

EPISODE 1418

[INTERVIEW]

[00:00:00] KP: The creator economy has seen rapid growth, largely thanks to software solutions like Patreon that are enabling for creators. As the creator economy grows, providers must be prepared for scalability issues and the challenges of maintaining and growing a software infrastructure and team that evolves with it.

In this episode, I interview Utkarsh Srivastava, SVP of Engineering at Patreon about some of their strategy and approaches to these concerns.

[INTERVIEW]

[00:00:31] KP: Utkarsh, welcome to Software Engineering Daily.

[00:00:36] US: Thank you, Kyle. It's great to be here. Thanks for having me.

[00:00:39] KP: Before we get into some of our primary topics, could you tell the listeners a bit about your background in software and how you first got interested in computing?

[00:00:46] US: Yeah, for sure. My earliest memory of computing is actually having an Intel 286 computer back in India while I was growing up and having Prince of Persia and then at those points, like we didn't really have that much access to the Internet and getting access to cheat codes through friends and trying to enter them in and figuring out how they work. And running into dos memory limits and being fascinated with why those limits exist, and how those can be worked around. And then my introductory programming class in eighth grade, we were using GW basic, and it was really fascinating how computers could solve tasks that took us far longer to solve.

So, those are some of my earliest memories of computing. Got more and more interested in it, as I went through school and college. Ultimately, studied Computer Science at IIT and got

introduced to just more foundational aspects of computer science, and it's been a great journey since then.

[00:01:45] KP: What are some of the things about Patreon that made it the right place for you to make the next move?

[00:01:51] US: Yeah. So, I've been involved in social media, per se, for some time. I was actually an early engineer at Twitter, and I joined Twitter when it was less than hundred people. And I saw for the first time what having the power to reach an audience, how much that unlocks for people. And at Twitter, I like to think we really democratized the notion of being able to build an idea and speak to them. We had many folks who would go on to become really big influencers on Twitter. That's a really, really powerful concept. That has really played out in a bunch of different distribution platforms across YouTube, Instagram, TikTok, and many others.

And while that's a great concept and empowers influencers and content creators, it is primarily driven through the advertising machine and advertising is the primary way creators make money on these platforms, which is great. But then it has some other downsides as well, where it does tend to promote sometimes too much of the flashy content or content that's geared to grab eyeballs rather than being truly meaningful. On these platforms, creators are not necessarily able to build like the deepest relationships with their super fans. And Patreon, really stuck out to me as this player that has been around for some time now, and has really taken the lead on this notion of really engaging deeply with your superfans and building a community and giving them access to exclusive content.

It's been the market leader in this category. I think of this as a trend that more and more creators will embrace over time, this idea of having a subscription business that sits alongside your advertising revenues, lets you provide access to exclusive content. A community to your biggest fans, and have that be an integral part of how you run your business as a creator. That mission really resonates with me. And then as I as I talk to Patreon, I was blown away by the team here by Jack who the founder, CEO and the creator himself and the passion he brings to this whole space, and why he's got started on this mission and how deeply cares about it, it's something that I find pretty unparalleled in the industry.

[00:04:06] KP: Are you a patron of any Patreon creators that you might want to highlight in this moment?

[00:04:11] US: Yeah, so I am a science nerd. I like sitting with my daughters and talking to them about science. So, there is this creator called Sky Show that puts out various educational videos on various science topics, like how does the body work? How does immunity work? And other aspects of science as well, and I really enjoy those, and I've been very patient for some time now.

[00:04:35] KP: So, I've been a patron of a number of creators myself. I've never been a creator yet, at least to date. So, I know the experience is a very fluid, easy, checkout process, and I get content from creators. But I imagined the technology must serve a wider array of tools and functionality that as only a consumer having experienced. Could you give a rough understanding or just sort of general overview of some of the systems and what the technology is doing behind the scenes or maybe doing specifically for creators?

[00:05:06] US: Yes, so we think of creators as small businesses, and we view ourselves as one tool in their tool chain to run their business effectively, and everything we do we approach from that lens. Over time, our vision is to become a more fully featured suite of tools that allow creators to run all aspects of their business.

