So it's really great to see you all. I know it's been a very long time. I think thanks are obviously due to Stuart for organizing all of this and getting the agenda pulled together, and it's and it promises to be a very interesting morning of presentations. There's been a lot of new developments from colleagues. If we can save any questions until after the presentations are finished, that'll probably make life a little bit easier for Stuart to sort of tick through them and keep us on track. So are there any initial questions before everything starts?

Well we have a comfort break after the presentation, before the discussion.

Oh I think we can manage that, can we manage that Stuart.

I'm sure we can.

Marvelous.

I'll let you know where the fire exits are

[LAUGHS]

Excellent. Right well in which case without further ado, I'm going to hand over to Chris and Stuart, and we'll see how the Greater London HER has been getting on in their development of the Keystone project as I believe it's going to be called. OK take it away boys.

Hi, everyone. So Yeah I'm Chris Dalby I'm the project manager for our Arch project at Historic England. And obviously working with Stuart and Phil, Matt. So Historic England I guess probably best way to describe it. We've got quite a strong investment in Arches at the moment, we've got a development team who are working on a number of different systems that we're producing. So initially to kind of get us off the ground and to save ourselves from a system that was in disrepair, we constructed a system called warden which we used to now create new records to share out to HERs, but also is kind of just to make sure that we had somebody to keep up with the data saying prior to actually disseminating it all to the HERs as well.

So that project was kind of our biggest learning experience, I think, for working with Arches Andy Jones who the development team lead along with Chantelle who I believe has joined us this morning, but the team has had a couple of years of working with Arches in several different ways, creating new functionality at this point now as well, and proving accessibility. So the warden is mainly used I guess by our archeological investigation team in HE and helps us keep our work on course. Then we kind of had some supporting functionality and a bit of reporting software as well. Alongside that, we obviously have been working with the Getty on Arches HER. I'm sure Stuart will go into more of that in a few minutes as well just kind of give you a bit more detail.

Alongside that we're also now in the earlier days of developing National Marine record alongside our marine services colleagues, Phil and I have been working on how best to create a marine system from where there was none before. So it was kind of part of our old Amy system. It's kind of an opportunity to think about what we want to deliver from a marine system. Is it a system for inventory? Is it system that also includes some planning aspects, is it is a system that eventually powers things like virtual details all that kind of stuff. There's been quite a bit of broad discussion along with our other partners as well throughout the organization. So I think probably at this point it might hand over to Stuart.

Yeah, thanks Chris, right if I try and share my screen. Great. Here we go. Can people see that?

Yeah.

Yeah.

Yeah, try and make that a bit bigger. Yes, hello everybody. Yes we were hoping to have launched this last year. However, the pandemic really knocked us for six with the lockdown last year, so it's taken us a bit of a while to get back on track. Keystone is the internal name for the project, but we're trying to develop a system that is usable for all our HERs-- historic environment records. So therefore Arches for HERs. This is for managing information about the historic environment, but also about managing the historic environment.

So we've worked on creating a lot of resource models with the side of looking at the managing the side of the historic environment for our advisors, our colleagues-- our advisory colleagues. What we have done is trying to create some resource models to help them with their workflows. Currently at the moment, the planning applications are all over the place. Information is scattered all around different advisors. What we're trying to do, is bring everything together and develop something a bit like a Windows file system. So you'll have your application area, and then the various applications, the consultations that might be within that area blowing down through. So all the information about the consultations, any site visits correspondence is all hung together. So anybody coming along other advisors who want to find out information about this can find it nice and easily.

And they have their own little page for them to actually view their information about the application areas. They can also keep tabs on deadlines through this system as well. And with the correspondence, they can also generate template letters. This is based on the different types of application and the types of conditions they may want to place on this. Now with the general HR side of things the looking after the information, we currently use a model event source monument. So event will be a historical activity, investigation, monument be site to find and the source is information about these two that we have-- where we found this information.

Based on our experience of working with HERs and also the work we've done internally with historic environment, we tried to split things up a bit. Events are quite simple. The activities are relatively straightforward to develop, however the monuments and the sources we try to split those out further because the current system was quite restrictive as to how we can recall things. All the way through this

we're trying to future proof the system to make sure that we don't have to refine the system too much in the future. There are other resource models here I could talk about, this is just showing you what I've been talking about, but I don't really have a lot of time to discuss them now. I'll happily discuss them later or offline.

The other major thing that we've been working on with our developers found and geographics is a spatial mapping. Now we all know that you can quite easily create lines, polygons and polygons in Arches, but not very detailed spatial recording. You can drop JSON files in, but that's not always convenient. Also we use a heck of a lot of different types of layers of information, layers of information that we might not necessarily want into Arches because it clogs it up, or other people to see them. So we've got Farallon to develop a link a GIS link to Arches. So if we look at the top banner here, we have a little toggle here which brings up another set of information buttons, and we can click on the Arches connector button here, we can log into our server and then based on our user credentials. It can restrict what we can actually do with that information, then we also have another Chrome pane button here, which will then pull up Arches.

And so what we can do here, is that we can create information, spatial information in the GIS and then push that through to Arches which will then generate a blank record for us to populate, or we can do it the other way around. We can create our textual information in Arches, and then go into the GIS and create our detailed spatial mapping that way. Currently at the moment it's only for GIS pro. We would like to see this for QGAS because obviously that's open source and fits in with the ethos of Arches. It is what I'm saying simple and quicker to do. However, we are naseri organizations. So that's the route that we've gone down, but hopefully in the future we can develop that for QGAS

Talking about the future, some other things that we'd like to do, you may realize that if you're looking through a lot of information on Arches on a record through the cards you can get repetitive strain injury scrolling through. We'd like to try and make this more horizontal. The Arches at Malaga they started to do that a bit and so we'd like to do something similar. We'd like to make more use of the Arches collector, this is for not just for our advisor colleagues when they go out on site visits, but also for volunteers, crowdsource, projects to get people to go out and record information.

The last thing that we're looking to do is with 5.1. These included the Kibana dashboard. We want to make more use of that for helping the advisor's record their information. But also for recording stats about our own information for the historic environment records. We have to do a number of surveys for ALGO the associative London-- the association of local government ALGO control offices, but also for historic England we want to set up some templates for recording information that we need for these surveys. And so that was a very quick whistle stop tour. I shall stop sharing now. Hopefully that wasn't too much of a gallop, but hopefully you take some questions for people afterwards.

OK, that was really good. And I'm sorry I've not been quite as up to speed recently on what you've been getting up to Stewart as I could wish. That's looking really rather nice. Certainly a lot of user interface

improvements over where I saw it last. So Thanks very much for that. OK, so moving on, the next presentation is from Jude. From the Isle of Man HER. This is another HER instance of Arches that's actually gone live for public use. So joining ourselves in Lincoln and colleagues over at Jersey, in implementing this system. So Jude if you'd like to take it away, please do.

Can you hear us OK? Can you hear us OK? Yeah.

Yeah.

I'm getting nods good. So we joined you a bit late. We were just getting teams and Zoom, and you know what it's like. Anyway, we're here good nice to see everyone. Do people know Andy? Introducing Andy. Possibly not. I've been to an HER forum meeting about a year and a half ago, but my name is Andrew Johnson on the spectrum of ancient monuments for Manx National Heritage. And I actually started here a very long time ago building sites and monuments record, which was well and truly steam driven. And really what we're doing now is dragging that into the 21st century very much down to Jude's expertise, and--

So we set me up for a fall now.

No-- [LAUGHS]

Well I'll tell you what. Let's move on to Jersey because at the very least, that will test the system.

Yes please do.

But that's a good way. But let me roll back from my introduction of Jude, which you can save for later, and I'll and I'll just sort of introduce Roger from Jersey HER. This has been a project also a couple of years in the making. I remember having some early conversations with Peter Chowne, who coincidentally lives in Lincoln, which is where I work. So we had some very early discussions about the feasibility of it, and Peter and Roger and David sort of ran with it, and it produced this really rather nice Archer's HER system which they're going to talk to you about now. So over to you Roger.

All right thank you. I'll try and share my screen as well and see if that works.

It worked beautifully for you Roger.

Can everyone see this?

Yes. Yes.

Yeah.

You say it's off.

You may also watch basically go through a run through where we are with the project, and we still just still feels like early day but we've actually been alive for a year now. So this is our opening page. We obviously use Arches as the HER over here, I'm pleased to see Peter Chowne and David Osborne both here, because I'm not the best on these sort of it literally saves any complicated questions later on they can pick those up. So the Jersey Arches was launched in May last year. We're using at the moment version 4.2. Version 5 was released a little bit too late in the life of our three year project to deal with that.

It's the first HER in Jersey. We haven't got a tradition of account archaeologist or sites and monuments record or anything like that over here or behind the times. The arch has been set up by Jersey heritage. And now we're not part the government, we are independent partly a publicly funded body that provides the heritage services and advice to the government. We did hold discussions for many years with the Jersey government about setting up an HER, but never really got anywhere due to various financial restrictions and the lack of flexibility with their IT departments. So we thought, well, let's just do ourselves took the plunge and financed it ourselves.

So the main drivers at that time was there was a review of our historic environment advice, and historic buildings management in 2016 which was actually put together by pizza. One of the principal recommendations in that was the need for an HER. In addition to that, we've just completed a rather large island wide listing survey and I think I saw Alien on screen before, her team was heavily involved in doing that. We're also aware without a huge amount of information about archeology, finds and historic buildings held by various bodies and individuals in the island, access is varied sometimes the whole thing is unavailable. But certainly never been never been fully collated.

There's also been a real growth in archeological research and investigations here in Jersey especially in the last 10 years, there's various ongoing investigations with various economic bodies. And the need for archeology became part of the planning process in 2008 against like slightly late for other people. And there's also the ongoing accidental discoveries by the public. And the PAS scheme doesn't extend down to the Channel Islands. And so we wanted to try and cover that area as well. So our primary objective was to make this historic environment more accessible through a web based platform, and also free to use.

