some ideas and they wanted to start. They be really clear that these are the needs for the local council and our needs to change because our committee needs change, committee demand change. Again, I know that we are not talking about AI, but tell you about that. I don't know if you know about this project, a project that City of Grace Dan has been partnering with MAP Municipal Association Victoria when we had the grant from federal government. It's part of the housing things but interestingly it's around AI. So it was around that how AI can help with expediting the assessing planning applications.

Yeah. In different stages of that anyway that was a broad scope. But that particular work that we did with MAV was around that the outcome of that is that MAV is providing a list of the consultancies that they can help for building ar. So one council is. May need this for pre application. Might need for the chat box for the inquiry. Might. May need it for some other things like something. But because we are in this stage that the campuses. Sorry, don't know. You know they have a need. They know AI can help, but they know or they cannot be comfortable who to go this a very simple things but with MAV doing that. So they are. Is about to finish. But they will have at least of the potential kind of the consultants or you call it the community that they can help the council based on the different needs. So the council can go there and quickly pick someone and help them. That is. And it can be seen as a broader.

Uncoded

This is just for the AI for planning. You can think about like if we have a clear. I think sometimes as you mentioned. So there is a disjointed problem from the capital and the ideas, but also disjointed from some of the needs that we have.

Yes, exactly.

Uncoded

No, no, I think that is. That is all great. I'm not sure even if I answered. No, it's okay.

Uncoded

No, I hope I gave you some themes at least for your conversation. No, no, no. I think that probably something I touched on, but I think important for us in terms of using technology is that privacy that I mentioned. Because of course I'm sure you're saying. But we didn't talk with that lot about, but that is another concern for us. But other than that, no, all good.

Uncoded

## 11. Participant #11: Maps Officer / Cartography Librarian - Melbourne University

Direct Quote (Subject)

ANT Code(s)

Yes.

Uncoded

It has specifically changed as I was the. The original roles of the print curator and the assistant were removed in late 2000s. Late 2000s. And a new role was created

## Human Actors



specifically to facilitate within Melbourne University the geospatial data.

Maps Officer.

Human Actors

Very generic.

Uncoded

As a librarian, I don't use geospatial tools regularly, continually, but I do use it to assist students and researchers when they ask for data which they cannot find or having difficulty to find. And I locate that data and then I need to use a geospatial tool to ascertain whether it actually fulfills their request.

Human Actors; Non-Human Actors

And that you. So I. You primarily use geospatial tools to make sure that the data is working and that there is metadata or associated data as a part of that facility facilitates the requests of the student or researcher of the system.

Human Actors; Non-Human Actors;  
Material Inscriptions

Tools originally, going back or 20 years, etc. I used MapInfo. That was a product that was purchased by the university and used. And that product was the main product, if you like, that was used by this Australian Bureau of Statistics.

Non-Human Actors

No, it's not it's not. No, it was a competitor.

Uncoded

Oh, I can't off the top of my head.

Uncoded

Did they? Yeah, it was, was, was very much Map Info and Ezrith. The product was. Or the companies were head to head and one of them was going to usually how has come out on top and it was ESRI who came out on top and. Yeah. And Map Info I think as a product and a brand was bounced around from a few different companies before. Yeah, it's faded now.

Non-Human Actors; Stability / Fragility

I don't really primarily use any tool. It's just very much horses for courses to find out

Non-Human Actors

what I need. So I bounce around between QGIs. I also use Google Maps Pro Desktop, got a couple of viewers but QGIs, which was quantum GIs. Yeah, originally. Yeah. They're probably my main two.

But I, I, yeah, I'm not, I, I'm aware of the ESRI ArcGIS.

Non-Human Actors

And ArcMap tools. Yeah, I have used them, but they're not, I don't primarily use them. No. No.

Non-Human Actors

I have previously that relate specifically to projection. Students and some academics often have a problem dealing with projection or projection problems and sometimes I'll actually put in an extra plugin that specifically deals with projections so I can work out what that is. But that doesn't happen very often.

