THE PAYMENTS SHOW

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E89:
Beyond the Password: Prove's Take on Modern Authentication

GUEST
Tim Brown
Global Identity Officer

HOSTED BY
Satwant Phull

[Important]

- This transcript was produced with machine learning and has many ***errors and omissions***

- These timestamps are for the ***audio version*** of the podcast

[00:00] **Satwant:** Hi, I'm your host Satwant, and welcome to this episode with Tim Brown from Prove. If you'd like to watch the video version of this podcast, or download the PDF transcript, please visit thepaymentsshow.substack.com Enjoy the show.

[00:21] Tim, welcome to The Payment Show.

[00:23] **Tim:** Thank you. Happy to be here.

[00:25] **Satwant:** Where are you joining from today?

[00:27] **Tim:** Tampa Bay, Florida right around the west coast of Florida, close to Clearwater.

[00:31] **Satwant:** Oh, beautiful. Is that where, um, Prove is headquartered by the

[00:35] **Tim:** Actually, no our, our headquarters is in Manhattan in New York city. So we've got a lovely office that looks out over the empire state building.

[00:42] **Satwant:** Great stuff.

[00:43] Meet Tim Brown: Global Identity Officer at Prove

[00:43] **Satwant:** Well, I'm going to get straight into it and give you an introduction. So Tim, you're the Global Identity Officer at Prove, and I think if there was any job title that's very important in the world right now, I think that would pretty much be well up there. So I'm sure you've got some some great information to give around what you do in your day to day.

[01:02] The Impact of Prove in Various Industries

[01:02] **Satwant:** And to explain Prove at a high level for the audience You describe yourselves as the world's most accurate identity verification and authentication platform or in other words, the identity layer of the internet. And Prove solutions are used by more than a thousand businesses across many different industries, including e commerce and business p2P marketplaces, which in particular of interest to me but also cryptocurrency, financial services, healthcare, and gaming. So you really operate across multiple sectors and. I really wanted to give the audience a sense of some of the achievements that you've got with your solution. So you help businesses to onboard consumers up to 80 percent faster with your Pre-Fill solution, 75 percent less onboarding fraud 35 percent less onboarding abandonment, so cart abandonment is a huge problem as we all know for retailers.

[01:56] So there's some great stats there and really wanted to hand it over to you to understand if I got that right at a high level and if you wanted to add any more context as well.

[02:03] **Tim:** Sure, sure.

[02:04] Tim' Journey in Biometrics and Identity Verification

[02:04] **Tim:** I, I get so I guess we can start with a little bit about me if you wanna start there. That's fine. I, it's an unusual title. I, I, I, I get, you know, sort of that side, side headed cocked look of from like dogs and hear we are whistle. And when people will will say what's a global identity officer?

[02:23] I mean, we have chief identity officers, but I, I think it, it's a, it's a, a fancy way of saying that. I focus on not just our identity and authentication platform that I lead in our organization from a product perspective, but also I focus on where the the trends in the market are going, you know, horizon two, horizon three things like, you know, where, where's the puck moving to?

[02:46] I've been in, I've been in the industry for since really Biometrics and Identity since the mid 90s. And it's so I've seen a lot of trends come and go and and I've been involved in a lot of different large scale identity projects and it's been, it's, it sort of gives me a unique lens to be able to look out at the world and say, okay, where's, where's, where's the industry trending?

[03:06] I mean, some of them are quite obvious. Things like decentralization that we're seeing in Europe and in places like that, but others may be not so obvious, like how to, well, not so obvious on how to address them, things like AI and, and it's the fraud attacks that seem to be escalating these days.

[03:21] I think those are, you know, looking forward to figure out what's going to be the best mode of attack, of approaching those problems and trying to resolve them. But that's, so that's me in a nutshell. It's I, it's been an interesting career so far,

[03:34] The Evolution of Biometric Technology and Its Adoption

[03:34] **Satwant:** you mentioned you've been in this space for quite a long time and for many average folks, and I include myself in this, biometrics only became a thing, since everybody had Touch ID on their iPhones and until that technology became available. I think prior to that, biometrics are really only seen in movies when people were trying to get into CIA buildings. So how long did you say you've been in the space?

[03:58] **Tim:** I, since 1995, I was leading software development organization for a company that was bringing actually commercial commercializing fingerprint technology. We were our first product to market. from a consumer perspective, was logging onto Windows NT 4. 0. So give you an idea of how old that is.

[04:18] But we, we had built a very low cost fingerprint reader that plugged into the back of your PC and we were enabling a lot of enterprise use cases to, to, to use that. So it's come a long way. Absolutely. It's, it's been an interesting ride, but yeah, I, I, you know, it's funny for the longest time. My, my family, my kids would always be like, well, what do you do?