So with the advice of Peter and David, the decision was made to evaluate Arches. I guess it's similar to everybody else, I mean we were impressed by the fact that it's specifically designed for the cultural heritage field, especially that it's economical with no licensing fees. It's open source configurable and obviously based on international standards. So we had a wide remit as you can see here. We're obviously very interested in having a portal and secondary recording module, and we're also interested in looking at areas of geological interest, particularly in the future because Jersey has ambitions as Geopark park.

So the project as I say was guided by David and Peter. Along the way, we designed a relational database to QGAS layers to record all the information then over numerous meetings over the three year period. We gradually modified the platform to do what we wanted it to do. Obviously in meeting the international standard recording, and we found we needed to add a Jersey specific list. There are certain terms that we use commonly here, which didn't appear anywhere such as Doeleman, and anything relating to the German occupation during the Second World War. We had a dedicated HER officer employed back in 2017 who did most of the gathering and inputting of data, and as I say we migrated

this onto Archie's for our online launch in 2020. Very well received initially and say now unbelievably running for a year.

As with everyone else, the launch was a lot more low key than we'd planned because of the whole lockdown situation. But it was to say very well received. We've had staffing issues. Unfortunately we lost our dedicated HER officer which wasn't particularly helpful, but we should have a new person in post early next year. So the initial feedback we've had from people, and on things is a great resource, a great benefit to researchers. Not everyone has found it easy to navigate the site. I mean one popular and helpful feature that we put in, was the video guides on how to use the Arches. And simple things like how to search, how to access reports use the mapping, and so on. And these were very much aimed at the public.

Other issues, I guess people sometimes find a little bit frustrating that they can't see all of the results of the search on the screen at the same time. And another big area is people want to contribute information to particular entries, and there's no there's no particularly direct way of doing that. We've got anywhere at the moment maybe this something in related development. We have got a dedicated email address on the front page but other than that, there's no way of capturing feedback. So we've been looking at sort of Google Analytics over the past few months. I mean the figures peaked at the launch and they have dropped off since.

So our plans for the future way forward. I mean we're conscious that we need to more actively work to engage with the audiences. And we're hoping that we'll be able to do a much more focus on this once we get the officer back in post. We're also in discussions with the government of Jersey to embed the use of Arches in a planning process, as I say we're not actually thoroughly part of government. So this wasn't an automatic thing. At the moment the environment team are using it but few others the others do. But we have managed to get the use of Arches, it's officially now recognized as a key source in the revised island plan which is our local plan, with the requirement for building recording and archeological reports to be published onto Arches.

We're also looking at various enhancement projects to improve the quality of the records, expand content as ever, particularly looking at adding a social history context to the building entries. Also looking at adding more historic map overlays and images, obviously maps and maps and pictures people love that. And also growing the archeology content specifically. I mean we've just completed a LIDAR survey and will be adding in the results of that at some point over the next year or so. And also we're looking at potential seabed mapping survey which can feed into Arches at a later date. At the moment we haven't really got any recording of archeology or historical interest beyond the sort of foreshore area. So we'll be able to hopefully capture information, and hopefully prehistoric surfaces and deposits et cetera very, very soon.

And then we're also just again just to try and make Arches its presence more visible, you know it's online, we're going to have it more obviously in our local archive of the National Archive in Jersey, and

then we'll be able to incorporate it with other HER resources and support in reference collection which should help. And then as I say upgrading to version 5. So it's a strange it's strange. I mean, it always feels like we've just finished the setup phase in some respects, there's certainly a lot more work to do. And there's certainly a lot more capability that Arches has got to offer I think than we've actually sort of dealt with so far.

Excellent. So was that the--

That was it, sorry I lost you on screen, where are you, here we are. There we go.

Excellent, well thank you very much for that Roger. That I think it's really been a success story. And from my own experience, I found that the public facing side of it is almost a side benefit to having the system in order to record and make my working life easier. So I wouldn't worry too much about your numbers dropping off. I must confess I didn't even try to record what mine were, I'm simply happy enough to have the train set, shall we say. Is there anything you'd like Peter or David to add at this point from the technical side or?

Any piece of tape you want to add anything to that.

Yes this is Peter. I would just add really that a lot of the capability in version 5 would probably be very useful in terms of what Jersey are trying to achieve at the moment, but it's a big step migrating up to five.

OK, well I'm sure any more specific questions that people have if you do have questions relating to the technical side of things or to the data migration things like that, Roger I'm sure you'll know which of your colleagues to best direct them to. So we'll save those for a little later on. Jude, how's it going?

Fantastic. We've been able to take the test card down, so the girl with the clown has now gone. So we should be on. Kirstie very kindly came over and we're using her kit. So we should be good to go.

OK, that's excellent.

[INTERPOSING VOICES]

I'll catch up with you in a minute, but I'm just quickly going to share something with that you mentioned clowns, and I heard a joke yesterday that I frankly was too good not to share. What's the quickest way to kill a circus clown? Go for the jugular.

Oh.

[LAUGHTER]

You wasted in Lincoln.

[INTERPOSING VOICES]

I actually got a clip around the ear from my daughter before she went off to school for that one this morning. So it was too good. Anyway so back to Archers. Jude, again from the Isle of Man to talk about the most recent, I'll go what's the word I want? Deployment, deployment of Arches of our colleagues. So far so Jude over to you.

Thanks Cheers, and thank you for your patience right. Christy you're watching and clicking the right buttons on your laptop. So it's that one with, how are we doing. Is that looking, can you see my screen? Yep that's perfect.

Yep.

Excellent. We're cooking on gas. OK, so thank you everyone we're going to be really quick. We're going to be really quick on this but we're really excited that we've now got Arches, and we only went live at the end of March, and we're really to the public on the website, but we're still obviously we're on the journey with it now. So interesting to see somebody who is our hero. Well where did this all begin? Well back in 2018-19, historic England very kindly extended their HER audit program to us here in the Isle of Man. Although strictly speaking obviously we're not part of England, we are a crown dependency, we are separate from the UK.

Nevertheless, they included us in HER audit. And it really told us a lot things we already knew, and did nothing, but it helped put that in an audit format that we could then convey to our trustees. And we looked at those four service areas. Some of you maybe have already been through such an audit. This was a new thing for us. We'd never done this before. But it really highlighted the need for a dedicated HER system. Because before Arches, our HER was in a collections database called mimsy XG which is more geared towards museum collections with a slight sop, what they call a site authority. So we were really keen to move the data out of that database to give it space to breathe and grow.

Why do we want to do this? So this is our hand over to Andy partly, The historic England we're currently part of a consortium bid called Unpath. For us that is about the Maritime underwater HER of the Irish sea. And I'll hand over it to Danny talk about that image on the screen.

Well just very quickly, this is actually the output of some work that we've done with Bangor University. And it takes advantage of some real interest in searching for wrecks in the Irish sea by staff at the University. And we also have local expertise, a local researcher who's pretty much his life work has been through a combination of being an excellent diver, and also an amazing researcher of documentary sources and archives. He's built up an incredible private database of wrecks around the Isle of Man. As an island our territorial sea is actually bigger than our terrestrial as sort of area.

And so we're very conscious that to be part of a wider community of research but also outputs digital outputs like this is a massive opportunity. So we're joining the Unpath project and the enhancement of our HER with the inclusion of data will be step forward.

Yeah, absolutely and really it sort of highlights the point why we're so happy that we've now got Arches, but we can look at projects like this, which are just out of reach before, we now have a home for the HER. But would also the home of the archeology collection. For the island and our colleague Alison Fox is finds archaeologist. And we have museum sites around the island that's like the medieval gallery at the museum, but obviously any excavations that happen on the island and they're involved in excavation the fines also come to us.

Yeah, the original genesis [INAUDIBLE] was a management tool that could potentially serve the planning and development community. But it has unfortunately remained an internal service which has been very, very useful for natural on reverse. But our ambition really is that the HER in serving national heritage, it provides management tool for all of the very disparate services that houses museums, ancient monuments inspiratory, National Trust for the island. It's an important management tool but of course there's then also the outputs for people involved in planning and development, people involved in academic research and we think in many ways most importantly of all for our sort of hearts and minds side things, it's about having public access. And Arches gives us something that we simply couldn't aspire to before.

Yeah, so we're very outward facing in what we do. We also are the home of the National Library and Archives, this is just one photograph from our photographic archive of the War Memorial which is just over there the window on Douglas promenade being unveiled. So we have really rich resources to draw on. And included in that photographic archive, not only photographs of those commemorated on the war memorials, but also photographs of excavations some time ago. That sent one in the 1940s.

So our challenge was, OK, we wanted a new air system, we really liked Arches, but the thing that we wanted to make sure of is that we didn't totally decouple HER from our collections. Because that's what really makes us such a rich organization for our users. And that you can explore the historic environment, but then springboard off that into well what is it to actually came out to the ground, and can I see that? So the magic that that happened for us really was for knowledge integration as well, was realizing that the Sim collections information integration middleware, which draws information from our collections database, could act as a broker between our collections, information and our HER.

And I've just done a screenshot there of just some of the records from the same. Obviously we have images of [INAUDIBLE] as well. So just to dip into Arches itself, if I can, Hello. So what we might do, let's see if I can do it as a live link instead. OK, obviously, you can go and look at this afterwards at the website. There we go, that's good. Wow. Good. OK. So always astounds us, this is so brand new to us, [INAUDIBLE] with it, as I imagine all of you still feel like that about HER.

So this is the home page that's Peel castle on St Patrick's Isle, which is one of our [INAUDIBLE]

Anyway it's one of the ancient monuments archeological sites for the whole of the old man. So very appropriate to have it on the front page.

[INAUDIBLE] you're always smiling when you look at this.

Yes.