Non-Human Actors; Stability / Fragility

Not really because that's not my focus of my employment. If I have difficulty opening a piece of software or I can't work out whether the piece of material data is, is suitable for a person, then usually I'll work with an expert in the chosen field, whether it be engineering, architecture, physics, wherever, and say, hey, I'm having difficulty. Do you want to have a go and see if they can work it out and, and open it up? But I give them a couple of different options. But I don't, you know, I don't have formal training as a spatial engineer to work out very critical problems.

Human Actors; Interaction / Relations

It's kind of evolutionary. As the industry developed and I did professional training, which within the role of the. Within my role in the map collection. And as I needed to upskill or develop my skills, usually I went out and sought formal, either formal

Human Actors; Legitimacy Work

training or informal training to facilitate those skills that was necessary.

My role really hasn't changed over the last 20 years.

Human Actors; Stability / Fragility

So I haven't had to evolve a huge amount. It's more like I had to keep up with the technology as it has. It's evolved.

Human Actors; Stability / Fragility; Non-Human Actors

And I was as a data specialist in the library before the open data revolution, when a lot of all the material was still under licenses, I helped facilitate students and managed a lot of the licenses for that material. So copyright and data access. And then the open spatial revolutions happened. Yeah. My role is primarily about the data and the evolution of the data.

Human Actors; Legitimacy Work; Material Inscriptions

Probably it was probably the late 2000 teens. Early 2000 teens.

Uncoded

So you're looking at about 2012, 2013.

Uncoded

And then things really sped up at about 2015. And with a lot of open data portals, large amounts of data started really being pushed out.

Uncoded

Usually by. When data is requested by those researchers or students, I would find out where that data is accessible from and then negotiate a license. If they didn't already have a formal license or often they were a government department and there was an education provision license, and we acquired that data under that education provision license.

Uncoded

My skills with gis aren't good enough to usually be limited by the actual tools. It's usually my knowledge and skills that are the limitation themselves when I try to do things.

Uncoded

The biggest limitation is the decentralized nature of material that. Not that the data is not available and even freely available, it's just who has the data and where is it available and authoritatively available. Yes, for those. Because authority of a course is extremely relevant. I mean, there's lots of data pushed around on the Internet, but not necessarily. You don't know where it's necessarily coming from and how authority it is as well.

Uncoded

For myself, because it's. It's more about need. I would like to. To, you know, become more proficient with the tools, but it's. I don't necessarily need to become extremely proficient in the material.

Uncoded

The ability to go to assess or obtain the data and make sure it's adequate for the purpose that whoever I'm helping is enough.

Uncoded

Most of the tools in my experience are available for the enthusiasts, if you like the geospatial enthusiasts, whether it be. And even coding new products or plugins or to existing tools, it then becomes a matter of energy for the individual to input enough time and effort to create the required tools. If they can't find a tool that meets the needs within that community, particular community. But there is a very large geospatial community, communities around the world that do assist in those particular areas.

Uncoded

Good question. If the university was not willing to provide the tools for a specific need that I needed to do a piece of work or a project or something, something that the university also asked me to facilitate, then I would try to see if there was another workaround or specify possible Tools that

Uncoded

might not fit ideally for that purpose. And then describe how that tool does not meet necessarily the need or creates additional inefficiency.

Extending the time that that project or workflow might take and then also present the purchasable alternative to create a greater efficiency. And then let my employer decide which path to necessarily that is that I want to take.

Uncoded

They can, they can usually get things quickly and it might cost a little bit more or it'll take a bit longer and it might be cheaper. It's up to the employer.

Uncoded

I would not touch Pyrus with a ten foot pole.

Uncoded

Not too surprised. I'm a data specialist, a librarian, so. Yes.

Uncoded

As soon as I hear those terms, I want to see the license in the metadata or the metadata and the license, the open license or creative license that there is. Because there are multiple versions of those licenses and there are also different, not only just different versions, but depending on the country or the space that they're actually coming from, the license themselves can differ quite a bit. So as soon as I hear those terms as relevant to the data, I want to see that particular license and I won't go any further until I necessarily do.