[04:39] And I try to explain it and, you know, and then I would inevitably hear, well, dad works for the government and, you know, doing fingerprint recognition. That's what he does. But it's but largely I've been focused on commercial implementations and, and then in the, in the mid 2000s, also things like Forensic systems and things that you would expect biometrics to have been applied to at that time, because we sort of had a bit of a lull, you know, cost associated and adoption adoption of fingerprint technology and consumers wasn't quite there yet until the iPhone rolled along.

[05:08] And so I focus my, my. My focus turned towards more typical forensic style biometric systems. And then we moved, I, you know, the company I worked for actually was largely responsible for bringing forward sort of the, the mobile driver's license frameworks. We were doing a lot of driver's license work, which was basically my pivot into more of an identity type of platform where we're bringing digital identity, remote ID verification, things like that, and applying biometrics to it as well.

[05:37] **Satwant:** Sure.

[05:37] **Tim:** been, it's been an interesting, and then, and then I joined Prove a couple of years ago. I guess it's been two and a half years two and a half years now of of sort of being heavily focused on the commercial, commercial side. As you said, you know, it's a, it's such a wonderful company. We do, we do quite a bit of business with A lot of household names in the industry.

[05:55] We,

[05:56] **Satwant:** Yep.

[05:57] **Tim:** I think the, you know, we enable commerce, we protect your, you know, at least here in the, you know, in the U S for sure, you're interacting, most likely interacting with a bank that uses our technology behind the scenes to enable authentication, to enable the initial identity bind that we do. So if we've got a laundry list of NASCAR logos, if you will, of companies that That, that we've all heard of and, and that use us successfully on a day to day basis, that scale.

[06:23] **Satwant:** Yep. Well, we're definitely gonna talk about those a bit later.

[06:25] Prove's Unique Approach to Identity Verification

[06:25] **Satwant:** I did want to talk about the solutions that you offer. Because again, I think most people listening like myself When they read your website identity, you'd think, okay, there's selfie verifications where I am, location, IP address, and those sort of basic key points is what anyone in this, the IT sort of space would think about immediately, I'd imagine, like myself, but you've got quite a rich set of offerings.

[06:50] Digital onboarding, you've got API marketplaces passwordless solutions for end users, so there's a lot there and I personally would love to touch on.

[07:01] Enhancing E-commerce and Financial Services with Prove

[07:01] **Satwant:** The pre fill for businesses. Because if somebody's listening and they're running an e commerce store and they're selling online you know, how, how you help those businesses and then we'll definitely move on to the financial services side of things as well, because that's obviously huge for you guys.

[07:14] **Tim:** Absolutely. Absolutely. Yeah, we've, we've, we've built up quite of a stable of products over the years. I mean, Improve's been in business for about 13 or 14 years now, and we've, we've built a lot of a lot of our tech is built on top of phone intelligence. You know, how, how, how, what can we derive from a key that's ubiquitous, as ubiquitous as your phone about you?

[07:35] Which is unusual when you think about the market segment. I think you rightfully point out that most people, when they think about remote identity verification, they immediately jump to document scanning, selfie match, you know, trying to read your passport chip, those types of things as a as a way of identifying a person.

[07:54] As you know, I think anybody that's actually used those realizes that a few truths, one, it presents a ton of user friction. Makes it very difficult. I mean, it's not an enjoyable experience for the end user results in a lot of dropouts and onboarding flows. It, it presents a lot of sandpaper in, in the flow, if you will.

[08:14] And and, you know, and more recently there's been a lot of questions around bias and, and things of that nature and biometrics and matching faces to documents and just biometrics in general, it's sort of clouded with a, with a concern. And so What's interesting about Prove and our way that we onboard identity and we, we establish identity is that we've, we see, we've seen so many data signals here in the US across the years that we've been operating that we've we've effectively built up a method that allows us to tell that it is Tim indeed interacting on Tim's device as we're, as he's onboarding into a, into a bank or in, you know Pre filling into a credit card application or something like that.

[08:52] Our, our ability to do it is is very, very low friction, low touch. The user experience is typically quite, quite delightful, which sounds interesting to say about a user experience, but it is, you know, we, we, we generally get high marks for The user experience because it lacks that friction, it lacks that typical kind of, oh, I've got to go.

[09:12] First of all, I'm, you know, I'm going to go fetch my, my wallet, pull my driver's license out. I got to capture it. You know, what I'm capturing it in my, in my kitchen. The overhead lighting is really bad. So it's reflecting poorly on my document. Okay? Let me let me hide it underneath of my. My countertop, try to block some of the light.