So on the home page, we do have-- not going to go into this, but we do have-- we really enjoy what Jesse did here in terms of the YouTube guidance. Thank you Jersey for being so helpful, then in showing us showing me how to do a video tutorial. That's been really great. We work with there is a War Memorial committee on the Isle of Man, that's a government led committee, and we look after their register of war memorials here, again you'll see that image again, and we have a few links to some of

our own sites. I'm probably not going to have time to go into a live demo, but obviously if you do a search, you-- well you know what Arches like looks like.

So think I'm going to go back to if I can. That to ask why, what do I do about this? Let's just minimize. OK, so I'm conscious of time. So, talking of time, we do have a three year road map, so this is just the start for us. Getting Arches live, getting it installed, getting it onto the government network, getting a support agreement in place with knowledge integration of all the major steps for us, we've achieved that map. Our next part of the roadmap, is our six months of remote service. And again, I think Max Stewart to the conversation we had ages ago about Arches, and because it's web based, you don't need licenses. So you can invite users in to deposit data directly into Arches, and that's exactly what we're going to be doing in the next six months.

We've just contracted Trieste to work remotely in moving 4,000 more Monument Records or resources into the HER, including actionscript activity resources, out of those as well. We're really conscious of the need to do that. So that's going to be starting in July. And then from November this year, we've had funding for the two HER project officer, because as all of us--

Overworked et cetera, et cetera. But this is a wonderful opportunity really to address various backlogs, but also to focus really comprehensively on various enhancements that we feel are long overdue.

And something which is on out certainly on our development horizon, is sketchfab viewer. We have a sketchfab turnel where we make available 3D models of over well the whole corpus of Manx crosses on the island which our Viking early medieval process. And they're available on Sketchfab, but we know knowledge integration has been working with another client in building that viewer. So this fits within Arches. Because overall this is, we want to give the user an experience of all the HER Resources we have available. And if you visit Isle of Man HER, you'll notice that we do have these things called linked resources. Do I have time to quickly show you an example of that very quickly?

Oh I think so.

Let me just very quickly. I just want to do a quick example. so zooming in on a War Memorial again. So when you click on a pin point, and something we want to enhance here, you notice there's a link to resources. We'd like that link resources to also appeal as a point on here, but we'll see how we can maybe develop that with along. But when you click on Linked resources, this is drawing data now from our collections database in real time. So this isn't a static draw, this is a Realtime API linkup. It has all the people commemorated on that War Memorial, but if we go to archive collections, it also gives you items from our collections. We're just cracking up. So when you click View related archive, you get the information at the top.

This is all information that isn't stored in Arches, it's stored in the Sim, so we're repurposing this information, and we're also drawing the image down again from the same Arches. Now that is what excites us, because we've just started doing this and it's something I know that costs alone are doing as well. And they're using the same also. So we'll be learning from them,

We will.

See what they'll be doing, and they'll be conversely learning from us. And that's enough for us. Thanks Cheers.

Well Jude. Thank you so much. That is fantastic. And what a bombshell to end on.

[LAUGHTER]

Because in Lincoln I've suddenly become responsible for some 30,000, well not even 30,000 objects, 30,000 entries in a museum data record system. And apart from being a massive headache, on the other hand it's a great opportunity to link that material to existing records in the Arches system, which is our Arches implementation. So you can bet you that I'm going to be knocking on your door in the next year or so to find out exactly how you've done that, that piece of marvelous wizardry. And I'll also be having a wee word with Neil and Ruben about that cost, I should think.

Ruben's been brilliant in this, Ruben Osborn on KN, he's been a person who's worked on this as well as KN, and it's almost like they have sort of they have sort of learnt it from us now, they've kind of learnt how to do it. So you can--

Leech off your success [INAUDIBLE]. I know Phil's got his hand up.

I've had my hand up for a while now, Matt thank you very much.

Well I didn't want to

[LAUGHTER] but you know carry on.

My initial hand was put up about the Maritime stuff, because obviously we are developing the National Marine HER for England, the Mariner project which is looking at exactly the same thing. And we're also an onepath partner, and so that's going to feed into ampad. So anything we develop, we're happy to share obviously any models we develop because we're under the thinking behind it, it would probably be sensible to have a chat about this and talk about where we're going with Mariner. Particularly how we've gone from a single record for the rec/vessel to a vessel and a wreck for example, and the thinking that we're putting into Mariner is obviously something that you want to be involved in. I would suggest. The second thing is that I know Neil is on here, and I know Rubes on here as well. And it would be great if we got any time at all in the agenda, any leeway to get Neil or Ruben to come on and talk about exactly what you've just talked about there. Because that linking that external linking to systems, is something we're all going to be interested in obviously. Is it global digital heritage that they're talking to about the Sketchfab stuff, because I know that they've already done that. So they've already integrated that into watches. So I so many things to ask and talk about

[INTERPOSING VOICES]

I'll make a note of them Phil, make a note of them and we'll come back to them. But I think we can, I'm assuming Neil and Ruben are OK, giving us 5 or 10 minutes of technical speed that'll be completely beyond me. But I feel is going to be very, very useful to colleagues here. I'd be happy for them to do that, is that OK guys?

Yeah of course.

Yeah.

Excellent. Sorry you said Ruben's been brilliant. They said this is Ruben. Is it Ruben?

Yes

[LAUGHTER]

Don't you say against Ruben

[LAUGHTER]

I wouldn't dare. The man is a Marvel. Excellent. Thank you very much.

He is also from Birmingham. So what's brummies have to stick together a little bit.

That was really marvelous Jude, and thank you very much, and well done on dealing with the teething issues that's grand. So we're making reasonably good time, I think but let's now move on to Michael and Crystal from the Eamena project. Guys don't feel you need to shorten your presentation, because we're running a bit late, just carry on as you would I'm sure we're all fine. So over to you.

OK, great thank you. OK, can everyone see that?

Yeah, that's looking good.

Great. OK, so yeah today I'll just for-- apologies to anyone who's already heard plenty about the Eamena project, but I'll just do a little bit of background in the Eamena project, the general database, shape and then crystal will talk about the Marija project, and then we'll wrap up by talking about some of the developments we've made with Arches. Of course with especially with our partners Farallon, and knowledge integration. OK so the Eamena project has now become a 10 year long project. Originally started in 2015 to record the archeological heritage across about 20 different countries from Morocco all the way to Iran. And in addition, we also work with local partners in many of those countries to develop remote sensing and in field archeological documentation programs, and we have also designed national implementation databases in Arches for a handful of countries and we're continuing to do so and we were just about to introduce an implementation of Arches for Pallestine, and then soon Jordan after that, and so forth.

And basic Eamena methodology is to use Google Earth to identify sites, and record them initially, and you can see on the left of our we work within a custom grid, and then we use a variety of ways to mobilize data from geographic facts in something like Google Earth, or in some cases will use a GIS system. And in other cases we'll enter data directly into Arches, but one of the main ways that we do this is to-- once we identify the sites in Google Earth, add them to what we call a bulk upload sheet, and this is a little bit different than your standard CSV import sheet for Arches. It's custom made and it address, I'll come back to this later when we talk about developments for Arches, but this is addresses a hierarchical nature of Arches data structuring, and so we can have multiple parents with anchored anality, we can have who can have multiple children with no anchored anality, and then those children can have anchored anality, and all of that can be accurately ingested into our Arches database.

And you can see the conventions that we use, I won't go through all of them, but we use rose and pipes. Pipes separated values in some cases where we have children within anchored anality, and that enables us to have very complex graph shapes, and yet still have this sort of simplicity of site identification, and interpretation, and then ingestion. As you can see we've been quite busy. We have now about 340,000 resources in the database. About 190,000 of those are heritage places or archeological sites, and here's our cover page, we modified it a little bit from the default so that we have a sort of horizontal slider so many nice images. You can go check them out if you like it. Database.eamena.org.

Here, we have, this is what our map looks like. And you can see we have the grid as is its own resource model essentially, and these are basic resource models, it's obviously heritage places the main one we mostly record archeological sites, but as Crystal will discuss shortly, we're now also recording paleo landscapes, environmental data and we can delve deeper into site condition assessments, and then of course, we have a massive number of archival photographs aerial photography, historical photos of sites and anything else. All kinds of resources and our information resource model.

So here is one particular site, and this is basic this is our heritage place resource model, these are at least the top cards in it. I don't want to get too much into the branches and that because we would be here forever, but one useful thing to note is that for every kind of-- we look at recording as an event itself, and it's all interpretive, and so for every assessment there's usually some kind of certainty value. So if it's a condition assessment and say, OK, well, what is the degree of disturbance or threat, and then what is our level of certainty of that. And that really makes analysis I think much, much more valuable on the other end.

And one of the other very, so by the way we're on Arches 5, we're or on Arches 5.25. 5.2.0B0 technically speaking. And what one aspect of Arches 5 that I think we've really made good use of, is the resource instance note. And this has this feature of Arches five I think is really incredible because it allows you to embed resource to resource relationships into your resource models. And so it lends a whole other kind of semantic understanding and capability to do your modeling that really enables you to talk about site hierarchies, and relationships between across resource models. And an example of this as a segue, is here under archeological assessment you can identify a related Geo-archeology, instance of Geo-archeology resource model.

And so to do this, you'd basically you just select the node, and then you get a dropdown list from that's populated by that resource, by that resource model. And then, of course, you can also choose one, if you know which one is related then you choose it, or you can create a new one right there on the spot, and you get a window where you can add some more, you can add some of the data some of the basic data right there and then you can go back to that record later and flesh it out more. But it's enormously effective and it also does a lot of things, but it also helps bridge this gap between if you want to use a string feel, if you think about using a string field but you want it to be a little bit more standardized, and

controlled add those to the RDM, that's a clunky system that a lot of users aren't going to be able to access because we are a public facing database.

I forgot to mention we launched publicly launched back in May, and so we want people to be able to add their own name, but not have to go through the RTM to do it, but not add their own name seven different versions of it, and the resource instance node enables you to add it. You add it once, and then the next time you just select it so it's standardized. And with that, I will stop sharing my screen send it over to Crystal.