Uncoded

Because it's not authority.  
INTERVIEWERdo you So the major license that I've been interacting with with respect to this research has been the GNU Public Access License. What it would be, what are the sort of licenses that you have seen and

Uncoded

the ones that you rate in terms of authority?

I wouldn't rate any authority because that, because that becomes a legal discussion and I'm not a legal expert, of course.      Uncoded

So a lot of those creative licenses are legal documents that can be used and I'm not a legal expert, so I can't really give opinions on those particular licenses, but I will look at those licenses and if I need to need legal an opinion or advice, then I will seek that out from the appropriate legal authorities. Excellent to do that. And I've done that before.      Uncoded

But yeah, open, open Commons version 4, I see a lot and use a lot and that's used A lot in the. The Australian government sphere.      Uncoded

And particularly, you know, within Victoria and some of the other states. But there are others. It depends as. Depends as they're required to pump out the material as a public institution.      Uncoded

It would depend on. Depend on the organization itself and its purpose and the breadth of the experience in that particular industry. I think the university is a very international place with a very broad range of experience and highly critical of both software and data. And so if the software aren't seen as appropriate for use, or they need to, someone needs perhaps use a piece of software in a way that it doesn't necessarily facilitate, then what I've seen is often those will go to the publisher or the author of the software to see if they can actually facilitate that need in a better way.      Uncoded

No, it's a very IT thing.      Uncoded

That's very much the IT department. IT software department.

Uncoded

Because I don't go into enough depth of the actual software tools to make that choice.

Uncoded

I think that evolution has been happening for quite some time already.

Uncoded

And has matured over, especially over the last ten years or so. And there are now platforms and communities that specifically are on and create open spatial data. But I mean, there's plenty of pitfalls as well within open spatial data as well, depending on how well it's being created and what have you. Yeah, yeah. I don't think the question was. Yeah, I think it's already. The area of open spatial data creation and software is already, already happening.

Uncoded

How.

Uncoded

No, I mean it's, it's. There's enough creative potential already in the open spatial sphere I think.

Uncoded

To actually create a lot of those and develop the tools that are already available and the foundation, if you like, has existed for a little, quite a little while and it can mature and create something bigger. It's already steamrolling. Excellent. It's already going downhill and so yes, it can become bigger.

Uncoded

Piracy particularly worries me also the acceptability of the use of non authoritative data and accepting it as, as authoritative data. That concerns me a lot because unless you know that what you're dealing with is authority and good data, the results of course are going to be not as good or

Uncoded

authority or accepted potentially as acceptable.

They certainly can be used as authoritative pieces of data within accepted parameters of potential error and awareness of that they are community driven and what the basis of that community input is. It's very much, I mean on the vetting tools of the open platform, the community platform and what strictures of, of data contribution and authority vetting, if you like, of that data it has. And that's, that's often very variable in my experience.

Uncoded

And yeah, I remember a big discussion, an open street map about, about how roundabouts are actually utilized and represented and how they're actually displayed and that got very involved in how to actually to display and utilize and to contribute to data, particularly around traffic and spatially represent roundabouts.

Uncoded

Laneways often and often multiple or magic roundabouts that you actually have where there are multiple roundabouts in, in a, in a very close proximity to one another and how different the flow of traffic can, can move around and arrows and, and laneways. Yeah, it's.

Uncoded

And there's, there's magic roundabouts. I think there's. Over in the uk, Right. And I remember that there's a, there's like satellites of like six roundabouts around a, a single hub in a very, very small area. Not even as large as the, the Paris. You know, it's, it's in a. Much close. There's, there's, yeah, there's, there's even roundabouts used like that quite frequently. But yeah, there was, there was very, a very heated discussion and a lot of contention about

Uncoded



that and I think that's great for the open spaceship.