But today, what happens is creators come on board, they often hear about us through other creators, they see other creators making money on Patreon, and they want to do that for themselves. And they land up on our website and they sign up. After collecting some basic information, what the flow tries to get them set up on is the basic tiers of their membership. So, how are you going to attract customers? What are your various price points? And what are the benefits you offer each of the price points?

So, creators may have like a \$5 a month tier where they offer access to exclusive content. They might have a \$10 a month tier where in addition to content, they also offer access to community. And all this is super flexible, and it's up to the creator on how they want to structure their benefits and the various price points they want to choose. Over time, creators have gotten really creative. Well, I mean, they are creators, and they are creators. So, they've gotten really

creative with the benefits that they have to offer, including things like putting their subscribers' names in the end credits of the video, or even shipping physical merchandise to their members every month.

So, there's a wide array of benefits that creators offer on Patreon. And the core of the benefit that today Patreon provides them is this membership layer, and the payment processing layer where creators can get charged on a monthly or annual recurring basis. And we take on a lot of the headache and the risk associated with that, like the payment risks, the compliance, operating in multiple currencies, being able to pay creators out in the currency of their choice. So, there are various payment related things that we handle for them.

Going beyond that, we offer them the ability to send really targeted messages to different tiers of their audience. So, if they have a new video out, and they only want to release it to their \$10 a month tier, they have the ability to do that from within the Patreon product. There are lots of room for improvement in our current product. And we see a big opportunity here as more creators embrace membership. That's why we're in this really rapid phase of growth on our team to help that out.

[00:07:44] KP: What has been the experience at Patreon, given the changes we've experienced related to the pandemic? Work from home, what they call the Great Recession, desire for entrepreneurship and these sorts of things?

[00:07:56] US: Yeah, so the pandemic has definitely changed the trajectory of Patreon in terms of check just all metrics and revenue growth and the creator acquisition growth have dramatically increased through the pandemic. In many ways pulled forward. I mean, we always believe, we believe in the long run that every creator will embrace membership. But the pandemic in some ways, kind of hastened that process, and pulled forward a lot of that growth, because a lot of creators moved from, in many cases, offline activities to having their membership be offered on Patreon. And also, we have this use case around people supporting their favorite creators and during the pandemic, the willingness to do that really increased. So, we saw really healthy growth through the pandemic, and that's been helpful to really help set our product as differentiated in the market as well.

[00:08:53] KP: Does that growth introduce any new technology challenges?

[00:08:56] US: Yeah, I mean, as with all scale, like there are definitely technology challenges that come with scaling. One of the things that we have going on at Patreon is that we are growing really rapidly internationally. We now have patrons from many, many different countries. We have creators from different countries, and we have relationships that cross nations, like a user in the United States, maybe a patron of a creator who is in India.

So, you have a lot of sort of compliance challenges to deal with as well as payment currency related challenges, like you want to accept payments in the currency of the user and you're going to payout in the currency of the creator. So, there are some challenges related to that, having the notion of a redundant payment processor in every market. So, there are various challenges that we are addressing over there.

But more broadly speaking, I think with the product apart from payments, I think one of the things that the growth has shone a light on is how much more opportunity there is in our core product. Today, Patreon offers these membership primitives, but we do not have as much of an offering around content or community and creators are often using other third-party tools for offering those benefits, which is fine, but it does lead to somewhat of a fragmented experience at times, which there's a lot of like maybe much harder work than needed that creators have to put in to be able to offer content and the community benefits. On the flip side, users also have to do so much more work and stitch together multiple different products to be able to get those benefits. And the growth has shone a light on these areas that we can invest in and make dramatically better for our creator audience.

[00:10:46] KP: Along those lines, are there any forthcoming releases, or maybe something recent that you're excited about that you want to highlight?

[00:10:53] US: Yeah. We do have something in the works around what we call native video. And this is just a surprising thing that most creators, Patreon expect that we will have already had, which is the notion of posting on video on Patreon itself. Today, most creators, what they have to do is host a video elsewhere, often on YouTube or Vimeo, and then post links to those videos on Patreon. That model has some drawbacks in the sense that this creators often have

to pay additional fees to either host those videos or they can subject to rate limits, or they have the potential for content leaks, because, the content is only gated by a link and anybody who has access to that link can access that content, irrespective of whether they are a patron or not.

