EPISODE 862

[INTRODUCTION]

[00:00:00] JM: FindCollabs is a platform for finding collaborators and building projects. It's a company that I started, and I've been doing a few shows that cover the overall landscape of the platform and the developments within it.

Three months ago, we had our first hackathon with lots of projects being created and collaborated on. In an earlier episode, we showcased the first place winner, which was an augmented reality game called Arhythm. Today's show features two more interviews with winners from the first FindCollabs Hackathon.

Kitspace is an open source hardware registry, and Rivaly is an app for informal ranked leagues, such as ping-pong games at work, or board game clubs among your friends. These projects were made and displayed on FindCollabs, and there are many more projects that have been created in addition to these.

This episode is somewhat promotional of my own company, so there're no ads on this show. It's airing on a Saturday. These are just some showcasing interviews from the winners of the hackathons. If you're interested in entering our second FindCollabs Hackathon, you can check it out by going to findcollabs.com/open. So if you want to get a sense for how FindCollabs works and the kinds of projects that are on there, this episode is a nice sample. You can also check out the FindCollabs Podcast, which is available in your various podcast players.

Let's get on to the show.

[INTERVIEW]

[00:01:49] JM: Kaspar Emanuel, you are the creator of Kitspace. Welcome to Software Engineering Daily.

[00:01:53] KE: Thank you, Jeff. Glad to be here.

[00:01:56] JM: Describe the state of hardware as you see it.

[00:02:02] KE: Well. I mean, hardware is quite a broad subject. So I'm an electronic engineer and I specialize in electronics, and I've been working in product design and doing electronics and firmware development. So that's really my area. I don't know if you could narrow it down a bit or –

[00:02:21] JM: Sure. Well, more specifically, what are the problems that you see with the way that hardware is developed?

[00:02:30] KE: Right. So, I would say, generally, in electronics at least, we're getting quite close to – On the whole, we're getting more and more digital manufacturing, so things like 3D printing and CNC milling and laser cutting. We're using digital designs to go from – So, we go from digital designs pretty directly to a natural physical thing.

In electronics, I feel like it's very close to getting to this point where you input a hardware design and you get out a physical product from your digital design folks. However, that show the kind of collaboration and the sharing of digital designs is severely limited by our conventions and file formats. In a way, the internet kind of hasn't reached digital manufacturing because of these limitations. So we can't as easily share digital design as we can with computer program. I mean, we can share design, but we then get into the physical product. There're a lot of limitations, and the limitations are conventions.

[00:03:45] JM: Let's go deeper into that. So what parts of the hardware ecosystem are open source?

[00:03:50] KE: I mean, that's per individual product. It's similar to open source software. There's a big mix of things. Largely, most hardware designs are proprietary. Most things that you see around you, those are proprietary designs, open source designed. It's fairly, I would say, niche at this stage.

[00:04:12] JM: Is that a problem with the tools that we have? Is GitHub maybe not the best way to collaborate on open source for hardware, or is it just something about the hardware medium that doesn't make as much sense to be open source?

[00:04:30] KE: It's a mix of things, and I would definitely say that the tools at the moment are getting in our way. People do use GitHub to share open source designs, but GitHub is made for software collaboration and it doesn't lend itself cleanly to collaborating on hardware products.

[00:04:50] JM: Why did you start working with hardware?

[00:04:53] KE: I am kind of – I think my interest is in computer programming, and I got interested in computer programming quite early on. For me, hardware is a way for a computer program to have an effect on the world we actually live in. So kind of my interest is really in what people call physical computing. So, anything you can do, if you can make a robot or a light, these things really fascinate me. That's why I got into hardware development.

[00:05:27] JM: Where do you work today as your occupation?

[00:05:31] KE: I work part-time at the University of Perth as a research support engineer, and I work freelance as a consultant for product design and more and more for scientific instrumentation, which is my job at Perth as well.

[00:05:50] JM: What is Kitspace?

[00:05:52] KE: So, Kitspace is a platform for sharing electronics designs in a way that makes them easily replicatable. So the focus is on – When you across a project, making it as easy as possible for you to buy the parts that you need to replicate that project.

[00:06:12] JM: Why did you start Kitspace?

[00:06:15] KE: Initially I started with the browser extension. This automation of parts purchasing is done through a browser extension, and initially I was working at a startup. We've been doing hardware and musical product, and it was quite a small thing. I was supposed to buy some

parts, but I didn't have the company credit card. So I was trying to send my friend the parts lists so he could buy it, my colleague. There was no easy way to do that.

As I got thinking about that more and more, I realized that that's also something that people face when they're trying to collaborate on open source hardware electronics projects, because it's impossible to really give the materials information over to someone else easily so they can buy the right parts.

[00:07:12] JM: What do people do on Kitspace?

[00:07:16] KE: So right now it's quite a light experience. Mostly, projects are still hosted on external git services, like GitHub or GitLab or your own server if you have the time to set one up, kind of a frontend to your existing repository. So people put their projects up, and from a project page, you can easily see what the project is about. There's a read me and there's a preview of what the electronic circuit board would look like and it gives you some buttons to easily buy the parts.

So, largely, people right now put their projects up and other people buy the parts or even to a large extent, the people that have put their projects up themselves buy the parts, because it's actually the easiest way to buy all the parts.

We have a chat as well, and if you want to add your project, you can currently have to send me a poll request on GitHub. So, there's a lot of interaction there talking to people and seeing that's kind of the social side of it at the moment is the chat and the GitHub issues.