No, I don't think so. I mean, the only thing probably hasn't been mentioned is how much data is now being pushed out by the various government agencies and even at the state level, such as Victoria, the Treasury Department that now has a recommendation to push out and make a. Available. All spatial. Available, that is, that is being produced to the public and. Make available. Yeah, make available to access. And there's, that's, it's, it's still a developing sphere, but it is something that is very much happening and there is now so much data that is available. It's, it's, it's becoming more and more difficult to actually take that data and actually. And highly authoritative data and actually mesh that data up and mash it up and maybe create something.

Uncoded

It's standard. It needs more standardization if you like, but it's, it's still a very much an open space for even very authoritative departments to create. The data that they need is fit for purpose and the use of. The additional use after they finished with that data for other purposes is not necessarily considered. I'd like to see more of that.

Uncoded

## 12. Participant #12 : Data Analyst - Infrastructure Victoria

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Direct Quote (Subject)	ANT Code(s)
I understand the research, I consent to be interviewed and I consent to be recorded.	Uncoded
Sure. So I did economics undergrad, which obviously doesn't have too much spatial component involved.	Human Actors
I did a spatial econometrics honors thesis, which then I had to teach myself how to actually visualize the results.	Human Actors; Non-Human Actors
So that was self taught, very basic level gis.	Non-Human Actors
Just points and polygons.	Non-Human Actors
And then I did maybe one unit in a data analytics course that was spatial oriented or one assignment for that. Perfect.	Human Actors
And then I did a little bit of some Python spatial stuff.	Non-Human Actors
And then I graduated and I had no idea what I was going to do. And I saw an ad on Twitter from some guy who. From YIMBY Melbourne, if you're familiar.	Human Actors; Interaction / Relations
Yes.	Uncoded
And he was like, hey, we look for people who could do spatial programming to come along and help on this one project.	Human Actors; Interaction / Relations
So then last year I did three research projects for YIMBY Melbourne, Pretty big ones. They all got decent amount of press and media attention. And that was where I self taught myself the vast majority of what I know right now. So I didn't learn it through uni or school or job. I taught it myself. And now I mostly work with R. R?	Human Actors; Non-Human Actors; Legitimacy Work

Yes, N. Mostly it's all R visualization with like a QGIS layer on top.

But mostly. And then I used that to get my current job as a data analyst at Infrastructure Victoria.

Human Actors; Legitimacy Work

And without that little bit of. Without that doing those projects on my own time, I wouldn't have got this job.

Human Actors; Legitimacy Work

No chance.

Uncoded

Cool. So as a data analyst, it's not all spatial for me. It's a lot of just like Excel or.

Human Actors; Non-Human Actors

But we have to make a lot of maps to show say. Yeah, I'd say a little bit. Each day's thinking about how we can visualize the results of our research because IV is while it is part of the Victorian government, it is a research focused organization. So that means. And we're mostly talking about infrastructure projects. And. Yeah, that, you know, you need to show.

Material Inscriptions; Human Actors; Legitimacy Work

Correct. You need to show. If you're project evaluation, where are benefits, where are the costs?

Material Inscriptions; Human Actors

But it's mostly just creating spatial level maps to show data that already exists.

Material Inscriptions; Non-Human Actors

I'd say one of the massive advantages of R is its open source packet Open source package library. There's been a lot of times where I've been like, shit, I don't know how to do. I don't know how to do this.

Non-Human Actors

And thank God someone has written some function or package years ago and they've maintained it. And it solves my exact. Yeah, my exact issue. I'll try and think of a specific example. I know you had Overpass

Non-Human Actors; Interaction / Relations

in there, but that was a lovely integration that they had, you know.

I might have to come back to the specifics, but it's the package, it's the, like, it's that if the software itself is missing a feature, there's ways to.

Non-Human Actors

Correct.

Uncoded

That's what I value a lot.

Non-Human Actors

I wish I did a little more of that. I don't currently. It's a lot of. So at my current job right now, not that much. For Yimby Melbourne, it was more reachability stuff.

Human Actors; Non-Human Actors

Yeah, sort of stuff.

Uncoded

Yeah. I'm working on a big catchment project right now, but it's more so raster stuff. So I did one project with tree coverage and that was all raster data from open source, actually.

