Partial Transcript: Arches Webinar - Arches Collector Preview and Q+A Section Only on August 15, 2019

Community Question 1a, 1b: Why Arches? How is the Arches Platform different and efficient than GIS applications and MIS? What are other advantages of Arches other than that Arches follow standards?

Response from Dennis Wuthrich: Those are, I think, really pretty relevant questions. Makes sense that'd be sort of the first thing somebody would ask about Arches. And especially if you're used to working with the GIS and you have a history of managing your social heritage data with GIS, it seems like a natural question. Why shouldn't we ask that?

I think Arches provides a couple of compelling reasons why you might want to consider it. The first is Arches does more than just manage the geospatial aspects of cultural heritage data. It does a couple of things in addition to that. So as well as managing the where part of cultural heritage, it also manages the what and the when, I think in a pretty flexible and pretty formal way.

So one of the things Arches does natively that is really not in the preview of GIS is managing the temporal aspect of cultural heritage data. So it's pretty common to have to worry about when a particular resource had a particular typology or when it was produced, and often that time as is pretty uncertain. And so Arches implements and tools that let you manage, let you describe the uncertainty of time in a very formal way.

So for example, it's often the case where you might want to record a building as a culturally significant resource, but you're not 100% sure of the time at which was built. It may be it's something as nebulous as the 1790s, or maybe you know it was in the spring of 1882. This is a legitimate concern for managing cultural heritage data. And Arches selection lets you input that degree of uncertainty, and it will automatically index that into time so that you can do time-based searches on resources that are fuzzy. You can use fuzzy dates.

Arches also implements a true resource management system as opposed to the typical GIS, which really is just worried about controlled words like word lists. So one of the benefits there is being able to define multiple labels using multiple scripts in multiple languages for a single concept. And that's a way of ensuring that you have a lot more flexibility and data input. It increases the flexibility and the user experience for searching.

But probably most importantly, it enhances the interoperability of the data that you collect with Arches, which is, I think, perhaps one of the key points in Arches. It lets you build semantic models. So that is to say, you can think of this as a way of embedding the description in the metadata of your model into the dataset, and this is one of the key things that Arches is trying to do. And that is to let you create information about your cultural heritage that will outlive the software. And Arches uses these semantic models and is able to output data as Linked Open

Data which is a way of greatly increasing interoperability to your dataset. This is something that you just can't beat with the traditional GIS.

As for what are the other advantages of Arches besides following standards, I think the key one is that Arches is open. It's open source, which means you get all the benefits of open source software. That is to say, it's extensible. you can review it, look at the code and review it and assure yourself of its quality. You're not locked into a single vendor. You can choose to extend the software on your own. You can engage, really, any developer who has expertise in Python and JavaScript.

Arches is designed to be a rapid application development environment, so it's a platform on which you control applications very, very quickly. And it's really useful for measuring cultural heritage data, but really many, many other datasets as well. So that's the, I guess, relatively short thumbnail of why you might want to consider Arches as a tool in your cultural heritage data management efforts.

Community Question 2: [Regarding Arches Collector] Can you have multiple projects that a contributor can take part in, more than one project at a time?

Response from Annabel Enriquez: Yes. So I will just go and answer that question. You can have contributors that take part in more than one project at a time, and hopefully that answers your question.

Community Question 3: Would users have the ability to import data from another platform?

Response from Annabel Enriquez: So this is a general Arches question. For example, if we are using a different app to survey an area and decide to switch to Arches, could we import the data we've already collected?

So this is Susan, I believe. Yes. So Susan, we're actually going to answer that question. But the short answer is yes. We're going to talk about-- there's a question that we have later on, and maybe we should just go to it now, about deploying Arches. So if you have legacy data from another project or collected via another process, you can import that data into Arches.

And so I'm actually going to-- since that is a nice question to move into this other question regarding deploying Arches. Dennis, you want to go into deployment, the whole process, and maybe wrap that in? I mean, again, the answer is yes. You can import data from other platforms, other data collection apps, whatever. There is a process for it, but you can do that.

Response from Dennis Wuthrich: Yeah. Thanks, Annabel. And I think it's a good question because almost everybody comes to Arches from some existing data management system. It might be GIS, it might be Excel spreadsheets, it might be a legacy database, and that information is super valuable and you'll want to get it into Arches. And so arches is designed to

let you import data into it from, really, a multitude of different formats. So that's, again, the short answer.

Community Question 4: What's the process for deploying Arches?

Response from Dennis Wuthrich: I think there's a series of at least considerations that are worth mentioning when you're thinking about how to deploy Arches. And really, this is, I think, probably germane to deploying really any enterprise-level information management system.

So at least if it was me, the first thing I'd be asking is you know is this tool, Arches, really the right fit for our projects? And do I have access to the resources I'm going to need to deploy it properly? So those resources will include technical expertise. It'll probably include some level of budgeting. So do I have the monetary resources or access to the time of people to implement the system? So that's a key first question.