This is probably just a good time to note that Phil has got his hand up again.

I do indeed.

With respect to the resource instance, is as you say it's a game changer Michael, but I noticed so you're basically just selecting your resource instances. So what we've got as part of the applications consultations module within greater London, is the ability to put your point on the map, and then intersect with geometries of other resources and then it automatically associates those instances with your new geometry. So basically you just go here's my point on the map? What's it related to? What does it intersect? What does it join with? And I mean is that the kind of functionality you would like to have? Because it's there in if you just use resource map card I think, is the key card to use. Tell me if I'm teaching my grandmother to suck eggs please.

We do use that in some of the cases. Yes. It depends on how we deploy it, but yeah you're right though, we should probably we should probably push that aspect of it more, because it is brilliant.

Yeah

OK, thanks Phil over to you Crystal.

Yes I'm just going to share my screen. Right, is that all good? Right, so I'm just going to briefly introduce the MarEA project for those of you who have not heard of it. And just focus on some of the more Maritime specific enhancements to the Eamena database, because within the MarEA project, we rely and use the Eamena's database that Mike just introduced. So MarEA as an Arcadia funded project just like the Eamena. And the aim of the project is to document and assess Maritime cultural heritage and threats across the Middle East and North Africa. So this is within the coastal region and underwater. It's a five year project. So it started in 2019. It is based at the University of Southampton, Ulster University pioneered by Dr. Lucy Blue and Colin Breen. So we work really closely with the Eamena team, with government bodies and the Eamena region, with HERs, academics consultants and experts. Now our objectives mainly is to comprehensively and rapidly document Maritime culture heritage across the region. And this will enable us to kind of focus on areas at risk, areas that need on ground surveying or fieldwork. And so we do undertake fieldwork and surveying. And we work closely with local regional partners depending on the needs that appeal to them.

So we undertake as well like the Eamena project assessment of the condition and threats of all of the archeology, . And this is what the purpose of developing an improved understanding of the nature and

extent of culture and Maritime culture, heritage in Eamena. So we integrate all of that data and Eamena's database, and we also develop tools for the management of Maritime cultural heritage working with government bodies and departments of antiquities. So similar to that great that Mike had shown so we focus just on the we have a coastal grid, that focuses on the coastal region as you can see here on the bottom map, so we focus on the coastal plain and on the nation's nearshore plain. And the priority areas, so we have, we focus on areas that are of high density for archeological evidence, or areas that are subjected to imminent threats. And our sources are we rely on academic literature, on fieldwork reports, satellite imagery, obviously Google Earth, or declassified imagery archives, all historical maps and so on.

So when we first started to, we first started the project in 2019, and obviously, because we're using the Eamena database, and one of the main resource models that we use is the HERs place to document archeological site. So when we first started, we needed to expand on that controlled vocabulary that was already existing in the Eamena for certain specific fields of data. So for instance, you can see here, let me just put my point on. So you can see here within the interpretation of the archeological site so it wasn't just enough to say whether it's a shipwreck, we added more terms in terms of depicting whether this is a submarine, a warship, a sailing vessel.

And even with the topography. So we've added terms that really reflect that coastal topography. Marine topography are we working with the Delta estuary coastal cliffs and so on. And with the threat. So when we're conducting condition assessment. Again we again we've added more times that depict the Maritime environment threats that are acting on the Maritime environment. So like trawling and dredging or coastal advanced accretion and coastal erosion. So that was the first step kind of to integrate those new terms to already existing fields of data so that we are able to start documenting Maritime culture heritage across the region. Now the second step was to think of it more in terms of how we want to enhance that heritage place recording and in order to contextualize Maritime archeology.

And so one thing we did was the implementation of an environmental assessment card. So this is particularly important for the Maritime environment, because it gives us an understanding of the kind of preservation and the energy that is acting upon that coastline. So within that environment assessment guide, we're able now to record the information about the geology. So bedrock geology, so personal geology, under the positional process. So how was that sufficient geology deposited marine alien and so on. And we have a specific collection for the Marine environment. So telling us about the energy of the environment about the first wave climate and tidal energy. And again about the depth, so how deep is the site underwater and so on.

So that environmental assessment card is not just being used now for Maritime heritage sites, but as being used for all of the heritage places that are being documented on the Eamena database. So also for terrestrial sites. Now the third thing we did, was to implement a new Geoarcheology resource model.

And this is again this is particularly significant for the Maritime and coastal zone, because it tells us about paleocoastlines, paleogeography, how that landscape has changed, and what is the indication for the president nation of archeological material. So within the archaeology resource model, we kind of followed the heritage place-- instead of like reinventing the wheel, we followed the heritage place structure. But instead of having an archeological assessment, we have a archaeology assessment. And within that archaeology assessment, we can empower whether we're dealing with a feature sediment, or a feature landform. So sediment based on cores and four walls prehistoric evidence of prehistoric occupations. And in the feature landforms, so you have an example here of the kind of terms that we use in terms of Ridge terrace platform or a cave and what that is interpreted as. Is that terrace? Is it a marine terrace, is a seabed a shoreline and so on. And within the Geoarcheology as well resource models, that we have we've added a kind of process indicator. So what is the evidence tell us about what is indicating as they're indicating a sea level rise, a tectonic subsistence, a tectonic uplift and so on. And for all of these as well, they we have the dating. So we can date all of these features be it landform or sediment. So at the moment, this was incorporated recently, although we've been working on it for quite a while but it's now been is now live with the new recent relaunch of the database. So we're just starting to add that archeological dataset to the database. So we have we're just starting to add it, but we have a backlog of data so this we will have quite a lot of records quickly within the next couple of months. And this is partly I think I'm not aware of any kind of a database that consolidates that geoheritage, because it's a form of geoheritage for the whole Eamena region. So it's quite unique for that region, the fact that we are able to consolidate all of that archeological information, and like Mike said related to the heritage places. Where the archeology to actually what is happening, how that landscape has been modified, and where the paleo coastlines and paleogeography, how did it look like. So that's more or less what I wanted to say in terms of MarEA and in terms of our usage and how we enhance the Eamena database for the Maritime specific elements. And of course, we have as well on the project Dr. R. Smith. He is the database expert, and he works very closely with Mike, and very closely with the Eamena team on all of the database development and maintenance because we're using the same database. So it's important for it to work as we would like it to work. So Mike you can take over again. Yes?

Cool. Thank you crystal. OK, so I just wanted to show some of the things that we-- some of the custom, well most of the developments that we've either designed or worked with Farallon or knowledge integration to design are part of Corrections some are not, but this is back to the site of a prehistoric site in Syria to Zeidan that you've seen, but to note here is that now able to drag and drop HTML files directly into the map, and also able to directly edit the coordinates here, and also you can change the geographic reference system as well now. And you can add whichever ones you want in your settings file.

And this was something that our partners really wanted, and our local partners, especially in Jordan and in Lebanon were interested in this, and I think it makes things a bit easier. We also this is another, this is another request from coming from Jordan based on their mega Jordan database, that wanted to be able to add a kind of buffer zone around the website without having to redraw the geometry. And so we worked with Farallon to develop this functionality, and basically you just select your geometry and then you enter whatever distance you want, and you have the option of adding it as a new tile or as like a multi geometry-- multi polygon within the same tile, by just checking that box or not.

And going back to the question of connectivity with GAS applications, for QGAS which is of course, as mentioned this is more along the lines of the ethos of Arches with this open source software. So our project primarily use QGAS. And what we wanted to do, is we wanted to start that process of development. And so there's always obviously there's always a number of ways to move your data into a GAS system, but we wanted to sort of simple one that didn't actually have to constantly tax the database, because we have like 200,000 sites. So we developed with Farallon was a GeoJSON endpoint, which when you create your query set, as long as it's within as long as it's less than 2000 sites, and I know that's a restriction, but that's pretty standard for all exports. So as long as it's within those constraints, then you'll have the option of a GeoJSON URL. And you just copy that to your clipboard, you go to QGAS, and you add a vector layer, select protocol, GeoJSON, dump your URL here, you can authenticate or not depending on how your jango permissions are set up.

If your geometries are available to anonymous users then you don't need to authenticate. And then-- and that's it. And then you'll get your distribution, you'll get all of your data, boom right there and what's nice about this unlike shapefile, well there's a lot of advantages over shape files of course. Because shape files truncate, they truncate your fields, they'll but what I see is the main advantage, is that this is not 100% live, like connecting your database directly to QGAS, but it is sort of semi live in the sense that every time you refresh your data frame, or reload your project in QGAS, it will reaccess that API endpoint. And so you basically you can get you don't have to worry about versions of shape files or anything like that.

So it obviously doesn't go in the other direction. So this is unidirectional directional connectivity at this point, but we see this as a sort of first step, and that creating the plug-in on the QGAS side can work with this tech. One of the other things that were developing, were actually very close to finishing, but I'll just mention this as a preview is getting I discussed this earlier, getting the hierarchical data in was that that took some effort to design that and as crystal mentioned asher-smith at MarEA project, wrote the code for that, and we designed the templates. And the question then becomes, OK well how do you get hierarchical data out of Arches? And this is, depending on your graph shapes this may or may not be relevant, but at Eamena we have extraordinarily complex graph shapes, and we never want to sacrifice the ability to convey our interpretations, and Arches enables you to not have to make that sacrifice, and tell you want to export your data.

And so we've been working with Farallon on how to get your data out with where to act with accuracy. So as I mentioned we have degree, so if there's a particular threat to a site, we have a degree of that threat, and then we have certainty of that. And you can see how it gets quite complex if you want to just dump it to a CSV file. So what we have now is an Excel export, that this is just a sort of hint at what it kind of looks like. But basically it turns every note group into a tab. And so you can have-- so if you have multiple values for that no group, that they will get multiple tabs but then the next card will have a tab or multiple tabs. And you can see how it can be it'll be huge, but what will be nice about it is that it's 100% accurate.

