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Paul Thies: Not all digital innovations and new tech are developed by folks working out of their garages. Sometimes the next startup that's waiting to happen is being developed within an existing organization, even a big global one. What matters is having an entrepreneurial mindset that combines invention, business acumen, and zeal for the customer and solving their problems and approaching all of that like an owner, hence the rise of the entrepreneur. Hello, I'm your host, Paul Thies, and on this episode of If/When I spoke with two gentlemen from Jacobs' who are part of the team behind Alluvial, a new data insights solution that they run like a startup business, helping me to unpack their entrepreneurial journey. Our Alex Maru, director of incubation for data and technology and Alluvial product manager, and David Yardi, software architect. Alex and David, thank you both so much for joining me today. I'm excited to talk with you about Alluvial.

It's a product that is provided by Jacobs', and I understand you both are foundational to its genesis and to getting it out to the market and keeping it going. It's really fascinating to me this idea of entrepreneurship. You've got a multi-billion dollar global corporation but yet, it creates that space for innovators and entrepreneurs such as yourselves to come up with new products and new ideas that you can bring to the market in a sense like a startup within a big corporation. Hats off to both of you for having the moxie to do it. I'm really looking forward to learning about the dynamics at play and how you made that happen. Now, Alex, let me start with you. What inspired you to start up this product in the first place?

Alex: Thanks, Paul. I'd say the big thing is friction. We didn't go out and say, "Hey, let's build the thing. It's going to solve all the world's problems." It [inaudible 00:02:21] we need a better convenient way to deliver. People were having issues just sharing their dashboards with clients. That's where it came out of. It started with one project and then we moved to another project and then through word of mouth, people had their projects that they wanted to be able to deliver this way.

Paul: Let me ask you, you say dashboards. Explain a little bit about what the Alluvial solution is and how somebody would use a dashboard to serve a client and how this helps them do so.

Alex: Yes, good question. People will come with their data on a project. James is going to be contracted to design something on the earth. With that design or analysis, there's a ton of data that's being generated for that and all the way to delivery. Then afterwards in the data life cycle, people need those insights to make better decisions about what they're going to do with the design. There could be some collaboration that need to happen both at the operational level within the project or even at the meta-level, scope, schedule, budget what we call project controls. Meeting up the project controls with some of the design data as well is a big deal. That's really the idea there is to enable folks to be able to share that with their clients and for the clients to be able to log in and as stakeholders provide comments and everybody's working quicker towards delivery.

Paul: Okay. It sounds like it was first started as a value add so that folks within the company, i.e Jacobs' professionals who are trying to serve clients could provide better service or have some more insights into something that they're-- and how

they're serving clients. From what I understand, you realized there was a benefit that clients would actually pay for this solution. You what convinced you-- walk us through a little bit of that illumination, that light bulb moment where it was like, "Yes clients would pay for these insights, and here's something that we could productize and sell to them."

Alex: I say there's multiple ways clients are paying for it. The big way is it's freeing up billable throughput. What I would say we have the people who were trying to share their data and insights with their clients, they couldn't do that. They were landlocked. They had to worry about cloud hosting, they had to worry about getting licenses for the software that they were developing on. They had to worry about identity management. How do I send an invite to somebody and then they can view it securely from a cybersecurity perspective? All that is billing up that throughput for delivery which we're contracted.

We have our conventional services with time materials. That's one piece of monetization that was freed up. The other piece is Alluvial is a platform, it's not necessarily an end solution. A platform is a ton of solutions on top. It's a one-to-many sort of thing. What we're doing is we're allowing people to build their solutions, almost like a business to business or we say J to J, Jacobs' to Jacobs' internal where we might have another product team that doesn't want to have to solve for cloud hosting for identity management, for all the licenses. They can come to us and their solution is front and center and they monetize it according to the value that they're delivering on the platform.

Paul: Interesting. It sounds like there was a bit of a lift involved. David, as the software architect on this project, I want to talk to you a little bit about your experience building this platform. What are some of the challenges that you encountered as the software architect that needed to be overcome? Some of the things that had to be thought through and how do you go about delivering something like this?

David: We started off talking about where it started, and I think the key piece that was missed here was an evolution. A large part of this effort started on a project. We did it on two projects and it evolved into where it got to. It wasn't like there were immediate challenges of insurmountable challenges. We did one at a time. We knocked off based on the needs of that project. That gave us some time and space to think about it, do it properly, evolve even what we're doing internally to move it to the next one.

There was a part where when we start to get into the third project, we start thinking of how we were going to evolve this to a larger audience. When we started to see the momentum or the need, the demand for this, we started to think our change and we evolved again on how we approach things, making a more multi-tenant, multiple users, multiple projects and it got larger that sense. That's what really keys some of these applications that we have done like this, in contrast, to I've got a great idea, let me work and work on this mountain of problems. Evolution is key to some of the success.

Paul: Oh, that's, that's really fascinating and I'm not a product manager and I'm not a terribly innovative individual either, but I tend to think, "Oh, here's a problem, or

here's an idea, let's go build it." You're right. Many times a lot of great ideas, things that we end up with started out in that iterative process. As you go through that journey, you start uncovering other use cases and you start having more and more aha moments it sounds like. Then suddenly you realize, "Hey, I think we may have something here."

Now, Alex, how do you take that excitement of that aha moment David was elaborating on? How do you convince management this is a product that deserves support? How do you get that buy-in so that it's like resourced properly and funded and all those kinds of things? I think that tends to be a question people won't ask. How can I take what I've got and take it to the next level?