[00:08:22] JM: Give an example of a project on Kitspace, a hardware project that somebody could access and take a look at the designs of and potentially buy.

[00:08:34] KE: Right. There are quite a few projects up there that I think over – Is approaching 70 projects up there at the moment. I don't know whether to start with a – Give a simple project or –

[00:08:47] JM: Let's do one of each. Let's start with a simple one then talk about a more complex one.

[00:08:52] KE: So, let's say a simple project would be – This is one I've put up. It's called push on hold off, and it's a power switch. So, the functionality you see in a lot of laptops and a lot of other digital devices where you just press the button and it turns on and you press the button again and it kind of shuts itself down. But if something goes wrong, you hold down longer for your device to – Like hard turn off if something has gone wrong. That's used in a lot of different digital products.

This is a circuit that I found online somewhere and I designed a board for it, and that's something that is really useful if you're prototyping a product and you need that functionality. So that's like – I think it's 6 lines on the bill of materials and you could order and maybe use that in your prototype for a product.

[00:09:56] JM: So, describe the experience a little bit more. If I'm posting a project on Kitspace, what do I do? So, I post a link to the GitHub repository and other things. How do I break down the components of the project?

[00:10:12] KE: So, you have your electronics design, which is normally done in a CAD program. You can actually just draw a circuit if you really want, and there are a few projects where I've done that also some other people have done that. But by the end of it, what you need are what the manufacturer accepts are normally Gerber files. So these are kind of drawings of all the different layers of your printed circuit board.

So, at minimum, you need the Gerber files, and then the bill of materials, listings of the different parts that you need to build the project. These are all the electronic components that go on and are soldered on to the printed circuit board during the assembly process. So those are the two parts you need.

The bill of materials is normally – You can do that as an Excel file or a CSV or some kind of spreadsheet format. We do accept quite a range of formats now, and it just lists reference, quantity. So, a reference to see when you're building it, where that part goes on the board later.

Quantity, and then manufacturer, manufacture part number and some stock keeping units for specific component distributors that you know are the right part.

[00:11:31] JM: When we're talking about hardware, we're implicitly talking about printed circuit board designs in this case. So, if I wanted, for example, a gyroscope sensor to add to my home-built drone or my home-built Android cellphone. Let's say I'm building my own cellphone. If I went out and bought a gyroscope system or a gyroscopic sensor on the internet, it would not be open source. So I wouldn't really understand how the thing is put together.

The difference on Kitspace is that you have these printed circuit board designs and you could have potentially a gyroscopic sensor that would be represented by the printed circuit board design, and then you would have a better idea of how this thing actually fits together. Is that a fair assessment?

[00:12:30] KE: Yeah, not completely, because there are a lot of – Especially, in this example, a gyroscopic sensor, you would be able to get buy a lot of – Normally, you would call this a breakout board. So, you've got your chip, which is generally not open source anyway. So, an open source hardware, a lot of the trouble is there's all these layers and not all of them are ever going to really be open in this day and age.

But for a gyroscopic sense specifically, I would suggest something like SparkFun or Adafruit, and you can get a nice breakout board for – I mean, it would really be – What you were looking for would be an IMU, an initial measurement unit, which combines the gyroscope and accelerometer and maybe a magnetometer into one chip. Then Adafruit and SparkFun and some others will design a nice breakout board and they will open source it so you can see what's going on the breakout board design and they'll have nice tutorials to go with it. Right now, there's no gyroscope IMU on Kitspace. So, I would definitely recommend it in this case.

What I see in the future, what might happen is as a new kind of sensor comes out, the first place where you will be able to get a breakout board will be Kitspace, and you'll be able to quickly build your own breakout board at a faster turnaround than you would be able to get one from these other distributors or these other open source hardware design shops really.

[00:14:10] JM: What is the language or the file format for describing a typical PCB design?

[00:14:18] KE: Yeah. I mean, this is what I went over earlier. The design outputs, normally the Gerber files and the bill of materials.

[00:14:25] JM: Gerber file? That's the term?

[00:14:28] KE: Yeah, that's the term, Gerber file. So that's what most manufacturer will accept. These days, there are PCB services that will also accept your CAD files for KiCAD or for EAGLE, and these are CAD tools for designing printed circuit boards.

So, those files – I mean, if you look at EAGLE files, those are normally XML files. KiCAD has its own file formats. Really, to be able to shop around at different PCB services, you would want to use Gerber files, because that's what most people will accept.

[00:15:03] JM: Are there any other places that are hubs for these open PCB designs, the Gerber files?

[00:15:13] KE: So, if you look at, there are some PCB services that have platforms that link. So, sharing platforms where when you order your PCB design, you could also put in on their platform. So that's then linked to a specific PCB vouching service. So, PCBWay has one of those. OSH Park has one of those. Quite a few different PCB services have these sharing platforms attached.

There are some attempts at combining the design files together with the parts, as we're trying to do for Kitspace. There's one called openhardware.io, and that's really the only one I know of that's kind of similar to what we're trying to do.

[00:16:04] JM: So, like an open hardware platform. Can you describe your long-term vision for the project in a little more detail?

[00:16:12] KE: There's kind of two sides to it. The vision for it is to enable collaboration on open source hardware designs. But all the tools for developing , there are obviously companies that

make a variety of products. They have the same problem of the lack of automation in parts purchasing. So, we're slowly approaching a point where we can sell the service to manufacturers as well.