So if you want to take hierarchical data and move it into analytical programs, then you can do it. And you know that the data is 100% correct and there's no ambiguity or anything like that. And then finally what we've developed with Farallon, well we have many international partners, we work in a part of the world where Arabic is the primary language, there are other languages, including Persian and these are right to left languages. And so you know we needed to be able to have this database not just be bilingual, but be translatable so that you can enter something in Arabic and if it's a concept, then the concept than the corresponding concept will appear on the English side in English. And so we've been able to do this to a degree. And so right now, you can add languages to your settings file. And then you just select this from this dropdown up here, English, Arabic, Spanish whichever you'd like, and then it'll convert the concept lists.

And as you can see we have slashes in the card labels and places like that because that's the next step and dynamic dynamically loaded pages, et cetera. So right now we're in the process of designing and then ultimately implementing what's called the full internationalization of Arches. And it's pretty exciting, I think it'll open up Arches usability to the entire world independent of which language somebody is more comfortable in. And but right now it's still it's functional in multiple languages, at least as far as concept lists go. We are working on-- so that's what we've been able to do so far. Actually one other thing I should mention is when it comes to the forms, you can kind of get a hint of it here. This is something that Asher-Smith and I developed, which is a custom card, which like I said our graphs are fairly complex and being able to get all of those nested nodes into the same card, wasn't really possible without designing a custom card in Arches.

And so we've been able to do this, and it's worked really quite well where you can have a single form basically. So you don't have to constantly go back to the card share, find the next card and go down. You can see it all in a single form, and I'm not this is not live so I can't scroll to show you but basically the entire archeological assessment card, is all visible right here in the same form. And so we have, so that's what we've been able to do so far. We're working with knowledge integration right now for what we call ring fencing data which would to enable you to apply a custom permissions to entire data sets instead of just to individual records at the same time, and then the next step I think will be linked open data. So I

was really excited to hear about the same, and hopefully you can continue to have discussions about the best ways to link data sets across different applications, and data types and so forth. OK thank you. Well, thank you very much for that. That was remarkably interesting. And I think there's a lot of useful things. I mean I'm aware that the subject matter may not be UK based, but the talent pool that I think that I think we're talking about here certainly is. So it's great to see so many things that we can all benefit from in a kind of very open source way. I see Philip's got his hand up again.

Yeah. I'm interested in the custom card that you've made there Mike, does it solve the issue of importing nested data?

The card itself doesn't address that. It's the bulk upload functionality does. And that that's something that ash wrote custom code for. One of the exciting things I mean it's really it's quite elegant of the way that it works perhaps if we want to get into technical details, Asher could jump in. So we had to design the template, the bulk upload template that I showed, and then Asher wrote the custom code, to convert to basically convert your Excel sheet into Arches JSON, and validate it. So there's a lot of steps involved in it, and before just seeing if ash wants to add anything, I'll just say that we're currently in the process of all of that's highly custom. So the custom card, it's the visual way of dealing with the data. It doesn't do anything under the hood, I mean there's a lot under the hood. Ashley wrote the code for that too, and I need to get into the details there as well, but so that's sort of like the back end way of ingesting the data, and then the front end way of viewing it a viewing nested hierarchical data.

The card is available-- all of the JSON is available, the JavaScript is all available in our GitHub account. So you can go and you can scrape it there, and see if it's useful to you for front end, but when it comes to ingesting the hierarchical data, Yeah this is just completely custom code, but we're working with Farallon and a few other partners to turn it into core Arches. So there will be an Arches release I mean we hope at least this is what our plans are is that there will be an Arches release. Perhaps even this year, that will make that available to everybody.

Yeah. Because this is how to grail really. As far as we're concerned, for importing data, particularly where you've got nested cards, and then the nested card has multiple values. Because what we found is when you append what it does it creates the entire nested card again, as I'm sure you're aware. I would be interested in having a chat with ash about this. I'm not that technical, but it's certainly something we are very, very interested. Myself and George we're secretaries on the CRM sig. We're looking at a way of automating this process so that you wouldn't have to hardwire the JSON templates that you'd be able to create them on the fly, and we think we're getting there using the CRM 3M tool, to create a mapping which can then create we can then use to create JSON from.

And if that solves this problem, then great. But at the moment we're sort of like we're looking around to see what's out there. And this is certainly an excellent from my point of view development if we can sort of maybe piggyback off it or start a conversation about how we solve this and obviously Dennis is more

than aware of this as well as you've said, and as you know. So, yeah great stuff. But Yeah if we can start that conversation certainly we are very interested in what you're doing there.

So I think if we take 10 minutes for that comfort break that was mentioned earlier, does anyone object if we go over time. Does anyone have to have to leave immediately? Well now we've got so what I'm thinking is if we take 10 minutes, in that 10 minutes if you've got specific questions any of you for the speakers so far? If you can come back and then just stick your hands up and then I'll take us through them through them one by one. Then I think it's worth has taken a little bit of time to just run through the attendees and see who's got what projects on the go, just a quick sort of two or 3 minute overview with no repetition, no stopping, sort of thing. And then I think we Stu has put on here that we need to talk about the group terms of reference as well.

So we have still got a bit to get through, are we all happy doing that bearing in mind that we've now got half an hour left of the meeting time. I'm proposing that we move at another that we move another half hour of past that as well.

I think we has to go. We this is being recorded, so you are not going to miss anything.

Great that's good to know as well Stuart, but yeah we could stay.

Excellent. Well I'm not I'm not hearing any massive descent. So let's take 10 now let's be, well let's take eight now, sorry I have jabbed it on. And let's say we'll be back here at 22. And if you can be back here with hands raised if you want to if you want to ask questions that'd be great. OK? Thank you. Well I think we're all slowly going back to the meeting. Give it a couple more minutes just, I'd say among the many problems with online meetings, I think the fact that this you can't see people come back to the table is one of the big ones. That in the absence of biscuits and sandwiches. On that note, I'm sure I see some hands up for questions if we have any.

Was that great did Graham flash?

It was.

Yes I did.

[INAUDIBLE]

And this is a very practical question. First hi, I'm Graham Appleby city archaeologist here in Leicester, we've been looking at Arches on and off for a couple of years, and we're looking to replace our current system for various reasons. One of the questions which I'm asked, is how much is the annual service costs. So those of you who've implemented in terms of the support from your providers or support wings how much is the annual cost to you in direct outlay if you're able to answer?

I'm just checking--

Yes, OK, go for it.

I was going to say that's I mean-- there is no one answer to that Graham. Really, I mean you'll note that we have colleagues from knowledge integration era or one service provider who can answer you that question. But I think given the terms of this group that should probably be a conversation that happens

offline. I think if you want to go external to someone like knowledge integration, there is obviously going to be an upfront, there's going to be a cost that's going to appear on your annual budget. There is also the alternative that you're in-house team could potentially maintain it on an ongoing basis, that might work out as a cost that you could more easily lose in your annual budget. So I think that's something that is it it's not really I think a question that we could or should answer in this forum, but I think there are people on this forum who can help you come to an answer there. So--

Yeah, just to say Gray, I am more than happy for you to get in touch with myself and Andy by email, you've got an email address as part of it. We've taken out support with knowledge integration. And that works very well for us because knowledge integration also support our Sim, which obviously, Oh I can see Neal. There's Neal. Which obviously there's a real benefit in that because we can talk across both products. But more than happy for you to we do have support with knowledge integration. We do have a government it team but it's a shared service, and when it's specialist what they regard especially software, they do look to departments to find their own support providers. [INTERPOSING VOICES] Yeah we are able to give knowledge integration remote access to our servers for working directly onto the server, and so that's how that works for us but happy for you to email-- email me after this.

I will drop an email Kirstie if that's fine. Thanks so [INAUDIBLE]

Sorry I'm still lost Kirstie because I'm not doing as Kirstie, which I don't mind.

Sorry Jude.

She's our boss, but it's me--

[LAUGHTER]

Sorry Jude. I just get used to the laptop.

OK can I just add to that this email. We did a discovery project for East Sussex County council about the costs of migrating from their existing HER system which obviously we included our own costs in that but we also looked at internal costs. I know that surface being happy to share that with other HERs. Some of it is specific to East Sussex, but I think a lot of it is generic, and a lot of it is based that was actually a similar in that case so a lot of it was based on the work that Stuart and Phil have been doing as well. So obviously that was a client confidential report, so I can't share that since we have been happy to share it with other materials.

And just to add that

[INAUDIBLE] up in email as well.

I think it's probably quite important as well that you make it in any sort of proposal, that you make it quite clear that the cost of migration versus the cost of support, I mean those are two different things. The cost of support is an Arches related cost. The cost of migration is simply the cost of you leaving your current system for any other system.

This is where-- sorry this is where it's a two pronged attack in terms of identifying costs. And as you know from my previous attempt that we identified these costs but the world had moved on a couple of

years. And what I'm being asked specifically at the moment is that annual cost. Maybe we take this offline though Neil and Jude and Mac so we can have other questions but thank you very much Cheers. OK, Junaid do I have-- do I pronounce you correctly?

No Yes thank you that's correct. Yeah thank you for arranging this session both Stuart and everyone else. And I will just start with the quick introduction because I have been in contact with some people but not all. So I am Junaid Abdul-Jabbar, and working with the massive project. Massive project is the mapping of archeological heritage in South Asia. We are focusing on the Pakistan and Northwestern India, mainly along the Indus River basin. Yeah, so I'm mainly taking care of the Arches, we have started with the Arches 5.1 but 5.2 is offering a pretty good additional functionality, so hopefully we will be looking into that as well.

And right now we are trying to find our way around these very rich and complex heritage examples that combined it with a lot of challenges Phillip also highlighted these nested import of data attributes and all sorts of these things. But yeah, I think we will be there but for now I have two questions. One is towards Stuart, and one for Judith. So I mean all of these custom developments that you have just shown, these are very useful and I mean of course a lot of resources and time have been put into this, but I mean are these available on any GitHub repository, or how are these all managed these developments, or are these becoming gradually going to become the part of core Arches or?