So, this does introduce the potential of the content. And for all those reasons, creators have always wanted a way to host content natively on Patreon, and this is something that we have been working on, and we have it in basically a very limited beta with some creators, and we're testing it out to see how it works. And so far, received positive feedback. But this is going to be one of those things that dramatically simplifies the product for new creators and provides a better experience to patrons as well.

[00:12:07] KP: Well, I know that the goal is to make it seem very simple and easy to the creators on all platforms, but that requires a lot of headaches and work behind the scenes to make it actually deliver very smoothly. Could you talk a little bit about the technology stack or some of the efforts to make sure you can get your system to run the way you want it in all places?

[00:12:26] US: Yeah. So, video definitely poses a lot of challenges. We've been doing a lot of work to look at things such as the smoothness of playback experience, the latency of the upload, and all these metrics that really drive the quality of your experience, like this is a flow that creators will be going through almost on a daily basis. Patrons will be consuming multiple videos a day. So, it's really important for this experience to be really frictionless.

So, we're really obsessive about the user experience, especially on mobile. We have a world class mobile team that's looking at this mobile experience and our video playback experience and really innovating on it. We have in some ways, a really large opportunity here because the playback experience that we have the opportunity to design doesn't have to conform to the same rules as many of the large distribution platforms that we are familiar with, because for us, time spent is not a North Star metric. Our North Star metric is really how deep connection can we facilitate between the creator and their subscriber. And with that lens, like what should the video playback experience be is actually something that is still to be figured out, and we view that as an opportunity.

For example, in many other video properties on the Internet, we are used to this paradigm where you watch a video and as soon as you're done, you're immediately redirected to another video. That inherently leads to sort of you having relationships with multiple creators and bouncing around between different types of content, which is valuable. But at the same time, that's not what Patreon is for. Patreon is often for going deeper into a particular type of content. So, for us, when you're done with a video, it might be better to offer some sort of other experience like the ability to really go deep and comment about specific parts of the video, or really either converse with the community or the creator about the merits of the video itself. So, we see a large opportunity in terms of like the core experience and how we can innovate on it, apart from the fundamentals of really making it worthless in terms of smoothness and upload speed and upload latency.

[00:14:44] KP: Is the team remote or on site or some hybrid option?

[00:14:48] US: We are actually big believers in the energy that comes from in-office collaboration. So, we are still aspiring to be an office centric hybrid environment. And that has admittedly been pushed back a few times. Because every time we feel like we are around the corner, and we are at the cusp of like returning, something else happens with the pandemic, as we're all painfully aware at this point. But we still believe that it's really, really important to have that in-person collaboration, especially in user facing components between engineering product and design. The ability for an engineer to prototype what the designer has marked out, and be able to hold up the device and play with the experience and think about where it can be made even better. There is just no substitute to that sort of in-person energy. I'm sure we'll get to it at some point with online collaboration tools, but I don't think we're there yet.

So, for the moment, we are an office centric culture. We are growing in a variety of different locations, though. We are hiring across San Francisco, New York and Seattle, which are some of the biggest talent hubs in the United States that we have access to a majority of the talent. And yeah, we still hope to return to the office.

[00:16:10] KP: What sort of roles are you looking to fill?

[00:16:13] US: Really, all across the board. Actually, our team is rapidly expanding. I've been at Patreon only for six months, and we've doubled even in that time period and we've hired a mix of folks across the stack, backend, full stack, web, mobile. At this point, I would say we are really looking for those product minded engineers, people who really obsessed over providing the best quality experience to the customers and have an eye for the visual detail and are excited about bringing that to life through a combination of like modern technologies, and web and mobile. We have a fair amount of backend challenges as well, particularly when it comes to scaling up and our user base is, millions strong and growing.