So, the long-term vision is to be able to make the project financially sustainable through supporting small to medium batch electronic systems that waste a lot of time on parts purchasing currently and make the project sustainable through that and use that software we're developing and also allow people that are collaborating on open source hardware designs to use it freely.

[00:17:15] JM: That parts purchasing issue you're talking about, can you explain that in more detail?

[00:17:21] KE: So, I mean, if we go from an example, if you come across a project that's not on Kitspace, then you would have a lot of trouble since there's no convention in how to present the bill of materials that lists all the parts. So what happens then is there's no quick way to buy the parts. The way you buy electronics parts is the distributors that kind of modeled after conventional online retailers who you have a search box and you're searching for each individual part and you go to a parts page and then you click add to cart.

So, if you're looking at an electronics project, it's from 10 components, to thousands. If you got into really complex designs, like laptops, even approaching an order of magnitude more and that's not a really quick way to actually buy components to click on each individual page and buy a part. So, if you look at a small batch manufacturers, they don't have a solution for that. So they spend a lot of man hours on procurement of electronic parts by using these sites.

[00:18:45] JM: Talk about this vision of Kitspace as a business in a little more detail.

[00:18:50] KE: Yeah. I mean, that's kind of in its infancy. We're just trailing our purchasing at a local small batch assembler, and that would be customer number one. So far, feedback has been really good and we've been kind of working with iterate on the product on what the feedback they give us. So, yeah. As a business, I can see this working as to kind of offer the Kitspace platform internally at companies.

So, kind of a private access internally so they can save time in parts purchasing and they can – As we developer it more, use it as kind of a version control and central store for their projects.

[00:19:48] JM: You and I met each other through the FindCollabs Hackathon, which you got second place in. Was FindCollabs useful for you? How would you describe your experience with the product?

[00:20:03] KE: So, I think, one of the biggest things was that it gave me this kind of central thing to point people at and say, "We're doing this hackathon through FindCollabs. Can you help me with this?" It gave me a reason to approach people locally and say, "Oh! I'm doing this thing. Here's what's happening. Come join me in the chat, and we'll do some work on it." So, I think the hackathon was quite a big part of that.

Then, on the other side, which I wasn't – To be honest, I wasn't expecting when I joined up, was that actually people came from the other side of the world from Los Angeles and – Actually, I don't know where our newest collaborator is from. They joined in the chat and started making contributions to the open source project.

Because I've been doing this for several years, and I have not seen so much of – Not that much in open source contribution. We have had some before, but it was definitely a spike in poll request and discussion around the open source project.

[00:21:19] JM: Now, if you look at the FindCollabs product, there's a lot of different areas that we're sort of trying to solve at once, and I'm not really sure which one of them to focus on or which area of the product to focus on. From your experience with the product, is there a particular place in FindCollabs that you think is like most differentiated or is working the best? What would you advise me to focus on?

[00:21:48] KE: Do you think you'll continue the contest element, or is that to kind of bootstrap it and get the initial people in?

[00:21:55] JM: This is one thing I'm unsure about, is this hackathon idea is good in some sense. The structure of the hackathon was $4,000 first place. A thousand dollars for second place, and then third place was some hoodies. So, it was a top heavy format, and I think it created some perverse incentives.

Also, it's like do we want it to just be this platform where hackathons happens and then the hackathon ends and then people kind of like abandon ship, probably not. I think that's the kind of – What I'm worried is that's the kind of behavior that we might be promoting through the hackathon, is like people just kind of touristing to different projects and then leaving and not doing sustainable collaboration.

The vision for the product is really just long-term collaborative relationships. So, actually, I now we're going to do another hackathon, but I'm going to change the price structure to make it a little bit flatter and have a less of this super top-heavy $4,000 to first place kind of thing, because I think that drove some not great incentives.

[00:23:06] KE: Okay. Yeah, that's interesting. It does remind me a bit of the – If you've come across Hackaday, probably.

[00:23:14] JM: No. What is that?

[00:23:15] KE: Hackaday.com is a very popular blog for makers, hackers for hardware. They also have Hackaday.io, which is also kind of project sharing platform. But the way it works, it's a bit like individual blogs for each project, and they have huge contests where I think the first Hackaday price was – The first price was trip to space, or – I can't remember the money amount. They spent a lot of money on these contests, design contest, for putting projects up.

So, it must be somehow sustainable for them to do it. I think they had quite a large audience to begin with through their blog. Then when they were acquired by a bigger company, they went over to this contest format and they managed to engage quite a lot of people still through the contests and through the platform.

[00:24:12] JM: Yeah. What about you? I mean, is the hackathon element something that you would want out of this kind of platform? Because it sounds like –

[00:24:20] KE: It gave me a point to say to others around me already in my local area to say, "Okay. I'm doing this thing. Do you want to join me in collaboration?" But maybe if it's more about remote collaboration, maybe that's less necessary. But that was definitely a good thing for me. But whether that's the core of what you want to achieve, I'm not sure.

[00:24:49] JM: Do you think you would have found – Maybe this is a hard question to answer, but do you think you would have found people with FindCollabs without the hackathon happening? What's your sense to that?

[00:24:59] KE: The four of us here in Bristol, and we got together. Then for the hackathon, we actually got together physically here in one room. Then, I definitely don't think I would have found the others from America, which who are now contributing to the open source project. The people I found locally, we were friends before. Eventually, I would have probably tried to recruit them so to speak.