First question is that then mainly. Second question is maybe I can put it on the table now, is about that external API that you showed us linking and pulling the data in and building that structure. Have you explored the mail app the idea of triple image resources because some of the libraries and repositories are really publishing their resources as triple IF that provides a very rich access and Arches 5.1 and so on they are also enhancing that capability for Arches as well. So yeah that's my second question. Thank you.

Yeah, hi welcome to the group. The Arches HER, once he's finished will be put up onto the repository for anybody to use. There's nothing there that anybody can't use. We're developing a system that can be used primarily for any historic environment record. But obviously anything that we develop that other people may find of use, there they're very happy to use it.

All right. Thank you.

Yeah, on the triple IF, it's not something I'm well aware of that. Our back end database is mimsy H.G which is an axial product. And I know of an axial product users like the British Film Institute have really gone forced storm with triple IF, and they've used that. It's not something we've done at the moment, but you're absolutely right, we do have a very rich image collection. So it is something we should explore and I'm looking at Neil now or Ruben. Neil, Ruben is there something you've done in terms of the same?

Yeah, so soon support triple IF as one of its many employees, and we actually use the same group and functionality to define sets for life as we do for other things such as OIPMH, so if you want to export things to European for example you can take in different sets obviously. So we would generally for people like yourselves who have a Sim interface, we would the route to define our way out of our

choosing to stay and implement triple IF on soon. Whether there are plans for native support triple IF within Arches, I would defer to Farallon.

But I mean I've learnt something there. And I think this is why we're quite excited about-- we've also got to be realistic, and we've got to have a plan of what we want to achieve. Because there's just so many options being opened up to us by using the same. With Arches, our challenge as we're such a small team as well, and a challenge to Kn is deciding what our end users want. What do we actually want to achieve at the end of it. So for us Sketchfab is a really important one the 3D models at the moment because we already have that product, and we just want to put it in the way of people and make it a bit more visible as well. But Planks you've got me thinking about triple life now.

[INTERPOSING VOICES]

You know Arches for science, the disco project is certainly look well certainly using Triple IF, and there is obviously a triple data type in 5.2 and I think even in 4.1 the triple IF data start was there. So yeah it's definitely something that's being worked on for Arches for science and anything that is useful for HER will be true will be trickled into that as well. I know that the core Arches, any functionality that is deemed useful for all instances will be copied over.

Yeah, yeah really. I mean you're right about that. And I think Yeah maybe later it would be really useful to explore more into this external API linking functionality. And I think as a part of our project, I will most certainly we will be spending some time with all of this triple IF ecosystem, and with Arches so I am happy to share once we are there to share with everyone how we can get along with this.

Fantastic. Right?

So are there any other questions for specific relating to specific presentations? Nope OK then I guess if we move on quickly then to-- so we've had we've had some presentations from people doing Arches related projects, I don't think they need to give us a 2 to 3 minute update of what they're doing, but if anyone else on the chat would like to give us a couple of minutes of information about projects that they're doing at the moment that would be great. If you put your hands up I'll come to you. One by one. OK any more for any more. OK so we've got we've got four hands up I'm going to start up with Alan if that's correct, who put his hand up first. All right so let me mute myself.

Yeah, OK we are good. I'm in no rush I'm Mia from Oxford University, we're running the Endangered wood and architecture program which will run on Arches once we get going. We're currently working with knowledge education. Neil and Ruben, so it's really good to hear you all been very supportive of Ruben. So looking forward to that relationship. So I'm on a learning curve here, it will be a grant giving programs. So the data will be gathered by grantees and then brought into the database. So at the moment we don't know where those grants they will be worldwide. So we're probably going to be having issues with things like language, and terminology particularly for timber elements and parts, so we're currently in the process of sort of identifying various fields of metadata. So today's been very

useful to me in sort of just understanding some of the challenges and sort of what's going on and hopefully in the future, we'll have more to contribute as we start developing.

Well yes, that would be really interesting to see how you get on with that. One of the things that we're doing in Lincoln is a project where it's our local list project, and it involves opening up limited data entry in Arches to non-specialists, for vetting by specialists. So I don't know if that might be something that you want to have a chat with us about how our experience of that is I can't I can't necessarily tell you it's been particularly good at the moment, but at the very least, we're learning some things. So thank you for that and I look forward to hearing more updates. Excellent if you can go on to Mahmoud now?

Hi, everyone. I'm Mahmud Abdulrazak. I am working as database developer for the sister project to Mercer. So basically Junaid for MEASM which is mapping endangered archeological sites and monuments in Africa. Working with Professor Bulleen and maybe Stefania Malo, I didn't encounter any of them before, but yeah we are the very start, so we still just spin up the node and we're trying to design our resource models at the moment, and sort of streamline the data collection. So we have many more questions than things to share. So I don't know. Maybe if we have time, maybe and I can just throw in a few questions and see if anyone would be interested in maybe communicating and healthiness a bit, different tactics so yeah thank you very much.

Certainly, well it's great to see you joining the joining the group. One of the main purposes behind it, is to enable the sort of knowledge sharing from people who are at a more advanced stage of development of their projects to people who, as you say if you're just starting out you've got questions. With regards to resource models I think we've got a lot of expertise just in this group. I wonder if it's worth-- I don't know I'd like to say having some form of WhatsApp group for this kind of thing. That might be a little bit informal, but I don't know something of that sort. So that we have a kind of live forum whereby you can bounce questions and potentially get really quick answers from the right person. I don't know whether or not that's something we can set up. Maybe we'll look at that in a moment. But certainly you know welcome to the group, and look forward to seeing how you develop and helping you in that as you go forward. OK, Rebecca Roberts.

Hi, yes thank you. I just wanted to add Junaid has already briefly introduced the massive project which is mapping archeological heritage in South Asia. So we're at another Arcadia funded project. And so I just want to give a brief overview of what we're doing. We're actually a little bit, we're about a month or so behind and starting with the Myosin project, but we ask this to projects based in Cambridge that we're all working quite closely together. And our project-- so we're working with legacy data, so historic data that has been collected in the past, and more recent field survey data. We're working with remote sensing, we're also using historic map sheets that were created by the survey of India during the British colonial period and using will be using machine learning techniques, to machine learning technology to identify potential archeological sites.

And the historic maps that element outsole that has this is where we're coming at the triple IF angle as well, because these map sheets are currently held in the UK legal deposit libraries. And so we're digitizing map sheets, but with an aim for them to be accessible in the future hopefully through Arches and pointed that way. And then we're also working to do some future field work and ground truthing of the sites as well. So we've got quite a lot of different data strands that are coming into our Arches database, but it's very great to meet everybody. And yes as Mahmoud said, we're currently at the sort of data absorbing phase of things. But hopefully we'll soon have some useful things to share back to the group as well. So thank you. Well that's great to hear really.

I think it really highlights the problems with this sort of online meeting which is that it would be ideal. If we could all sort of mingle around some cups of tea and biscuits, and actually have these conversations the networking aspect, I think, is a real loss and has been over the last year and a half. So the sooner we can get back to that the better. But again, if we can have some kind of I don't know live online version of that, I think that would be super helpful.

[INTERPOSING VOICES]

Sorry, yeah a couple of suggestions for that, and one for the chat what you suggested about the chat would be perhaps setting up a Slack channel. I would suggest teams, but it's a bit tricky if you're not already on an organizational teams accounts but slack at least everybody can sign up for. So we could do that. And then there are things-- there's wonder for example, which allows you to create a virtual coffee room, as it were and there are other things that allow you to do similar things. Now we're going to be quite the same. But yeah we can maybe think about those platforms.

Well certainly we've used when we were putting together the link and implementation of Arches. We use Slack a lot to keep in touch with the development team, over it knowledge integration and with colleagues over at Farallon. And it was super helpful. So I think maybe we look into putting together a Slack channel, Stu let's you and I talk about that.

There is an Arches project slack which we could easily add a channel to.

Our VM right?

Then I think we'll do that, and we'll send invitations around shortly. Because then [INAUDIBLE] Jude sorry.

Yeah I was just going to say I think something that we'd find useful for sharing with our trustees and other colleagues is, almost like a very brief site report from each person. Sort of like so who you are and what project you're currently working on, because we've just been sat here listening to some of these projects going where. And what we'd really like to do is share that almost as a very simple document, and obviously we would add our site report. Not talking about paragraphs from everybody, but almost like "Hello, we've got Arches, this is what we're currently doing with it." I know we do that as part of the MTXG user group. And it's just a great way of picking up the document when you're ready, and seeing

right "Who's working on what again? Oh right, Oh" and then like a contact name if it's something you want to. I don't know just an idea.

Well I can see that being very helpful actually Jude. And--

Very chatly, and very brief.

Yes, we can easily have some kind of shared storage area where you can put something some documents of that sort. So well we'll explore methods of doing that because I'd really like to be able to capture the whole sort of the whole water cooler chat thing that we miss so much of in this kind of forum. OK, so I'm going to quickly move on then to Neil who's also had his hand up for a little while there. Neil Smith from knowledge integration.

Yeah. Thanks Mark. So in terms of projects. The other main UK project that we've been working on is where the Royal Commission for ancient and historic monuments Wales, which was the relaunch of the Koblin site. So that's very similar to the project that we did for Jude. So it uses our same middleware again. Same in this case is brokering information from Arches and from atom which is an open source archival management system. It's using of the same developments we did in terms of pushing changes from Algiers to the same using an API built on top of the Edit table, which Ruben wrote and can talk about for those of technical interested in the technical detail, is what we've been doing there. So just once since I don't think there's anyone from the Royal Commission on the call just that I've mentioned that project.