[09:28] Now I've got to figure out how to tilt my camera to get it in there. And then, okay, now let me catch my face. And, and that all of that produces this level of friction. And our, our approach really

is how can I tell that Tim is in possession of his phone? Can I do that as silently as possible with as little interaction with the end user?

[09:47] We can, and we can do that by talking to the to the networks, to the coat, the cell phone towers, to identify what phone number that is. Then once we have that, I can, you know, we have a rich history of signals and live data that we're getting on a daily basis. That says, what's the, Reputation of that device, you know, has it been, has there been a SIM change recently?

[10:07] Has there been any disconnects or any other activity that we think may be worrisome? We pulled together a bunch of signals and, and with those things in hand, now I have a phone number that is. That I strongly trust at that point, right? I say, okay, it's, it's, it's in possession. It's not some phone that's pretending to be Tim's phone number.

[10:26] It's actually this number that we're seeing and we think, and we're quite sure that there hasn't been any risk signals associated with it, like a SIM change in the last hour or something. Once we've done that, then we go out and look at a bunch of data sources to say that, that this is, Tim's phone number that we expect this to be Tim.

[10:43] And then our pre fill product actually returns that identity data. So basically it's a strongly bound identity verification that's occurred without having to do a document verification or a selfie match. And the really neat thing about it is the performance that we see out of it. We have I think we, we have a great customer success story on our on our website from Synchrony Bank.

[11:02] They use us for doing credit onboarding into their credit cards all their branded credit cards. And their success rates are in the, in the low to mid nineties with very, very low fraud. I think like three base, three to five basis points of fraud, which is, which is pretty substantial when you think about

[11:20] **Satwant:** Yep.

[11:20] **Tim:** the competitors in the market segment, they're out there pushing document verification that you either Crank the dial so you have very low friction for an end user.

[11:31] It's a quick capture, but then that introduces the potential for a lot more fraud because the, the, the, the, the checks that they're putting on the document to try to catch that it's authentic get dialed down. And then if you go the opposite direction and say, we want to address fraud and we want to make it very stringent, well, that results in a miserable user experience because they've got to capture multiple times, probably gets routed out to human review.

[11:52] And so it's it, it doesn't work well for

[11:54] **Satwant:** And then it gets expensive!

[11:55] **Tim:** It does get very expensive. I mean, that's the nice thing, too, is that we, you know, you know, from a cost competitive perspective, it's you know, we're at the end of the day. It's not just about the cost associated with, just that, that one act.

[12:08] It's also the downstream effects like you're saying with Human review or something like that. And the interesting bit too, is that our, our technology tends to, and you said it, some of the statistics the improvements in onboarding, if you think about a credit card company that, that results in, you know, revenue positive.

[12:25] There are a whole lot of revenue for companies that come along and, and implement us because you're, if you're increasing. Onboarding success you know, you get, you get 35, 40, 50 percent more people onboarding. That's, that's real revenue, especially for your listeners. This is

[12:41] **Satwant:** Yeah,

[12:41] **Tim:** not just nice from an end user perspective.

[12:43] It doesn't just reduce fraud, but it also makes money because it increases the onboarding flows for people.

[12:48] Selfie Scans: The Challenges

[12:48] **Satwant:** and that's so key. I mean, I can only speak from a personal perspective. The first time I used a selfie scan system, it was on Fido and the experience was really good. The second time I used it, maybe a year later for another. Financial product I was setting up was just hell on earth. Just didn't work no matter how I took my picture, put my face in the egg shaped thing, it just drove me mad.

[13:10] And then the third time it was kind of okay again. So not to, not to crap on them. I'm just giving an example of my personal experience. And then one of those institutions actually tried to set up, help a family member set that up, and it was a nightmare for them as well. So it was very. And it was very

[13:27] **Tim:** it, it was, You're right. And it's, and like you said, it's not, it's not to single out any vendors. It's, it's just challenging. I mean, some of it we've gotten better. I mean, it's really interesting. I think, you know, you mentioned, you touched on biometrics and the consumer's acceptance and adoption of biometrics over the years.

[13:43] I think that's, that's really helped to start to train people on how to do these things. But, but then there's just some things that are just you know, environmental issues that, that occur that make it very difficult. Or as you say different approaches to doing liveness detection introduce certain levels of friction involved.

[13:59] And, and, you know, and that's probably what you were seeing was that, you know, not, not that you're deep fake or something, but it was, it was probably the liveness detection that was causing that level of friction. It's easy to push the camera button and take a selfie. It's hard to do liveness detection and, and and then it's, and then it's all based on risk.

[14:16] You know, how, you know, do you, do you have low, low risk settings in your liveness detection? Do you have high risk settings? Those kinds of things. So I think it's it doesn't surprise me that, that you've experienced those things, those challenges.