Once you've answered that question and you concluded that arches is a good fit, you'll want to decide how to host the software. So will that be on your own internal servers or will it be on the cloud? Arches is happy either way, but that's a key decision that you'll need to make.

Once you've determined where you want to host Arches, it's a matter of installing the software and its dependencies. And this is, I think, a good time to ensure that your in-house resources, if you have them, so your system admins, for example, get familiar with the technology stack and the terminology that Arches uses.

Once you've got the software running, you'll want to think about how to model your data. And this is true, really, any time you're thinking about moving from one information management platform to another, and it's actually a really good opportunity because it gives you a rare chance to think about how are you going to use your information, your cultural heritage information. Who are the stakeholders and how are you going to represent the complexity of the real world in your information management system?

Arches gives you a really good set of tools for doing visual modeling of your cultural heritage status, so you don't need to know any code. You don't need to know any SQL. You can do this with the built-in Arches editor, and it's a key step in deploying really any enterprise information management.

So once you've got your models, you get to, really, the biggest question, which is the data import. I think if you've ever done this before, you're probably already aware of how challenging or at least non-trivial this could be. This is usually an opportunity to clean and restructure data for import. It's tempting to minimize the effort here, but really, in my experience, this is where really the bulk of the work is going to be.

So once you've imported your data, [INAUDIBLE] position to use Arches, which means that you're really going to be in a long-term use and maintenance phase. The key point here is you'll

want to think about this as an ongoing process. It's not a one and done thing. As you start to use Arches and rely on it for managing your information, realize that the software is continually being upgraded. We're enhancing it, we're fixing bugs, we're releasing newer versions. This all requires ongoing maintenance, and it's something that you want to be ready for and plan for.

So I guess I'll end by saying that it's definitely something that requires some thought, recognize that it will take resources. They may be in-house or outside experts. But you'll need to be sure that you have access to the resources you need to deploy Arches in a successful way.

Thank you, Dennis. And I'm going to let everyone here participating know that don't worry. You didn't have to write all of that down. We are going to be not only posting the recording of this webinar, but also hopefully being able to do a transcript, at least of some of the questions, especially the lengthier answers to the questions. So we'll make sure that all of that information is available to you. But yeah, that is a lot of great information.

Response from Annabel Enriquez: So with deploying Arches, because it is an enterprise-level software platform, there are lots of considerations and steps, and part of that is because it is such a powerful platform that you are deploying on your own servers.

Community Question 5: Does Arches own our data once it is collected and used in Arches?

Response from Annabel Enriquez: I will say, 100% no.

Because you are deploying this on your own server or however you decide to deploy the Arches software, the Arches project does not have any access to that data. We don't even know who all has actually deployed Arches. We have a good idea, but we have no idea who's taken the code to even take a look at it. So we're not aware of what-- we have no ability to actually access your data.

And in addition to that, once you deploy Arches, you have you have all sorts of controls to determine how you publish that data, whether you publish it to the web or you keep it on in an internal server to only be accessed internally, or whether you want to deploy it out to the world with certain parameters. Maybe you only want a certain group of information to be available to the public while having the full suite of information that you have in your Arches instance available to, say, your administrators.

So I think that was a really great question from yesterday, and I want to make sure that you all got to hear that answer.

Response from Dennis Wuthrich: I guess the only thing I would say that the Arches software is open and it allows you to manage the data, but the data is not open. You own your data that you create and collect, manage with Arches. So it's really truly up to you to decide whether you want to share it, and if so how much you want to share and with whom you want to share it. So you have a lot of control over how you expose your data or whether you expose your data.

Community Question 6a: Can you give an overview of displaying spatial data in Arches for a non-GIS audience?

Yeah. So this is a question we get a lot, and it's a good one because it really points, again, to this question of importing or access and data from Arches, to within Arches, but from a different system. So I said earlier, Arches is more than just the GIS because it can manage time and topology and all these things. I didn't mean to imply that it isn't the GIS because it really is. At its base, Arches provides all the same features and functionality that you would expect from an enterprise-scale GIS. And that includes being able to display spatial data, both data managed by Arches and data that you might be managing in a traditional GIS system as well.

And the bottom line is, Arches has all the tools that you need to identify, sort of define the data that you want to publish on a map, and the ability for you to define how it's styled, so what colors and where the zoom levels and all the kind of detailed cartographic decisions that you can make, Arches can implement an open specification for defining all that. So the short kind of non-technical answer is, you have really all the same flexibility that you would have with the traditional GIS in deciding what you want to show on a map and how do you want to style it so that it shows off or displays the important aspects of your data to best effect.

So hopefully, that's a reasonable answer. If people want to go into more detail, I'll wait to see if someone posts a question to the chat.

Community Question 6b: What is the process for converting a shape file to an overlay and for a dynamic layer based on an ESRI REST service?

Response from Dennis Wuthrich: So this is a related question, and also a really good question because this is something that people want to do all of the time. And this is really a four-step process. So the specifics of the specific question of, OK, I have a shape file and I want to add that as an overlay to my maps in Arches. How do I do that? And really there are a number of ways to do it.