That's really interesting and something that occurred to me as I was watching the excellent presentation about the year Eamena project, the sort of bilingual nature of that project or multilingual actually, is that something that you've looked into for while I mean obviously doing work in Wales, where there were Welsh is an official language, is that functionality that you're trying to incorporate there as well.

The kovalenko site is multilingual yes. The extent to which all that I think all the terms in the RDM that we've imported from heritage data, are all multilingual as well. I don't I don't think they've gone to the extent of making all the site descriptions multilingual. I'm not sure, I think that's a work in progress. I think they've got special dispensation not to have to translate however many thousand records. So the National Museum has a same dispensation for tourism. But certainly for the user interface, the ability to be able to deliver that in Welsh as well as English I think should that be a direction that they want to go down. I think that the expertise and the skills that have been built up over the years, could be really helpful there.

I really wanted to touch on that, just as part of my general wonder at how we've managed to achieve. I think over the last four or five years a community of projects that is based on the same foundations, but nonetheless has been customizable for wildly different needs while retaining a level of standardization that I think is useful from the technical side, but from a delivery and interrogation side, the customizability is something wonderful. And I think not something that we've had in the UK AGR sector before. So congratulations.

To the echo that. And I think for us to today, everyone that's talked about underwater archaeology and Maritime we're hugely excited about that, because we're starting on that journey but it's great to know there's so much expertise out there. And that's why I suppose I'm wondering, if there's a simple site it could just be a Google Doc, that we can. We want to remember these people we want to contact so quickly. So it's purely selfish reason.

All the best reasons are, I think that's how we progress in these things. Right? Phil, you've got your hand up again.

I believe Brian got in first actually so--

Well that's very civil of you Phil, very civil. I'll pass Brian please.

OK, well I just thought I'd overcome my shyness and put forward myself as the representative of the Cal project which is it's a partnership between UCL Institute of archaeology, ICUs, and the North West University, and the People's Republic of China. It's another Arcadia funded project which is gathering together the existing archives and records, monuments and in fact all elements of heritage really from Central Asia.

OK--

[INTERPOSING VOICES]

Yeah we've gathered about 50,000 records now and we're hoping we're just moving our platform onto U-sales site and hoping to go live within the next couple of months. OK.

Fantastic. OK, Phil over to you.

It was just something that Eileen said about terminologies. And I'm just putting this out there, the creation of terminologies is a ridiculously time consuming and expensive process, and if there is something out there that you can reuse, reuse it you know and we are obviously Neil mentioned heritage data historic England the Royal Commission for Wales and historic Environment Scotland, host that heritage data site to freely make available all of our control vocabularies in a Scottish format which you can download and use in your Arches instance. They do go in. You sometimes you have to force them in through the command line because they're quite big, but they do go in quite nicely quite easily. And I did realize that we've got we've got a timber structural elements vocabulary that we use within HE that might be something that the USP project could make use of, or at least use as a skeleton to start with. I've not yet Scottish find it though so I'll have to pull my finger out and sort that out. But Yes, I'm just sort of saying if you've got if you have got in your instance you've got specialized vocabularies that you've created for your projects that may be useful, sharing those and we quite happily host those on heritage data. It's a nonpartisan. It's a dot.org it's not dot.uk. It's there for heritage data to be shared. So if you're at all interested in that process, and making those available through that we would are quite happy to talk you through what you need to do to get it on there. So just saying don't waste your time. Creating something that already there.

Can I contact you directly?

Absolutely yeah, yeah.

Excellent. OK, so I've put your hand down now Phil?

Yes I've just done that Mike.

OK, so I can say I've got two more questions. Another one from Mahmoud?

Yeah I think Ruben has a hand before me a little bit.

I'm glad you're all on top of this, because I guess that fisticuffs might break out if it was left to me Ruben go on then.

No I just wanted to mention that I've pulled together a quick five minutes on the Sim integration with respect to mancs national heritage and the new end point that we've made kind of an arch API endpoint here, but it's probably better to say it's one of my own. So I don't know if you want that right at the end for those who are interested those that aren't can obviously go but [INAUDIBLE]

OK, well if you stay on a little while I'm sure we can facilitate that. And anyone who wants to grab you for that then yeah that's doable, thanks Ruben.

Mahmoud back to you.

Yeah thank you. It's just something about what Philip said, first can I please get in touch with you, and talk about this? Because we are building also the story for us and we want to use what exists there. The other thing is on this particular issue. At the moment as far as I understand the system in our is, if you want to edit the SORI from the GI you have to have special permissions to go into that and to edit it. And it's a bit risk I don't feel very comfortable exposing this to just all the users to be able to go and edit it right away. I feel like there should be some sort of a layer between that and this. And the way that I thought about this is that can I have some sort of both way system that goes from Arches, to an interface some visualizer that reads this SORI, and then once I it goes back again to Arches. I was wondering if anyone have tried to do something similar before?

So you've come to the right guy. Currently, there is a proposal on the table to enhance the functionality of the reference data management module of Arches and to take it to kind of consciously uncouple it from the core Archer's module, and create an enhanced reference Data Manager which will through APIs and web services, be able to interact with Arches but also interact with other systems. As part of that functionality, the ability to and I think it might as well it was originally intended to be in core Arches, the ability for a user to look at a thesaurus and if there wasn't a concept there, to enter it and then it goes into a candidate pot. So if you have a look in the RDM there is a candidate's folder in the RDM that is intended to hold that. And then an editor like myself would go in and see the candidates and go "Oh, yes that's a good term, here it is. It goes in this part of the hierarchy," And then that would automatically update that record.

Now I've only ever done the back end stuff about for Arches. I do the resource models and the RDM, stuff I don't do data entry. So I've never actually tested that. Whether or not it works. But it's certainly that was certainly the intention. And if you import vocabulary you'll notice or if you import data there is

a create concept append function which will take the vocabulary, and anything that's not in a thesaurus it will pop into a staged pot of concepts. And then again an editor will come in and go 'doo doo doo doo doo. So that functionality exists for an import, but what we need to do is make sure that that functionality exists for through the graphical user interface as you mentioned.

And that's a conversation that we probably with Farallon, because as I say, that was the original intention was that because that's exactly we started in England specified that the entire reference Data Manager. We sort of said this is what it needs to be able to do and that was one of the criteria that we said it had to do was and allow candidate terms to be added by an end user, because as you say you don't want anybody going in there and trust me I've done it myself. It's very easy to click that little Red Cross next to a concept and obliterate your knowledge very easy to do that. That's my day job, and I've done it myself. And you slap yourself around the face quite odd when you do that.

So yeah you don't want anyone with access to that, but you do want to not have them phoning you up every 10 minutes saying can you add a concept? Can you add a concept? Can you really concept? So if that functionality exists but has not quite been turned on in the background, then we should certainly get that turned on and that's definitely an issue a ticket that should be raised against Arches. I'll do a bit of digging on GitHub and see if I can find anything mentioning it, just to and then I'll raise it with Pharrell on myself. Because I will be I'll be a part of the enhanced IDM project when that kicks off. So yeah that's a long way off but that will solve a lot of the problems that anyone's having with the IDM at the moment. And I know Neil has been in discussion with Pharrell on about this as well. We've been involved, so we have dogs in this fight, and we're certainly looking forward to that enhanced functionality. And we will be as the domain specialist, we will be helping to drive that as well along with the a vocabulary program if they come in, if they come on board.

OK, excellent. So if there aren't any more projects updates or questions, I think let's move on quickly and Stu do you want to just quickly talk about terms of reference and where we need to go from here? You're muted Stu.

No, sorry I kicked it too many times. Yeah I was just thinking, thanks again for everybody coming along and all the presenters it's been an interesting, I think certainly for me I think it's been one of the best meetings, online meetings I've been to in quite a while. So thanks, everybody for your contributions. I was just thinking that hopefully we're going to make this an ongoing group, and may have six monthly meetings so looking to maybe have another one just after Christmas. But I was thinking that if we're going to try and formalize things maybe it'd be worth putting together some terms of reference for the group, to try and it's sort of semi-official eyes what we're doing. Because I know some people, particularly once we actually start meeting hopefully in person, there can be issues around just turning up and just going off to various meetings without some kind of official reason for it. And if we got terms of reference that should help with that.

So I'm happy to try and draw something up. Also just things along the lines of chair and Secretary, I mean Mike and I volunteer to do this, initially but I don't want to end up like my colleague and the HER forum who's been the chair for the last 10 years, since I ducked out of it because nobody else wants to do it. So I think if we can kind of maybe set a time limit for the chair and Secretary and gives that chance for other people to get involved. So people are happy with that. I'll have a look at that, and the one other thing that I was going to mention, if you haven't already joined it, there is obviously the Arches community. The new sites forum that launched on the 1st of January. So if you haven't joined that already, please do and I'll send around a link to that after the meeting.

Excellent. So I'm not still new to them. So if we then wait to have a look at the draft that Stuart is going to send around, I think it will be absolutely helpful in justifying face to face meetings as and when that comes forward, because I know there will be certainly people in my organization who look at how we've been over the last 18 months, and ask why it can't be online. And I would say that the answer to that is that there are so many questions raised by all of these excellent presentations, and all of these projects updates, that it doesn't enable the sort of networking that we used to. So I know Stu has suggested that we have these as six monthly meetings, and I think that's really a good idea. Couple of meetings a year I think is about right. It's not going to overload us. I wonder what the general feeling is about potentially having the next meeting if the rules allow for it, to be in person, and potentially in London if AG can put us up?

We all can look into that for London based if we.

I mean how do we all feel about it being London based? I know I know everything is in London, but I can't help but think I mean I'd be very happy to host something in Lincoln, but it's a great deal more difficult, I think, for people to get to Lincoln than it is to London.

I think London is fine, and I think the idea of Oh I'm going to use that word blended. I think we're all used to blended meetings so I suppose those who can't join in person, will have the option for them to join on the teams as well. I think that covers all bases then. Yeah, but for us London is-- yeah absolutely fine.