Non-Human Actors; Material Inscriptions

Facebook.

Non-Human Actors

And that was overlaying that onto planning zone stuff and seeing which zones are most shaded, stuff like that. So overlays, catchments. Yeah, a lot of overlays. I really want to let. Get more into the regression.

Material Inscriptions; Non-Human Actors; Human Actors

Proper spatial regression stuff.

Non-Human Actors

So. But not. Not in my current.

Uncoded

And then catchments.

Human Actors; Non-Human Actors

Where can you get to?

Human Actors; Non-Human Actors

It's a bit hard for me to answer this one, especially because I don't have the. I only have the open source side, I don't have the closed software side.

Human Actors

So this is only my real. My second proper job. So I don't. Yeah, I can't really. I don't

Human Actors; Non-Human Actors

have that much to say about how. Yeah, it's changed.

I'm fortunate that my current position let me use the same tools and the same workflow that I had done.      Uncoded

For Yimby Melbourne. I think they're very flexible about that. They're like, just do whatever works. So I don't. Unfortunately, I don't really have a great answer for that one.      Human Actors; Non-Human Actors

I'd say one thing that's limiting me now is at work, because I'm part of the Victorian Government. We all have a centralized IT provider and obviously they need to do their job and make sure that all the software is safe for download. That means when there are new updates to QGIS or R, it can be a very long time until those updates are sanctioned.      Human Actors; Non-Human Actors

Especially because qgis, I'm sure, is not the most popular software within the Victorian Government. That's what I've had, is that there. I know there are features that I can use at home on my personal machine, but at work I'm limited by several years ago QGIS versions, especially for quality of life, small quality of life stuff, and it's a nightmare. Luckily they don't block plugin or R package installs.      Human Actors; Non-Human Actors

Doesn't make any sense because you can run any executable in those that you like, but whatever, that's it. It's the software version.      Uncoded

I'm sure if there was a tool that I really needed to get my job. There would be a process for me to get it. It would just be very slow.      Non-Human Actors; Interaction / Relations

Sure. Done a lot of georeferencing recently. So the georeferencer plugin from QGIS done a bit of. What's it called? Height profiling with a. Yeah, what's it called?	Non-Human Actors; Interaction / Relations
To see how steep our proposed future tram routes.	Uncoded
Compared to existing ones.	Non-Human Actors
It's all just sf.	Uncoded
I don't know.	Non-Human Actors
That. That does everything nice and then just like random little ones for functions.	Non-Human Actors; Stability / Fragility
Yeah, no, R lets me do much more powerful computations than QGIS does.	Uncoded
Lets me work with millions of rows rather than tens of thousands, which is where QGIS seems to give out on.	Non-Human Actors; Stability / Fragility
I haven't actually used Vista. I only use open source.	Uncoded
That's how all the research projects at UMPI Melbourne came around. Is I was just cruising around Data Vic or some other source looking for.	Non-Human Actors
Yeah, yeah. Data Vic do a lot with the GTFS transit stuff.	Non-Human Actors; Material Inscriptions
If you're familiar with that.	Non-Human Actors
Well, that's the standardized format public transport timetables.	Uncoded
So where the stops are, where the routes are, what stop is getting us. Yeah. Where all the trains and buses in Trinidad go.	Non-Human Actors; Stability / Fragility
Yeah. I haven't actually worked with private data yet.	Uncoded