[00:25:29] JM: You've been in the software/hardware electronics engineering world for a while. What's been your experience with online collaboration? Part of the idea of FindCollabs for me is it's always seems strange to me that we have this thing called the internet and we're all working on cool projects or a lot of us, and yet it's hard for us to find other people to collaborate with on those projects. Instead, we often end up working in siloes.

My question is more – Do you think this is something that – Is it a shortcoming of the tools that we are not collaborating, or is it more a characteristic of people just like to work on stuff in isolation?

[00:26:20] KE: Yeah. I think it's definitely a bit of both, and even in software we see, which is the way it is now. I couldn't imagine better tools for software collaboration. But, largely, there are still loads and loads of open source projects which is just led by one person working on it and a few maybe drive by and contributions, but then still largely driven by one person.

So, I think that's probably human nature. What we do see in software as well is obviously these massive collaborative projects, and I think that should be possible in other areas of life as well. So, I don't know what the answer is. I think it's an interesting question that I will continue to ponder and explore.

[00:27:13] JM: Do you consider yourself part of the "maker culture"?

[00:27:21] KE: I don't know. The problem with the maker culture is it's kind of been – I don't know what to say, coopted or subsumed by a Make Magazine. So they've kind of – They're trademarked the word make.

[00:27:35] JM: Are you serious?

[00:27:37] KE: Well, yeah. They have trademarked it. So if you want to make affair, you've got to have approval from them. So, I mean, there is definitely a cultural thing happening with more people getting into DIY and into hacking and having Hackerspaces. I don't definitely consider myself to be part of that. What the right word for that whole movement is, I don't know. Because the association with Make Magazine.

[00:28:10] JM: Do you have a broader problem with the closed source large corporation system by which we get a lot of the hardware that we use on a day-to-day basis?

[00:28:25] KE: I think we could benefit from things being more open. I wouldn't consider myself radical or anything. I have kind of political opposition to that. I would just say I'm interested in finding points of collaboration where openness helps and making that practical and seeing where that leads, really.

I think as we've seen with open source software, I think we could find other spaces where it's really effective to have these open projects and companies, I'm hoping, will come around to that and see the benefits of it so at least we could have open core hardware products in competition with probably the close products.

[00:29:16] JM: I'm with you. To begin to wind down, are you like a – You're a listener of Software Engineering Daily, right? You listen to some episodes?

[00:29:24] KE: Yeah. Probably once or twice a week, yeah.

[00:29:28] JM: Okay. All right. Cool. So I want to make sure I'm not like advertising FindCollabs to much or too aggressively. I don't want people to feel like I'm abusing the platform that I kind of have. Do you feel at all like I'm sort of abusing the trust of the listeners by kind of displaying this thing that I'm making?

[00:29:52] KE: No. I mean, I hadn't considered it. I might be the wrong person to ask, because I took part in it and I really enjoyed taking part in it. So, I didn't mind hearing about it again. Then we won second place. So then Kitspace is part of the second place announcements, the hackathon winner announcements. So, I'm probably the wrong person to ask. You'd have to ask someone that's not interested in FindCollabs.

[00:30:16] JM: Yeah. I haven't really heard from anybody yet, but I don't want to abuse the platform in any case. Anyway, Kaspar, thanks for coming on the show. It's been really fun talking to you and I'm really grateful that you took the time to post your project and to interact with other people on FindCollabs and I consider you an early adapter of something that I'm really serious about. Please keep in touch about the platform and your progress and any other thing I can help with.

[INTERVIEW]

[00:30:53] JM: Simon Bengtsson, welcome to Software Engineering Daily.

[00:30:55] SB: Thank you.

[00:30:57] JM: So, you were the third place winner of the FindCollabs Hackathon, that is this company, this product that I've been working on. You got third place for this project that you started called Rivaly. I'd like to talk through some different elements of this experience. I guess I'd like to start with FindCollabs. How did you find out about FindCollabs?

[00:31:25] SB: Yeah, I'm a long-time listener of the Software Engineering Daily. So I heard one of the episodes about it and I just loved the idea. So I just had to check it out.

[00:31:35] JM: And the idea of collaborating on the internet with, I guess, somewhat strange people, does this surprise you that this hasn't really been tackled by other people or has not been successfully tackled? What's your personal experience with internet collaboration?

[00:31:54] SB: Yeah! Yeah, definitely. I'm surprised it hasn't taken off anything else. I guess the closest thing that I could think of is open source projects, like on GitHub or something like that, or maybe even Product Hunt, but nothing close to FindCollabs. Yeah, I would definitely say I'm really a bit surprised about that.

[00:32:10] JM: Do you think the platform kind of works in its current set of incentives and like the modalities of the product? Because my sense is that I'm not sure if it works entirely. I mean, obviously, the vision is to have people spontaneously meeting each other and collaborating on new projects. It doesn't quite have the traction that I envisioned yet and I'm just trying to figure out if there's some kind of missing set of incentives. What's your perspective there?

[00:32:44] SB: So, what I loved about it is that you just see all of those passionate people that they have like their own idea and their own product that they want to get off going and you get really excited about those things. So, one thing that I find myself wanting to getting involved in those projects is that I might not want to commit fully by the short description that are on the projects. Might want to go at it a little bit slower, like making a few changes or communicating a little bit with people. Yeah, getting started a little bit slower and not commit fully right away is probably –

[00:33:19] JM: Okay. Well, I'll talk more about your critiques a little bit later. What was your experience getting started with the platform as you kind of on-boarded with it? I assume you heard about the hackathon, and then that was what made you start creating Rivaly. Tell me about your onboarding experience.