Alex: This is going to run counterintuitive, but part of my job is I oversee incubation with specific initiatives. I do coach folks on this part and this is where I specifically own it as the product manager, think small. Actually, when you look at the on-ramp for what it takes to get to the place where you want to go with a product, platform, or solution, have a hyper-focus on that end result. Start smaller. Think about it in smaller steps and expand your horizon there. When you think that way, your end result of your level of effort is actually going to be smaller and easier to digest.

One of the taglines I say is disruption without interruption, respect the business, as usual, respect what might need to be disrupted, but provide some calculated pressure over time to get there. I think it's going to be a lot more digestible to the organization when it comes to innovation. You got to really just be prepared for a slog in a good way.

Paul: Yes. You've got to be committed to your idea. Right?

David: Yes.

Paul: It's not just a flash in the pan, but you've really you got to have that fortitude now. David, Alex is talking about obviously resources particularly in a digital space. In a company like Jacobs', there's so many projects going on and so much need for technology and software, and solutions. What are some of the resources that you as the software architect had to marshal to help get this thing built and launched and supported? What was that journey like bringing in the technical expertise beyond just yourself to stand this up properly?

David: In my role for the last five, six years I'm managing a team of global developers teams across the globe. As part of that, we've had developers at different skill levels as well as external influence from Microsoft. Some of their influence in this application was very valuable. We can get into that further, but based on the diverse nature and the different skill levels, we had the resources to start applying to some of these problems and just knock off some of the problems. It is a very solid team that we've been built on practices in patterns for five, six years, the same team, so we've leveraged that quite easily to apply the right person at the right time to move the bar. That has been a big benefit to us.

Paul: Now, talk to me a little bit about Microsoft, and what is their role in this. I know they're involved. Are there other external organizations that you worked with as well?

Talk with us a little bit about that collaborative ecosystem as it were, and how that can help a budding intrapreneur stand something up at their organization.

David: Yes. Alex, do you want to talk about how Microsoft was involved or got aware of Alluvial and where it fits and cross with them because I think the origin of how they got involved is significant here.

Alex: Yes. I was reading some docs about how we could deliver Power BI. We had a bunch of people who were using Power BI on the desktop side. Power BI is a data analysis tool, and they needed to be able to share that with their clients. I looked at some of the different licensing schemes and a lot of our legacy licensing schemes that we have for delivery to our clients over the web are named user. That doesn't really pair up well with the ebbs and flows of consulting. If we can instead license based upon capacity or actual usage, it really goes well for us. Both for the vendor and for us, for the value we're delivering.

Microsoft has a product, it's called Power BI embedded which allows us to license the capacity versus the named users to deliver. We started to build what's called an ISV Pattern, Independent Software Vendor Pattern with them on how to deliver this way using their best practices, and we just grew it organically. We grew it in the United States, then we grew it in the UK, now we're in Australia, and we have data sovereignty as well in Canada. They took notice of that because they get platform-level telemetry.

Now we have a biweekly standup with their program managers where we talk about some of the best practices. Now we're providing feedback on some of their developments as well, so it's turned into a really great partnership. They're growing their platform and we're growing our abstraction of their platform together.

Paul: Wow, that's really fascinating to see that things like this you can work with like other entities and iterate off of something and create something new and of value. Well, my last question I have for both of you, and I'll start with you Alex, and really just want you both to speak from your own experience here, but what advice would you share with other intrapreneurs who have a great idea, or the start of a great idea maybe it needs to be iterated on, but they want to see it brought to market. Alex, what advice would you have?

Alex: I would say don't be afraid to move at a glacial pace. People say that in a bad way. Oh, that so-and-so's moving at a glacial pace whatever, but if you look at what glaciers do, they carve into the landscape, you can see them. You can see what they do, so the slower you move applying that pressure and be persistent, be patient that's important, but then also there's another dimension to this, and that's team sport. Don't think that you can do it all yourself. One of our values is we live inclusion, and bake that into your process. Go and look for people to build the team with. It's me and Dave here right now, but we have a much bigger team than that, and we wouldn't be able to do that without them, so I'd say, see this all as a team sport and be patient.

Paul: That's excellent. Then David, from where you sit what advice would you have?

David: Jacobs' does provide the ability to move at this glacial pace. We work on some 20, 30 different projects, and we evolve things. Some things go beyond a project. Sometimes this stays on small, so you can develop very small things on any project, and it's got the potential to grow large. That's what's actually exciting about Jacobs'. This ability to be on lots of projects, different scopes, different clients, different requirements.

You add that now with automation and software and development, you've got a lot of capability here that you can try out on different projects. If it works fantastic. The next one might be a winner and it'll go on multiple projects and might get beyond, so Jacobs' is very exciting in that sense. Start small and you can grow large and you don't know, you're making it available to small audiences and it'll get bigger if it fits in a space.

Paul: Yes. No, that's fantastic. It sounds like culture plays a big key, or is a big key element here, and leadership needs to create that space where people can innovate and they can experiment and look for solutions. Frankly, that's how you differentiate yourself in the marketplace. Ultimately, it's your people on the great ideas and the solutions that they're able to concoct, and so giving them the space to do that is fundamental.

Well, Alex, David, I want to thank you both so much for your time today, walking us through, letting us look under the hood on your, "startup business" within Jacobs', and this Alluvial project. Congratulations on it. It is very fascinating. I'm sure it's really thrilling to just see this thing come to life and see clients use it and see peers be able to use it to better service their clients. Congratulations and thank you both for your time today.

Alex: Thanks, Paul. I appreciate it.

David: Yes. Thank you.

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