I'd say I'd be open to it if I found my workflow didn't was limited in any way. I don't find it is nice right now.	Uncoded
So I would be open to it. I guess you do get the ease of use stuff.	Non-Human Actors; Interaction / Relations
So there's a bit of an R Python development spatial guys and.	Non-Human Actors
There is a bit of a jump to go to the other side, especially with what you've been familiar with, it can be tough.	Non-Human Actors; Interaction / Relations
I would agree in that Adobe and Autodesk do a very good job of keeping you in there. It might be their whole business.	Uncoded
Since I don't use them, I'm not really sure what their relative strengths and weaknesses are.	Non-Human Actors; Material Inscriptions
I'm not sure how, like, Open Source is great and it can compete, but obviously big workflows.	Non-Human Actors
Big organizations. A little bit shy away from Open source stuff, I think. A little bit because of the support.	Uncoded
As well.	Non-Human Actors; Material Inscriptions
I think that makes it a little harder for Open Source to compete at the really big organizational scale.	Non-Human Actors; Material Inscriptions; Stability / Fragility
Yeah. That's all about all I can offer.	Non-Human Actors
Oh, no, I just find it myself.	Non-Human Actors; Interaction / Relations
No. Okay. This will link several questions together. This is a bit minor, but qgis, when you're. You want to map, say categorized, not categorized, the graduated data, and you want to set the bin size to be a fixed interval, like 10 or 12 or something. When	Human Actors; Non-Human Actors

you click fixed interval in QGIS, it defaults to 1.

And if you have a series with hundreds of thousands range that tries to generate a hundred thousand bins, it crashes the software immediately. I can't. That's fixed in a newer patch of QGIS, but I can't update my.

Human Actors; Non-Human Actors

So, yes, there are little minor Bugs and stuff like that is probably not tolerated in bigger. Yeah, distributions.

Non-Human Actors; Material Inscriptions

Say ArcGIS. But has it got in the way of other points? Not really.

Uncoded

There's a lot of the how I've. Projects I've done have been led by me and it's like figuring out what the project is doing as I'm doing it.

Non-Human Actors; Interaction / Relations

So it's like, oh, if that's not possible. Okay. The project just won't do that. It's not like there's a goal in mind. Oh, no, there's a block to the goals.

Non-Human Actors; Legitimacy Work

Figure it out as we go.

Non-Human Actors; Legitimacy Work

Yeah, man, I'd stay exactly the same.

Human Actors; Material Inscriptions; Non-Human Actors

Yeah. Because I found it myself. Answers that question anyway.

Human Actors; Non-Human Actors; Material Inscriptions

Yeah, we've touched on this a little bit before, but I'm a big proponent of Open Source software. I think it's awesome.

Uncoded

I'm always continually surprised about how much free time people dedicate to improving open source software. And I think if you just got to know where to look. And I think it's really expansive. Sometimes I've had problems with some small plugin. You just email the guy, you're like, please,

Uncoded



I'm having this issue. I don't think you patched this.

Can you fix it?

Human Actors; Non-Human Actors

So we haven't talked about OpenStreetMap yet.

Human Actors; Non-Human Actors

OpenStreetMap is awesome, but really has some big limitations and it's not consistent with how things are categorized.

Human Actors; Non-Human Actors

Not across cities, but within.

Human Actors; Non-Human Actors

Yeah. So you try and find everywhere that sells coffee and they're like, oh, great, there's a sells coffee flag on Open Street.

Human Actors; Non-Human Actors

And it's just been done from one suburb where some guy walked around and said what place to sell coffee.

Human Actors; Non-Human Actors;  
Interaction / Relations

Sometimes it might Be a cafe, sometimes it might be a restaurant, sometimes it might be a store. And you don't know unless.

Human Actors

It's just, it's just difficult to do.

Human Actors; Non-Human Actors

You're in big trouble.

Uncoded

Yes. In that way it is a double edged sword. I think that's just one of the things that you have to accept and build into your workflow if you're a. You intend to use that piece of work or if you intend that code to run again and again and again and again and again. Yeah, it might give out. Hopefully if enough people use the tool someone will step up. But yeah, you can't always. Yeah, can't always rely on that. A lot of the stuff I do is through code, so it runs once and then I don't really need it to run again.

Human Actors; Non-Human Actors

Yeah. For bigger orgs who would need reproducibility, I think. Yeah, that would be. Be a problem.