[00:33:39] SB: Yeah. I have this idea for some time to create Rivaly. Yeah, onboarding to FindCollabs, there were a few changes going in the beginning there. There was a redesign coming along and all of those things. It's quite nice. I think right away there were a few people arriving, saying there was like a nice idea. So it was kind of a good start in that sense. You immediately started communicating with people that might be interested in joining as well. So that was pretty cool.

[00:34:04] JM: And when did you create Rivaly on the site?

[00:34:08] SB: I think it was kind of right after I heard about it. So very, very soon after the episode on Software Engineering Daily.

[00:34:16] JM: Describe what Rivaly is. What was your idea for it?

[00:34:20] SB: So, the idea is kind of an app for informal tournaments or ranked lists kind of. So if you have, for example, ping-pong at work. You might want to know who is the best at ping-pong at work, who's winning the most. So, here's like a simple algorithm like Elo ranking like they do for chess. You can enter who won and who lost and you get in the end like a ranked list of who's the best ping-pong player at work or who's the best at tennis among your friends or something like that.

[00:34:48] JM: When you started it on FindCollabs, what was your spec or what did you have so far? Did you have any part of the codebase or were you starting just from this idea?

[00:34:59] SB: Just from the idea. I had nothing. So, I had that idea and vision for it. I've made some rough sketches, but no code, whatsoever.

[00:35:07] JM: What's been your process in the past for hacking on side projects?

[00:35:12] SB: Process as in code-wise or more like design?

[00:35:17] JM: More generally. Going from an idea to building a mobile app or building a desktop app. Take me through the creative process from the inspiration to actually having something in code.

[00:35:29] SB: Yeah. I think the most important in my process is probably releasing day two. So just creating something day one and then just releasing it day two and then take it from there. Basically, doing the whole process in as few hours as possible. Then when you have done that, it can iterate on the released next version, or if you want to do something else at that point, then that's fine as well. But I think that's the most important thing for my personal process.

[00:35:55] JM: Why is that aggressive development so important to you?

[00:35:59] SB: I think, because often, I find that products doesn't get released, and that's kind of sad. If you can get MVP or like something really rough out early, then you can kind of validate their idea and see, "Okay. Is this something that is actually viable? Is this something I actually want to spend my time on for more hours? Should I rather spend it on something else?"

[00:36:22] JM: Okay. So you started Rivaly, the app for informal ranked leagues, such as ping-pong. The idea around the Elo scoring system for whatever information game you're playing with other people. You just sketched out this idea on FindCollabs. Then what did you do after that?

[00:36:43] SB: One of my favorite tools is Figma, if you've used it. Yeah, it's a sketch. It's a design tool. Basically, you can do rough, or you can do even detailed designs on it. So it's really nice. So, yeah, the first thing I did was just finding out this Figma and try different designs that could work.

[00:37:05] JM: Right. I wish I would have learned design tools a little bit earlier in my career. It was only probably three years or four years ago when I started using Sketch and Photoshop, and I think Figma is better than a lot of these other tools, or at least it provides a different workflow. There're also things like InVision. InVision is pretty cool, these prototyping tools. Why do you think it's useful for programmers to know these prototyping and design tools?

[00:37:35] SB: I think it's really helpful to be able to sketch out ideas before coding them so you know if it's viable or not from a user point of view. Often, when I start coding and haven't really sketch things out beforehand, realize half way through that, "Well, I could have saved time by just doing this instead," or something like that. So, I think for me personally, it's mostly a time saver, I think. I think it's also of course a way to make sure that it feels good from this point of view.

[00:38:01] JM: So you created this project on FindCollabs. Did you actually find collaborators to work on with you on the project during the hackathon?

[00:38:13] SB: So, it was interesting. There were a lot of people interested in the beginning they would assign a designer and also a product manager to the project. But in the end, there was not really any collaboration happening outside of the discussions we had on FindCollabs, nothing in terms of code or designs or something like that. It was more like a discussion in that sense.

[00:38:34] JM: Yeah. This is what makes me a little bit unsure about the current format of the platform, is I think FindCollabs is useful for kind of sketching out your ideas and like hosting your different links and kind of maybe framing your own thoughts about where this project is going. But unfortunately, a lot of people are having trouble actually finding collaborators and getting collaboration. There're been fewer positive case studies in that regard. Do you think – Is that a characteristic of maybe just not having enough people on the platform or do you think maybe it's just people would prefer to work on their own projects rather than collaborating with others?

[00:39:18] SB: If that was true, I would be really sad. But if it was actually like a fundamental issue, I would love to do a project with other people like on FindCollabs. I found a project yesterday on FindCollabs called GrownUp, and it's like a really good idea for – Have you seen it? Yeah.

[00:39:35] JM: I did. I did. Yeah. Explain what that product is.

[00:39:39] SB: So if I understand it correctly, it's like you can get help, like you have an app over a platform that can – I think their example is like if you're going through a bankruptcy with your company, you can see others have done the same thing or like expert help from some – Someone's really good at that or has worked with it.

So they walk you through kind of the steps you need to take to be able to do the bankruptcy kind of – If you're in that position or something else if you had something else. Yeah, that was something that I would love to contribute to that, but I also know that I'm probably not – I'm not committing to being the fulltime programmer of that project. So, I'll probably need to contribute smaller and that might not be optimal for the project either. I don't know.