Marvelous. Right, so but the next meeting then is we'll have that sometime after Christmas, so perhaps January, lighten up those horrible bleak weeks after the break. That would be great so if you can look into a few potential dates for that Stu, and then and then come back to us. I suggest we all try and get our diaries together now but, no, no, no, no. Right, so, I think apart from for me to say thank you to everyone who's been involved in preparing for today, in particular to Stuart, on whose broad shoulders the administration and set up of all of this has fallen, but also just to thank our speakers Stuart and Chris for their work on the greater HER, Jude and her team, as well for letting us know about what's been going on in the Isle of Man, and all those fantastic opportunities for bringing in external data.

Roger and his team from Jersey, it's been great to see how you've been getting on in the last year, and actually to see Arches used in a sort of daily data management way. It's been really helpful. And

colleagues from Aminah in particular Michael and Crystal, that was a fantastic presentation and the sheer geographical scope of the work you're doing, and then bringing in the work that you need and Mahmoud are doing. It's almost going to be from ocean to ocean an unbroken line of Arches projects bringing together data in an almost standard way I think that's fantastic.

So thank you all so much. It's been really, really helpful for me personally. I mean I've found the last year and a half to be something of a slog, and meetings like this really do kind of really inspire my interest in this aspect of my job. So thank you all for that. I'm going to maybe suggest now that Reuben if you want to stay on and answer those specific questions that you raised, or offered to answer, that'd be great, but otherwise I think we can draw this to a close.

Thanks allosteric.

OK, Thanks very much.

Thanks, everyone.

[INTERPOSING VOICES]

Thank you.

Thanks.

Thanks guys.

Thank you.

Bye bye.

Bye.

Bye.

Cheers, Thanks bye. Right so I wanted to run through a slightly more technical deep dive on what Jude was demoing earlier surrounding the integration between the Sim and Arches. Yeah so it's essentially an integration between our software the Sim and Arches. So what we've built is something quite analogous to related resources that we call linked records. And that is yes essentially pulling related resources but from an external source. So in Jude's case that source is mimsy, and mimsy xg. And that's the source of truth for the link record so agents archives objects and publications I believe. While Arches is the source of truth for the monuments and the sites et cetera.

And Yes we've done this using our software the Sim which is essentially a middleware solution to synchronize between back office systems. And in this case Arches that is obviously a public facing application. So yeah the Sim is populated directly from mimsy, so it picks up all the updates and any new records deletions et cetera, and It pushes all of those records to an Elasticsearch which we've put on the Arches server that the custom code we've written queries directly on the fly and in this case, it does that depending on which you click on the map, so which map pop up you bring up and essentially it takes this UUID, and it queries the data in the Elasticsearch for those linked records that have this UUID attached. And in this case, the 16.

We can click on that link to resources like Jude showed and we come to the results screen, pretty simple front end but it's following the Arches style it's got the so salt filters, salt fields and some pagination. And then clicking on one we'll obviously bring up the results based upon data points that Jude wanted for each of the different types. That's essentially the one way, so that's kind of how mimsy gets a data, the Sim gets updated from mimsy, but we also have to figure out the other way which how the Sim picks up updates in Arches which was a bit more difficult. And to do that I had to load up just in Archie's instance on my local machine.

That's any place I currently access it, I need to be on the Wales VPN to access the actual implementation, but these are all the pubs in London, obviously, and we've created the endpoint that picks up any changes to the records, so that's deletions edits, or creations. Based upon a date range you can see, can you see that or I guess I can't really Zoom in on the URL? I can make it bigger. I guess I'm pretty down on the stay here anyway but from date and time a to date and time, and then some sort of field, sort ID at sort order and then some pagination stuff. But essentially what this is doing is looking at a table in the RDS database and bringing back all the records that have been updated within that range. So yeah they're the 1st of January or the 1st of June. And it spits them out in native Arches JSON. I don't think there's going to be any on this screen, but there's also a flag for deleted records which is quite cool.

Where did you get this data set from?

You can just Google it. I can send it if you want.

Yeah [INTERPOSING VOICES] you might know so?

Sent to everyone.

Yeah.

Yeah there is a Google map of all the pubs that the Arches project team of drunken, but they still ongoing being built, yeah. So this would be more than this?

Yeah.

Yeah Well I think that given everything that. And I lost my track of thought. Oh and then Yes sorry and then the Sim will ingest this and update it's the records so we have that kind of dual path of updates either an mimsy or updates in Arches. I feel like I've just rambled on. Neil you have anything to talk about?

No, I mean I think what we've done is good. I think it will work well for ongoing incremental updates. At the moment, it's a little bit slow in terms of the initial population. So particularly on the Royal Commission where that table that you're looking at as $5 million rows, I think.

Yes. Well, yeah.

Yeah I think we may want to talk to a fair amount about whether it's possible to clear down that table every now and again, or maybe that's just an artifact of their test system where they imported data so many times for test purposes, there are more rows in that table and there would be in a normal system.

So it's still got a few teething problems. I wouldn't push this as being a complete solution yet, but it's certainly it's almost that we're just refining it now.

I mean something from our point of view, from an end user perspective, well-- and I mentioned it during June what I'd really like is on the list of results on the left for there the link to resources to also appear there as a clickable option. At the moment kind of can only get to them by clicking the point on the map, and then you see the link resources so it's a little hidden. So that's just from a user point of view, and the way we've got that is by doing the video tutorial to highlight it to people. But all these things you're always looking to finesse to add to [INAUDIBLE] but just getting the same talking to our kids in real time has been is great. That's on the journey now.

How difficult would it be to do that, to implement that change?

Well it's not too difficult now but it takes it from the one to one query we have here to however many queries you have in the search results I guess. Yeah, if you imagine you can have 25 down here so we'll have to run all 25, but and then when you go to another 25.

Yeah it's where we can just make that more visible so also when you click to view the full report, while it'd be great if it was also a link there was a linked link to records or links to resources link there as well. It's just that improving the visibility all the time but that's on the feature maps, but Yeah it's balancing that against not wanting to slow down performance.

So do those linked resources appear on the report as well Jude?

No, they don't do that Ruben.

No they don't.

No, so that's something we-- but sometimes you can have link resources we can have over 1,000 people linked to every resource because every single person commemorated on a War Memorial. So we need to stop-- we've got to first base, and there it's like OK how do we continue doing that.

That's an obvious limitation if you want 1,000.

Yeah 1,000 links on the bottom of report then.

It could be 1,000 artifacts.

Or I guess it could just be this link and that?

It could just be that link actually? Yes, Yes that's a really good point.

So Yeah that would take some thought I think just to make sure that this gets triggered in those places, because at this point the only time the query gets triggered is when you click on the map pop up.

Yeah.

I think that's probably the only complicated bit of it but, it's an outlet for the future.

Yeah, well we'll get there, that's the next bit. That's the next bit.

Right, well are we are we all done then do we think?

Well we are but just to say while we're all here, and it might be of interest. So as part of keystone we're developing a place model so that places stop being hi hierarchical word list or whatever, and become

actual instances of a resource model themselves. Which for some use cases, we think is very useful. Obviously not for addresses, because in London we don't want 10 million instances of a place model for the addresses. But things like admin area for example, it makes sense to have it as an actual geometry itself.

But and it's a big quite a big book, Elasticsearch as an issue in that it will not import anything that is bigger than 1500 coordinate pairs. So your admin area, or your boundaries have to be quite, I have to be simplified, which I think is not that much of an issue. But just to let you know. But yeah, so we're in the we're still in the is this a good idea stage. We think it is. We think it makes sense in the same way that periods are now in Arches in key stone periods or instances of a resource model as well, as opposed to a drop down, which again makes more sense because you can if you so wish and the geometry.

For the UK it's a bit for England. It's a bit daft really because obviously, every period's geometry is pretty much the map of England. So Roman England is the map of England. And Iron Age England is the map of England. But yeah a global scale that would be quite handy, because the Iron Age in the UK is different to the Iron Age in France, is different to the Iron Age in Norway, for example. But Yeah so you can at least out a bit more information. It's still looks like a dropdown when you select it but it's a resource instance link rather than just a concept in the RDM. What we need to be able to do, is drag information from that resource instance though into the record itself that you reality. So if you add Iron Age, and you what we want to be able to do is auto populate from and to date with the basic Iron Age date, which you can then overwrite if you've got a more precise date range, you've got an actual radiocarbon date for example that dates it specifically.

So yeah we're not we're not quite there yet. I don't think, but that's the two developments that we're currently working on that will be of interest to all of you I suppose, is whether or not you go down the implementation of mines in place as instances of the place model, or on periods as instances of the period model, rather than just drop downs.

Is that raise the question of how deep does the rabbit hole go?

Exactly. Yeah. I mean for periods it's not a problem.

It sounds reasonable.

Periods it's fine. And as I say for some instances of place it makes a lot of sense as well. We would be looking probably if we were to go UK wide, while England wide with one of our instances of Arches, the County district parish list is proper huge to be honest. I think that's at least 10,000-- there's at least 10,000 parishes I would say, which OK do we go down that route and also the big question is shouldn't guys be doing this anyway? So the ability to I mean I know that we've worked on we've got the Azeri sort of thing and that chap who was there Mike was talking about this as well, because what you really ideally want is you want to put your point on the map, and then Arches to suck in all that richness from Azeri or hugeness or whatever and say OK well this point is in this ward, it's in this County, it's in this district, is in this parish for example.

And then auto populate your record with that rather than having to create separate records entirely. But Yeah I just I just thought, as I say it's something that we think conceptually should be done, but it's implementing it in a sensible way that we may maybe struggling with at the moment. But Yeah just a heads up really. Because as you say it's rabbit hole.

Right, well so does that cover everything then? Good

[LAUGHTER]

All right team well I'm off then. Thanks very much. It's been really great talking to you all

Thanks.

And thank you Stuart for doing everything.

Thanks Stuart they enjoyed it.

Thank you.

[INTERPOSING VOICES]

Bye.