So, there's a number of challenges that come out of it on the backend scaling side as well. We are deployed on AWS. We are always looking for people with cloud experience and data. We're just in the process of starting up a growth team, where it's actually pretty remarkable that our product has existed for as long as it has, without us really looking at the funnels and trying to optimize them. So, there's a lot of low hanging fruit in terms of making every funnel onboarding, signup funnel really more frictionless. We're also looking for those data minded engineers who can come in and work on those improvements with the data lens. So, really all across the board, honestly.

[00:17:39] KP: One virtue you described, I think your phrase was product minded engineer, which at a high level, it seems intuitively important, but it's something I rarely see on like a college computer science syllabus of courses offered. Can you talk a little bit about what it means to be successful as a product minded engineer?

[00:17:58] US: Yeah, I think actually, there are schools and students you can come across that will immediately strike you as being very product minded. I think, for me, what that boils down to is imagine if the team did not have a PM, or if the PM was really stretched thin and wrote a PRD that left many gaps open, which realistically, like every PRD has that where there are parts that are left unspecified, because those are only discovered during implementation. And what I really find sets some engineers apart is the ability to fill those gaps in a way that makes more sense from the user experience point of view. There's a way to fill those gaps, which is more sort of from a technology point of view, like, "Hey, it'll be simplest if this corner case just behaves this way." But if you look at it from the user point of view, sometimes like what is simplest and most consistence from the code makes no sense from a user point of view.

I think what I mean by product minded engineers are the folks who can put that customer mindset first and use technology as a tool to solve that core customer need. And these kinds of folks collaborate exceptionally well across disciplines, with product managers, with UXers, and these kinds of folks who will go the extra mile to put in that last animation in the app that makes it delightful. These are the folks who will talk to the designer about every little pixel that is inconsistent with another part of the app. And those are the little things that really set apart a good product from an excellent one, and that's what we're looking for.

[00:19:35] KP: Would you mind giving a rundown of maybe some of the frameworks or particular technologies, languages, whatever the key tools are that the team has been most successful with?

[00:19:47] US: We have the fortune of being really up to date and modern with our technology choices, especially on mobile. So, since we started somewhat late, we have our mobile apps, for example on iOS be in Swift and on Android be in Kotlin, which are both like really beautiful languages and frameworks to work with. And I've personally enjoyed doing side projects in Swift on iOS. That's basically the core language of choice on mobile and we're using for our API Graph QL, and implementation of that API on the backhand side is based on Python.

So, that technology choice has served us well. I think on the web, we are starting to use Next.js and using React pretty heavily and using Python to serve our Graph QL API. So, that's the stack that we are working with. There's a lot of developer productivity wins that we are getting by religious doubling down on each of these technology choices and making them fit really well. Because one of the things that's happening is as our engineering team is growing rapidly, we want every engineer to be able to come on and be productive, right away. So, we are really invested deeply in developer productivity and have a subset of our teams is dedicated to looking at where do the inefficiencies lie in our developer workflow and going in addressing them one by one.

[00:21:15] KP: Are there any key insights that that team has been able to surface through the research they're doing?

[00:21:19] US: Yeah. I think that are definitely insights. I don't necessarily know if they are unique in the sense that every team or every company I've been at, these are the common problems that come up. I would say what we are unique at is we are taking a very proactive approach to these problems, and we are trying to address them before they become even bigger problems. I think the most common failure mode I've seen from having led multiple teams is that developer productivity focus comes only when the experience has slowed down to a crawl and we don't want to go there. We want to proactively fix the problems.

And the problems are, you know, the common ones that you encountered many teams in the sense of like, tests may be flaky. So, just having an approach to really clamp down on any flaky tests, and having owners assigned really quickly so that we can make those tests not flaky. How quickly do tests run? I think is an important part, is the innermost loop of what a software developer's life looks like, and it's very, very efficient. If that innermost loop is very, very efficient, it leads to increased productivity. How quick is it to deploy changes to the website? And how safe is it more importantly, right?