[00:40:21] JM: Well, so this gets at one of the issues with the interface in its current form, is that when you create a project, you create roles for those projects. The way that the roles look is kind of like job descriptions. It looks like, "Oh! I'm going to have to join and do this significant workload."

I think this is in contrast to the experience on GitHub, where at GitHub, if you want to contribute to an open source repository, you can go into the issues and you can find a good first issue and the issues are often times much more bite sized. So you know the level of commitment. So, I don't know. Do you think it would bloat the interface too much to add some kind of issues features?

[00:41:08] SB: No. I think that that would be – Yeah, maybe not issues per se, but like some kind of bite size work would be – I think it would be really cool. If you could for example, wanted to have – Like we need a design for this idea here. Some people could contribute, it would be great. We can get good collaboration going like on a specific thing, that would be super cool.

[00:41:30] JM: Now, since you did not find collaborators, did you actually get anything out of FindCollabs itself or was it more just kind of experiment for you where you just kind of got the hackathon part from it? What did you get? Did you get anything out of the experience?

[00:41:50] SB: I think what I enjoyed the most about the experience was just seeing FindCollab as a platform itself. I guess that's almost as a contributor to the platform more than anything else.

[00:42:01] JM: You sure are.

[00:42:02] SB: I want this to work kind of way. But if I got anything out of it for the project itself, I mean, there was some feedback going in the discussion, like in the comments. So that was nice, and I obviously, by the comment side I realized, "Oh! This I actually something that people are interested into." So that was kind of nice. That was probably the main thing.

[00:42:22] JM: Yeah, I guess that's kind of cool that it could be a forum for discussing these projects, like whether you're actually collaborating with other people on the work. You get collaboration in just kind of the audience maybe. So you ended up building this thing in Flutter. Tell me a little bit about Flutter as you see it.

[00:42:43] SB: I hope for that being the future of mobile development, and now they also released on Google.io the other day Flutter for desktop and web. So, that's very exciting as well. I have never done – It was my first app in Flutter, and it took me just hours getting started. So, when this whole app is done using – Yeah, it's so quick getting started if you know a little bit of other languages such as Swift of Kotlin or Java or like – Yeah, any other language. Dart is released to learn, so. Yeah, getting started is just a breeze with Flutter. So, I love it.

[00:43:21] JM: Have you spent much time through React Native?

[00:43:23] SB: Yeah. Actually my day time job is Reactive Native. So, yeah.

[00:43:27] JM: How would you contrast the two ecosystems?

[00:43:31] SB: Well, our experience using React Native, we thought it out with native apps. So we kind of had React Native as add-on. The bridge between those is kind of both for our sake was kind of – Yeah, it's a really bit messy, but still I think we save time using React Native future. I get a feeling that Flutter with the fundamental model of rendering from scratch using Chrome

rendering tools, something like that I think. It's just better than using native APIs that React Native is using. So, in terms of performance and everything. I think I definitely believe more in Flutter than React Native.

[00:44:07] JM: Is that just to get an intuitive feel or I think the way that they contrast is that Flutter paints more directly to a lower-level system, whereas React Native has to use this JavaScript bridge in many cases. The React Native people say that the message passing layer for the JavaScript bridge is actually not that – The performance pains are not so bad that the underlying app is going to suffer in most cases. I mean, I would agree with you intuitively. It seems like there's something about painting to a lower level compilation target that's just going to be more performant in the long run.

[00:44:49] SB: Yeah. I think it's definitely intuitively a large part of it. But I think it's also – Like we had a lot of configuration issues. It might be that we have native apps already integrated React Native to it. There's been so many like small configuration issues with React Native for us that –

[00:45:05] JM: Like what?

[00:45:06] SB: Like the bundler doesn't connect or like – Yeah, what else have we run into? Yeah, just like upgrading a React Native version and it doesn't work out with the other library we're using and stuff like that. So, it's been a little bit messy in that sense. I think I get a feeling that Flutter is more the whole platform kind of, it's whole integrated. The dev tools, all the way from dev tools to rendering layer to the UI components. You get everything in one thing.

[00:45:34] JM: Do you have a preference for Google or Facebook in terms of the company building the ecosystem of developer tools that you're basing your career off of?

[00:45:43] SB: I wouldn't say so. I mean, I think Google is of course more well-known. Well, not well-known in terms of branding, but in the developer community I think Google is more well-known, maybe. I like both companies and especially the open source project that Facebook had been rolling has been really a big help for us in our company have been really nice.

[00:46:03] JM: Think about React is you have this huge network at this point. You have a network effect of people building all these React components. Do you think Flutter needs some network effect like that in order to actually have a competitive ecosystem with React?

[00:46:19] SB: Yeah, certainly. There are so many things as you say for React Native and also React that you just get for free, especially like communication with native, of course, but other things as well. But, also, it's a lot easier to build custom tools for Flutter. If you have a component that you're using from MPM in React Native, you can kind of quite easily build that yourself in Flutter. So it's not too big of an issue, I think, to not have the community there. Yes, certainly. There are certainly some issues there that they need to get the ball rolling kind of.

[00:46:54] JM: Take me through the process of building an app in Flutter like you did with Rivaly.

[00:47:00] SB: Yeah. You just install SDK and then you fire up – Yeah, I used Android Studio, the plugin for flutter. Googling some examples of how things are done and then pasting it and trying to read the documentation and just start from scratch basically and get some standard components going.