Human Actors; Non-Human Actors;  
Stability / Fragility

I think if Q just disappeared tomorrow, local government would probably be screwed and several architecture burnt. I don't know architecture, but yeah, yeah, I'm not sure. I think it's pretty resilient.	Human Actors; Non-Human Actors
There's a lot of packages that do the same thing. One goes down right, the other one just gets updated to do whatever it didn't do before. I think that's one of the strengths of open source. But yeah, yeah, it might be its weakness.	Human Actors; Non-Human Actors
But yeah, I'm sure there's a massive. Yeah, yeah, I'm sure. The same as if. If ArcGIS went away tomorrow, then a significant portion of global planning would be ruined.	Human Actors; Non-Human Actors; Interaction / Relations
Yeah, a little bit.	Human Actors; Non-Human Actors
It's hard to tell if they're against open source specifically or they've just been using the same software for a very long time and there's a much steeper learning curve for them. I think open source has some people who might be. More. Don't download anything from the Internet and run it.	Non-Human Actors
More. Oh, it could be a virus. Like how do you not know it's a virus?	Non-Human Actors; Material Inscriptions
If you're not tech savvy to know. But no, it's a.	Non-Human Actors; Material Inscriptions; Legitimacy Work
It's not. You know that.	Human Actors; Non-Human Actors
How do you evaluate the quality of information from the Internet? Yeah, people aren't very good at it. Yeah, I think they. Yeah, they think security is a problem, especially if they work with confidential or restricted information because they know that leaks.	Human Actors; Non-Human Actors; Material Inscriptions

They're in trouble.	Uncoded
Open data. I have no idea why people don't like it.	Human Actors; Non-Human Actors; Legitimacy Work
We spend a lot of money cleaning and making these sets available for the.	Human Actors; Non-Human Actors
Yeah, I kind of. I'm with them on that.	Human Actors; Non-Human Actors
I don't think you can really do.	Non-Human Actors; Material Inscriptions
Hard statistical analysis with osm. It's a guide, it's an indication.	Human Actors; Non-Human Actors
Maybe you could spend ages cleaning it and verifying it for a single area, but I. I'm not sure.	Human Actors; Non-Human Actors
I think it's more. Let's explore. Let's have a look. Early indications.	Human Actors; Non-Human Actors
And if the early indications are good, we have to Go do some more vetting and detailing work. Yeah, it's also just, it doesn't, it's out of date in growing cities shockingly quickly. Yeah, it doesn't, it's just not accurate sometimes.	Human Actors; Non-Human Actors; Material Inscriptions
I found it's good for non movable things like green space or parks.	Human Actors; Non-Human Actors
Great little cafes.	Human Actors; Non-Human Actors; Material Inscriptions
Okay, I don't think I have a great answer for this one.	Human Actors
I know. I think Kath is majorly a. She was a former ArcGIS user, now she's been converted to QGIS. But the way that she approaches problems is thinking, not like in an abstract way of like, what do I need to do? What's the function that will get me to this outcome? Here's the problem. Oh, I remember the ArcGIS function that I would use to, to solve this problem. Oh shit, that's	Human Actors; Non-Human Actors; Material Inscriptions

not in qgis. How do you do this? So I think the whole approach to solving, let's say a spatial problem is that in some people brains is remembered by the names of the ArcGIS functions, not just what the function actually does because it will have its.

QGIS, but it will have a different name. And you need to know what it does.

Human Actors; Non-Human Actors

Not just like, oh yeah, I click that, that, that and then I get my answer.

Human Actors; Non-Human Actors

So I think, yeah, what I imagine is built into private tools would shape how you attack other problems.

Human Actors; Non-Human Actors

Yeah. I think you can nearly duplicate any workflow that previously relies on closed source software if you are willing to be patient and setting it up. Yeah, because we've seen especially Adobe holding universities at ransom.

Human Actors; Non-Human Actors;  
Material Inscriptions; Legitimacy Work

And it's, it's filthy. I hate it.

Human Actors; Non-Human Actors

Those prices are outrageous for what the software does. And yeah, I think there are options growing, especially if governments continue to commit to supporting it. Yeah, yeah, I think so.

Human Actors; Non-Human Actors

I think it's moving pretty quick.