So, the ideal is, if it is quick and safe, even if you make a mistake, which I am sure many of us will do, especially as we go through a period of rapid growth, there are going to be many new engineers on the team, and I'm sure we will make mistakes. So, we need to have the safety nets of not only an adequate amount of testing, but also the ability to do fast rollbacks, if something does go wrong, and the ability to look at a canary and see if the newest deploy we put out, is it misbehaving in any way. And being able to have that insight really quickly. Those are all the ingredients that go into a really smooth and efficient developer workflow, and that's what we are prioritizing to make all our new teammates really productive.

[00:23:19] KP: I've seen a couple of different approaches to team structure in that regard. One school of thought is a team owns a certain microservice, they should own it, end to end, all the metrics, all these things. And another school of thought that there's a DevOps group that would manage the all of the concerns and bringing expertise organization wide. I'm sure many philosophies in between. Do you have a perspective or have any insight into how Patreon makes it work?

[00:23:46] US: Yeah, and I've worked in both models that you're referring to, and they both have their pros and cons. I think, more importantly, each model works better at a certain scale of engineers. When I was at Google, before Patreon, when you have thousands of engineers, yes, you can have a central team, but that central team is going to be unable to talk to every customer at the company, let alone meet their needs. So obviously, every product team then has to build their own parts of the solution as well, that may be built on top of the common solutions, but it's still specific to that team.

And then on the other hand, you take a much smaller team, like where Patreon is at today, which is, around a hundred engineers and growing rapidly, you do not want to fragment too early, because if you do, then different teams may end up choosing slightly different paths to the same problem, and you end up with a lot of duplicated work and not enough focus on any one team to be able to really become excellent at that problem.

So, if every team is solving their own observability needs or their own deployment needs in their own unique way, A, they won't be able to do a very good job given that they probably have like half an engineer dedicated to that. And B, their life chooses different paths, which prevents sort of us becoming really proficient in one path. So, at the scale that we are at, we're definitely choosing to go more the horizontal team route or the centralized center of excellence around a particular task. We do have an infrastructure or an SRE team that is responsible for things such as observability, the health of our deploy process, the infrastructure around the services, and really becoming excellent at that so that other teams don't have to reinvent the wheel and can really use these things off the shelf for the most part. And if not, if it doesn't meet the needs, be able to talk to that team and get those needs met.

So, that's the model that works for us at this scale, especially as we get bigger, we could definitely start going more down the vertical route where teams have their own specializations. But I think we're a little bit far away from that right now.

[00:26:01] KP: Well, the idea of people being independent creators is not necessarily new, but it's certainly been accelerated quite a bit in recent times by tools like Patreon, just giving access to people who didn't have access to these things before. Do you have a sense or maybe any statistics on where we're at in the growth of this as a function of our overall economy?

[00:26:22] US: Yeah. So, the creator economy is a relatively new term. But Patreon has been operating in the creator economy from before the creator economy existed. I think we are still relatively early in the adoption of the truly independent creator. I mean, we definitely have independent creators operating on YouTube and Instagram and many other distribution platforms. But on these platforms, the creators don't necessarily own their audience.

First and foremost, those customers are either Google's customers, or Meta's customers, whatever the case may be, and they're only customers of the creator second. Whereas for Patreon, we really take the creators as small businesses, and we really treat the users as their customers. And we really believe in the power of the independent creator and really set them up to operate really independently, including giving them email addresses of their subscribers so that they can reach out to them in any format, any frequency that they desire.

So, the adoption of this truly independent creator, running a subscription business to supplement other offerings. While it's not a new one, I think we're still really, really early in its adoption. By most measures, less than 5%, and by some measures, less than 1% of the creators today, have actually adopted the subscription model. So, we have really a long, long way to go to really fill out that market. And I think over the next five years, almost every creator is going to look at membership and adopt it. We definitely see a world where every creator will have a set of loyal followers that are paying them a certain amount of money a month, and the creator is really providing access to exclusive content behind the scenes view into their lives, a community where the different fans can talk to each other and have direct access to the creator, being able to hang out with the creator in a virtual way. There's really no limit to the number of benefits that they can get over time. So, we're really optimistic that that's where the future is headed. And Patreon's vision is to provide those creators with every tool they need to succeed as an independent business.

[00:28:42] KP: Well, as we were discussing, the engineering team is growing. Can you talk a little bit about where the focus of these new people will be directed? Any particular initiatives or projects or new features you can highlight?