[00:47:19] JM: How does the developer experience compare to – Like let's leave performance out of it. How does the developer experience compare between the React Native and the Flutter experience?

[00:47:30] SB: So, the hot reloading Flutter works much better for us. It works better in Rivaly than in our project, in our company's project. So, even more immediately feedback in Flutter than in React Native and more consistent as well. Otherwise, I think they are very similar in terms of developer processes and kind of everything feels very – If you have experience in React Native, Flutter feels very [inaudible 00:47:54] as well.

[00:47:55] JM: So to summarize your experience with FindCollabs and building Rivaly there. For my perspective, you heard about FindCollabs on the podcast. You went to check it out. You heard about the hackathon. So you had a motivation to start a project. You created a project. You specked out Rivaly. Just this idea for having a league or competitive system for playing

things like ping-pong or chess or whatever within an app and keeping score with your friends. You wrote down the idea. You created some roles, like designer and programmer and project manager and just you specked out, “Here are some ways that you could contribute to the project,” and you started communicating with people who are coming in the door. Although none of them ended up really joining and contributing meaningfully to the project.

So you just kind of left up this project. You were chatting with some people as they came in the door and you just started building the project yourself agnostic of the fact that nobody was really coming in the door and contributing to it. Then eventually the hackathon ended and you got 3rd place. Is there anything else, any other part of the holistic experience? Any other blanks you want to fill in?

[00:49:17] SB: Yeah, I started building the project. I think through the whole project, I thought they’re going to join people as we go. There were some people interested. So, maybe we just need to create first Beta and then people are going to join up. So, I think there was a continuous chatting and continuous people joining or the conversation and stuff like that during the whole project. That was nice. It was not like in the beginning and then I code everything and then it was released. It was more like continuous, I think. Other than that, I think that’s a good summary.

[00:49:49] JM: Okay. Any feature requests for FindCollabs? What do you think would make the product work more effectively?

[00:49:57] SB: I love the idea of the issue system, like more bite size for sure. That would be my absolute top feature request. I don’t know. There’re some categories you can choose from. For example, it’s kind of hard to – I kind of wanted to find other apps, for example. It was kind of hard. That should be a category. I don’t know why they can’t find anything like that. But, yeah. The issue is the bite size work items would be definitely my top pick.

[00:50:24] JM: The thing about the issues, the issues feature. There are so many project management tools already. There’s like Asana. There’s Trello. But I guess GitHub built its own issues or it built its own like little Trello board system. Maybe a Trello board is just something you want in a tool. Or maybe this is a project management tool. That’s one of the things I don’t

really know, is like I started it just kind of thinking, “Okay. This is the place to find collabs,” but you kind of have this inevitable feature creep where, “Okay. Maybe it’s not just for finding collaborators. Maybe it’s also for doing the collaboration or maybe that means I’m doing something wrong.” I don’t know.

[00:51:04] SB: Yeah. That’s a really good point. That’s a fine line for sure.

[00:51:07] JM: Do you use project management software? Do you use Trello or Asana or anything?

[00:51:13] SB: Yeah. I use Trello every day for personal items and also Jira for work. So, certainly.

[00:51:19] JM: Yeah. I mean, how much do you need out of a project management – I mean, Trello is so simple. I’ve always preferred Trello to a lot of these more rich – We started using Asana internally at Software Engineering Daily and I guess it was a little too much for us. Maybe Asana is better for bigger organizations. But if you have like a smaller organization, it seems like you kind of only need basically a Trello board sort of thing.

[00:51:46] SB: Yeah. Yeah. We also tried Asana, but I totally agree. I didn’t find the extra features needed. I just have to create another list on Trello and that’s kind of, that worked out for us as well. So, yeah, I totally agree.

[00:52:00] JM: What do you use Jira for?

[00:52:02] SB: I think mainly for like the Sprint features, the Agile features. So we can have Sprint there and everything. We had Trello before, but it was like a little bit too many items to have in one list. So we needed the backlog. We want the backlog feature of Jira. Yeah, I think Trello would work for us as well, I guess.

[00:52:21] JM: At the company that you work at, do you have hackathons internally also?

[00:52:26] SB: We thought of that really small startup. We're doing a training app for horse riders. So it's a really small company. We're only like 5 to 10 people.

[00:52:34] JM: Oh, cool.

[00:52:35] SB: Yeah. No, we don't really have anything like that. We're more like really mold in the product and really love what we're doing there. But I'm pretty cool.

[00:52:42] JM: Yeah. No, absolutely. So, but when you think about – So we built this thing called FindCollabs Organization. So like if you sign up with an email address, then you get put into a FindCollabs organization. I sign up with jeff@softwareengineeringdaily.com and I get put into my organization and we can create private projects. We can use it to manage some of our internal projects. Do you think that's useful as like a project management tool or do you feel like you've got like all the project management tools you really need within your startup right now?

[00:53:17] SB: So, one thing that I did think of when I have this feature. I was thinking like – Because in our office, there's maybe a hundred startup in one place kind of gathered. I'm thinking like we could have some collaborations across company borders kind of, because that is kind of non-existent today. We have tried some really light collaborations between other startups, but it's never really a flow.

So, that was why I liked Emission at first so that, "Oh, maybe we can have some collaborations there." But I guess that would mean that we had to have like a common project of some kind at first, which I didn't really see right now, I guess, but it could potentially work in that way I guess.