One pretty straightforward way really follows a series of steps. The first step is you'll want to make that shape file available via a URL. So that is to say, you're going to want to publish that shape file via a web server. And there are a number of web servers you can use. Arches includes a web server, so really one way to do this would be to just import your shape file into Arches post-GIS database. And in a very straightforward way, this is something that people do all the time. It's extremely well documented, and it's a pretty straightforward process for importing your shape file directly into post-GIS and creating a spatial table.

And the second step, then, with that table, once you've imported your shape file, is registering that table as a map source in Arches. Again, that's super well documented in the Arches documentation. The third step, and really probably the most time intensive step, is deciding how you want to style the data in your file, so back to the cartographic bits. What do you want

to show? What zoom levels do you want show it at? What colors do you want to choose? Do you want to style different elements in your shape file differently?

Let's say you've got a shape file of houses. Maybe you want houses of good condition to be styled in one way and houses with poor condition to be styled in an alternate way. So the third step is just making those decisions. And you implement that using the-- Arches uses the map box styling specification, which is an open specification that's quite standard and quite flexible.

And then the last step is really just pointing Arches to that style specification that you've created, so once you've made those decisions, registering the location of where you've stored that information with Arches. And at that point, Arches is able to take your information and display it as an overlay or as a base map, however you choose.

So I realize that there's a bit of technical jargon in there. But the point I wanted to make is that it's a really, I think, well-documented four-step process with plenty of choices for you to use existing technology if you prefer it. And that basic process is true whether you're importing your shape file or you're accessing data dynamically from a web server like the ESRI or GIS online service, or your own ESRI list services, or really any other map services that follow standard publishing protocols.

Community Question 7: Regarding Arches customization and regarding Arches functions, can you explain Arches Functions and how it works? Include use cases and concrete examples.

Response from Dennis Wuthrich: So let me start by giving a little bit of background, a bit of context to help understand the purpose of the question. So Arches provides lots of capabilities right out of the pin, if you will. But there may be times when you want to do you want to do some very specific kind of data processing or business logic that you want to implement, and Arches gives you a number of ways to do that.

And one way that you can implement your own custom data processing in Arches is to use something called Function. Since Arches is basically server side logic, and you can think of them as akin to triggers in the database. So they're similar to trigger functions in a database. If that the jargon is useful to you, then perhaps that'll help you understand what Functions are trying to do.

The rest of us, what are Functions in plain English? They're a way of making sure that you can process information in a consistent way. So let me give you a concrete example. Arches lets you define your own data models, which is a great thing. But part of that is you need to let Arches know where it needs to look in your data model for key information. For example, what field in your model do you want to use to name a instance of a model? Or where should we look in your model description of the object so that we can reflect that in search results. These are key things that you like to be able to do.

And we support that out of the box in Arches using Function. So every single model has access to a Function that lets you define where to look for a name, where to look for a description, and where to look for map pop-up content for any model in Arches. And that's deployed as a Function. So I guess I'll stop there. I'm kind of worrying that I might be getting a little bit too deep into the technical weeds at this point.

Community Question: 8 How Arches stands for next-gen technology?

Response from Dennis Wuthrich: OK. Good one. So I think what the nugget of this question is all about is, say, how well is Arches positioned to adapt to the future? Is it something that will be able to evolve as technology continues to move forward? And what I can't say is that Arches technical team has spent really quite a lot of time and effort thinking about how to build Arches in a way that lets it take advantage of near-term technical improvements and longer-term technical improvements in the technology. And so we've tried our best to be forward looking while making sure that we build Arches on really super stable, super secure technology that has longevity.

So again, I think probably sounds like a bunch of jargon. Let me see if I can put this back into plain English. So one of the things we do when we're thinking about building Arches is we look for technologies that we believe are mature and also growing, and that's growing in terms of its capability and also in terms of its user base. And I give you a couple examples.

So one of the things we've decided in developing Arches is to use an emerging, and I think super powerful, standard we've talked about already, which is this Mapbox styling specification for working with and publishing and presenting geospatial data. This is something that I think we get a good bet on this because it's become a pretty ubiquitous standard and it's going to be here for the foreseeable future. It's really a way of sharing and presenting geospatial data in vector format versus raster format, which makes it faster, more interactive, and more interoperable. So that's one example.

I guess a second example I could give is when we started working with Arches, we were thinking about how to make search and retrieval of information as fast as possible. We selected a technology called Elasticsearch, which at the time seemed like it was a really up and coming option. And it's turned out to be an extremely good choice. I think we've got the right horse here.

And we use Elasticsearch for all sorts of things-- excuse me-- not the least of which is making Arches able to manage and display and retrieve hundreds of thousands or millions of records from your cultural heritage database in a really snappy and interactive way. So that's, I guess, philosophically what we're trying to do and a couple examples of how we've actually done it.