[00:28:55] US: Yeah. So, the crux of our roadmap is centered around three pillars, which is basically membership content and community. In some ways, what we have today is purely a membership product, which allows creators to spin up a membership and to be able to reach out to those members in certain tiers of members. I think there's a lot of room for improvement in that core product itself, like we can make it dramatically simpler to adopt today. Most creators who come to Patreon to sign up and set up their membership actually don't end up finishing, or don't end up succeeding in doing that because it's quite complex, and you need to have a very, very firm idea of what you actually want to do with tiers, what benefits you want to offer, et cetera. And most creators often go looking at other creators to see what they are doing and then just copy that, and the product doesn't really help them at all through that process.

So, I think there is a lot of room for improvement in how we onboard creators, how we make it really easy for them to set up their membership, and then providing other primitives around membership as well like annual plans, the ability to gift a membership to others. There's just a really long list of things we can be doing to make membership more accessible and mainstream to creators. So, that's one pillar.

The second pillar is around content. We spoke about content a little bit earlier. We think there's really rich experience that can be built on Patreon around content. So, that's something that's definitely top of mind and you're going to have a large chunk of our engineering bandwidth dedicated towards that. And then the third pillar is around community. And this is where I think we can go really above and beyond especially at the intersection of content community as well. Often what you want with a creator is to be talking to them about the new content. So, it's really not just community and not just content, but the really intersection of those two. I think as we start building out core offerings, such as messaging and live streaming, to be able to hang out with the creator, all these things start really coming together in a very meaningful package. So again, these are just kind of rough plans, and not really a roadmap, but most of what we're focusing the engineering team is to go work on these three pillars around membership content and community.

[00:31:07] KP: Do you have any perspective on the notion of a Metaverse and how Patreon could facilitate creators being a part of it?

[00:31:15] US: Yeah. I mean, Metaverse is definitely something that recently been at the forefront and received a lot of attention. We view our role as really being there for the independent creator, wherever they need us, in terms of spinning up their subscription business and other ways to support their business over time. So, if that happens to be in the Metaverse, if that's where the bulk of the customers are, and that's where they want to consume their content and other services, then we'll be there for them. But so far, we're just focused on the regular old methods of consumption via web and mobile, but of course, that can shift or as the adoption for Metaverse increases.

[00:31:56] KP: Make sense. Well, is there anything you're in particular excited about that you're working on now?

[00:32:02] US: I'm really excited by where this whole space is headed and the potential role Patreon can play in it. As I said, we are in the very, very early phases of creators embracing an alternative revenue model of subscriptions. And we will see over time, really, all sizes of creators, large and small adopt membership, and really excited to offer them the tools to be able to do so in a frictionless and effortless manner.

To be able to fulfill that we have a lot of really exciting stuff to build around content and community and the membership layer. So, I'm really excited to be able to build all of that, especially at a very, very high level of craft. We want to build really high quality experiences across both web and mobile, and paying special attention to things such as how fast our app starts up? What's the battery consumption? What's the overall performance characteristic of a web site? How fast it loads? All those other things that really make the experience delightful apart from the core functionality that's being offered.

So, really excited about building all that stuff in a particularly high craft way. And the first thing that comes to that is building a really world class team. Since I've been here only six months, that's where I've spent the bulk of my time in really hiring, and we've been fortunate to have some really amazingly talented people join us over the past six months and excited to be building this team and setting upon this very noble and great mission for creators.

[00:33:42] KP: Well, there's a lot of engineers listening as well. If one or many of them are interested in what opportunities might be available at Patreon, what's the best place they can go to learn more?

[00:33:51] US: We have all our jobs listed on our website. So, if you search for Patreon jobs, you should be able to find it. Yeah, we look at all applications really carefully and we have a world class recruiting team. So, definitely, we pride ourselves in the candid experience we can provide and we'd be really happy to chat with folks who reach out.

[00:34:08] KP: Utkarsh, thank you so much for coming to Software Engineering Daily.

[00:34:10] US: Thank you, Kyle. It was a pleasure talking to you.

[END]