[00:54:01] JM: Yeah. But generally speaking, between Slack and Trello, you've got what you need. You don't have really a problem managing business processes and stuff.

[00:54:15] SB: Internally, definitely not. All of us in the same office kind of, so it's kind of easy.

[00:54:20] JM: Okay. Makes sense. More generally, how would like to see the product proceed? How would you like to see FindCollabs evolve overtime?

[00:54:30] SB: So, I would love for it to be the place of not only finding maybe collaborators to your product, but finding like projects overall, like ideas or innovations, something like – I think a lot of people say like the ideas worth nothing kind of way. It's not ideas that makes products. It's not the ideas that makes good companies, whatever. It's rather like the people and the execution. So, like kind of a platform for ideas and ways of sharing and actually get products to a releasable state kind of.

[00:55:08] JM: Absolutely. Any other side projects that you're working on or planning?

[00:55:14] SB: So, yeah, the lost projects I had was Event Call it's called. It's like Facebook events into your Google Calendar, which is a small hobby of mine. So you basically filter out –

[00:55:28] JM: That's a great idea.

[00:55:29] SB: Yeah, sure, right? So Facebook actually has integrations. So you can subscribe to like a calendar, normal ICS. But they include everything that you don't respond to as well. So, I just felt like a lot of events go into your calendar. Yeah, I just created a small filter online that just filters out those things in between Facebook events and Google Calendar.

[00:55:55] JM: What do you have to do run it? Is it like a browser extension?

[00:55:58] SB: So, that's the good part. Basically, you enter the Facebook event URL into the website and then you just get like another URL that you subscribe to in your Google Calendar. So it just act as a filter in between. So it doesn't save anything. You need a new database, anything like that. Just filter some events and then just pass it on to Google Calendar. So whenever Google Calendar request an update, it goes through my server and then the request from Facebook and it filters out on the way back. So, it's pretty simple.

[00:56:32] JM: How do you balance your time between work and side projects?

[00:56:37] SB: Yeah, I'm really pushing like projects in general. So, most of my time goes to those things anyway. So, I guess that's the kind of work as a side project now that we are such

a small startup and we have a small product in development. So, it's just a matter of like – Prioritizing between different side projects is kind of work as well, if you see what I mean.

[00:57:00] JM: Yeah, definitely. Well, it's been really fun talking to you. Do you have any closing thoughts or closing discussion points you want to talk about?

[00:57:10] SB: Yeah. I would love to see another Flutter episode on Software Engineering Daily.

[00:57:14] JM: Yeah. Right. You will. You will for sure. I'm sure I could reach out to those Google folks again. I mean, those episodes have been really popular. Those have kind of been surprisingly popular to me, and my little brother is also really in love with Flutter.

[00:57:28] SB: Yeah. And the React Native episode was like one of the most popular I think the other day at least.

[00:57:34] JM: People want this cross-platform stuff to be a reality. I mean, it's such a drag on productivity the way that that ecosystem has developed. Here's the thing that I'm wondering. Do you think that the Alexa Google Home thing, is this like cross-platform wars 2.0?

[00:57:55] SB: I kind of hope so. I really enjoy doing voice commands. So, if those take off for real, that would be really amazing.

[00:58:02] JM: Well, I think they're taking off. I'm saying like the frictions between them remind me a lot of the iOS versus Android ecosystem. If you talk to anybody who's building these voice apps – I mean, I think today, the two platforms are quite similar, but Google seems to be just pulling out ahead in terms of the NLP and the advanced stuff. Anyway, I don't know. Maybe that's for a different show.

[00:58:27] SB: Yeah, I haven't really heard much about the complexities of building for those platforms. I've never tried it myself. Is it difficult to build? Is it complex to build for those platforms? Have you tried?

[00:58:37] JM: I have not. I don't think it's that hard to build a pretty basic flow. I think it gets more complicated if you're trying to do more complicated stuff. But most of the time, the user requests are fairly simple, like order me an Uber from point A to point B. The scope of a given application – The number of things that you would want to do I think on a mobile application are much – Given the visual interface. I don't know. I mean, I haven't thought about this enough, I haven't done it firsthand. So I probably shouldn't talk about it in detail. But from the people I have talked to, building voice apps today is not too hard for most applications.

[00:59:19] SB: Yeah. I mean, the demo from Google IO this year where they like fired off 30 commands in 30 seconds.

[00:59:25] JM: I just saw that. Wasn't that mind-blowing?

[00:59:29] SB: Yeah. I mean, it was so cool. I can't wait to try that.

[00:59:33] JM: You're an Android user?

[00:59:35] SB: Kind of both, but mostly iOS. Yeah.

[00:59:39] JM: Really. Do you think you're going – Are you going to stick around with iOS? Because the lack of a good voice command support is just – Ugh! It's tragic.

[00:59:50] SB: It's mainly for work. I had an Android before, but then I started developing from iOS mostly. So it's like, "Oh, I need to get used to this platform." I kind of long backed to the Android days, to be honest. Yeah, the Pixel 3a sounds amazing.

[01:00:04] JM: I agree with that. Okay. Well, Simon, thanks for coming on the show. It's been really fun talking to you. I appreciate you checking out FindCollabs, being a serious user. Please keep in touch. I really hope you keep using the platform. We're about to the second hackathon and I hope you'll participate.

[01:00:22] SB: Cool. Thank you so much!

[END]