Human Actors; Non-Human Actors;  
Interaction / Relations

I think it's all moving pretty quick. We're just getting a flood of new. It's mostly the data that's getting better and the tools are slowly expanding to meet the need. There's just so much data now that like some tools like qjs are just not that good.

Human Actors; Non-Human Actors

At it. They're meant for small.

Human Actors; Non-Human Actors

And they really start to blow up.

Human Actors; Non-Human Actors;  
Material Inscriptions

But that's why we have, I don't know, people writing packages and other stuff to do. Really fast stuff.	Human Actors; Non-Human Actors
Yeah. I'm not sure.	Human Actors; Non-Human Actors
I've worked in a few government jobs too and they both let me do whatever I want.	Human Actors; Non-Human Actors
Because I've been the only spatial guy.	Uncoded
So I haven't unfortunately worked in a team where my tools are dictated. I'm not sure.	Human Actors; Non-Human Actors
How.	Human Actors; Non-Human Actors
Well, I most as I've mostly done spade data, VIC stuff and they do a very good job of being able to select the file format as you're checking out.	Human Actors; Non-Human Actors; Legitimacy Work
Otherwise what have I worked with that's bad? Yeah. I've been shared some like esri. What are they? Geo. Not Geo packages.	Human Actors; Non-Human Actors
Geojson's not that.	Human Actors; Non-Human Actors
Yeah. Sorry, I'm forgetting.	Uncoded
I just haven't had the massive problems. The government. Some government data could start by being correct. That would be helpful. I did a project in my previous role about the national rail network and we asked the Department of Responsible, do you have a shapefile or anything for the national rail network? No, but we've got an approximation. Okay. They send it through. All the states were coded.	Human Actors; Non-Human Actors
All the track in Victoria was coded as Western Australia. It mixed up midway through. You'd go standard gauge, broad gauge, standard. And you're like, they could	Human Actors; Non-Human Actors

start by being correct on what they. That's posted online for everyone's access.

So I haven't had file issues, but I have had some data integrity issues, especially when it's like, I think Data Vic does a good job because it manages all of Victoria's data in one spot, Right?

Human Actors; Non-Human Actors

Federally, it's a bit more dodgy. Individual departments and sub departments have a data page and it's not well maintained.

Human Actors; Non-Human Actors

No, not really. I think I probably might be a little bit of a different interviewer to some of your others just because in that professional context, they don't have the dictated. Dictated work environment. No, not really. I like the open source stuff because it means people can teach themselves, right?

Human Actors; Non-Human Actors;  
Legitimacy Work

Like, if I had to pay for all of this, I wouldn't have learned it. The only reason I could do this is R is free. Gucci ice is free. If I had to go like, oh, I might want to do a spatial project. Okay, let me go have a look at ESRI Archers.

Human Actors; Non-Human Actors

What's the point? I might not like it. Yeah, that's it. I think it democratizes if it's a strong word.

Human Actors; Non-Human Actors;  
Material Inscriptions

So, yeah, a little bit more of a Yimby Melbourne.

Human Actors; Non-Human Actors

They've written a lot of pieces now that is sort of critiquing what the Department of Transport and Planning has said is true as a fact. And Department of Transport and Planning never publishes anything really. They just say, all right, we've done modeling. And it says this and it's like, what did you model? How did you do it? Yeah, show.

Human Actors; Non-Human Actors

Because it's like, oh, no, they're in the department. They've got their software, like, all correct. And it looks like ivory tower. So it has allowed us as a little community. Not community org, but grassroots, to do some double checking.

Uncoded

Of numbers.

Human Actors; Non-Human Actors

All with open. We all use qjs and different strains of whatever.

Human Actors; Non-Human Actors; Legitimacy Work

But it has allowed a little bit of. Hang on, are you sure this is. This is right? And without that, without open source stuff, like, there was no chance. No chance that was happening.

Human Actors; Non-Human Actors

I think so. You know, it's not just the department or a consultancy that can do this work with a little bit of time and effort. Yeah, you can, too.

Uncoded