[14:28] **Satwant:** Didn't realize you can tweak that dial, how

[14:30] **Tim:** Well, yeah, I think most of the, most of the vendors will offer sort of a they'll do everything.

[14:36] They'll do passive and active liveness detection. They have, you know, passive will be essentially just stand there and tap the button and they try to do an analysis on the image looking for, you know, flashes on the face or, you know, depth and things of that nature. And then active liveness is the kind of thing like, Oh, turn your head.

[14:55] Turn your head, look up, look that way. So it all kind of depends. And then some of them introduce flashing lights to try to, you know, different color strobes, things like that, to try to approach, you know, telling whether it's actually a face in front of it that's out to tell if it's different. And, and it's, you know, and they, they all work to a varying degree of successes.

[15:12] Like you said, I mean, if you had a Fido's approach was, was good for you once. And then some of the other vendors that are out there, maybe not so much, we look at that and say, we believe there's a better way.

[15:22] **Satwant:** Excellent.

[15:25] Profiting from the Future of Identity Verification and Commerce

[15:25] **Satwant:** the Next thing I wanted to talk about was the retail and e commerce side. I'm assuming you have retail and marketplace customers. And I wanted to ask how typically you've been involved in that side of Are retail organizations using your solution directly or maybe indirectly? So if they're selling something through say installment payments or credit or something that, that, that your solution is used indirectly in retail.

[15:56] **Tim:** Sure. I think. You know, I think about retail, think about so, so first of all, I think one, one good example of that, we have a, we have a wonderful relationship with Visa that we announced last year. And they were, we were bringing our pre fill product to their merchants. to be able to enable faster onboarding or faster checkout experiences.

[16:17] So we've put a lot of effort and focus on how we, you know, I mentioned that we're, we're, we drive a lot of our key or our authentication or our identification flows from your mobile phone. We've also put a lot of emphasis on how we can do that from email. This is typical of a, of a guest checkout experience, you know, trying to figure out, you know, how we can improve the, the, the flow.

[16:39] to make it as seamless as possible for individuals as they're onboarding. So we've, we've been driving pre fill there. I think we've we've had some, we've been penetrating into that market quite a bit. We're starting to see some people starting to really take an evaluation into the approach and, and how we can, how we can enable collecting that data for retailers without having the user input it in.

[17:01] And then expanding that outwards to look at you mentioned like Find out pay, pay later loans, things like that. How can we not only can we help enable our Customers to be able to surface that kind of information, but also can we, can we do things like help them make that information portable?

[17:19] We've, we've been talking about one of the interesting aspects of what we can do with our platform is how do we start to expose? So give me an example, maybe the best way to kind of explain what I'm talking about. Like if I, if I finance a recently, I just did a bunch of home renovations.

[17:37] Part of that was buying a new air conditioning unit. You know, I get 0 percent financing for 12 months. So I jumped at that and said, great, I get this financing. I paid it off early, but I'm still sitting with this, this financing, this, this credit that's available. Now I potentially. I'm in the market for a mattress, for instance.

[17:58] So I show up at a mattress firm and I go to buy a mattress online. Now, wouldn't it be great if we were able to surface that information as part of that user journey. Now that I'm, now that I have this, I, I, I know that I've had this this line of credit with with vendor A, and they also provide lines of credit for the mattress firm.

[18:19] Why can't we surface that data to show as part of that experience? So not only is it about onboarding but it's also about how can I start to make some of that, those things portable. So I can walk that, walk that line of credit across to another vendor and then you, and then use it and let the consumer know that's it.

[18:35] And I, you know, getting back to the value that we provide to our relying parties or customers that are integrating our tech into the merchant flows and say, how can I drive more customer usage of that credit line? By getting that by exposing that when they end up with this other vendor or this other website that's, that's selling that they want to be able to leverage that stuff.

[18:54] So it's our platform allows for that to be portable, allows for those types of attributes, which is unusual for an identity verification company. You know, we talk a lot about identity verification as being a means to reduce fraud, but I also see it from a sort of a like a forward looking perspective.

[19:11] Is that really what's going to win the day? And the identity space is going to be how do I take that identity and then bind it to something that allows me to do the, to have these user experiences across the web, to enable payments, to enable purchasing, to enable better user experiences, targeted user experiences and app, things like that, that's, that to me is where the money in identity is really going as opposed to just, oh, I need to onboard I need, I need to prove who I am to, to get into a state website or something like that. That's, that's interesting, but I think that's really being commoditized and the, the cool things that are happening are going to be around payments and, and marketplaces and, and commerce.

[19:51] **Satwant:** Yeah, absolutely. Because otherwise you, you know, what you just said there, prior to say solution like yours, you'd have to get the identity piece and then you're going to try and piece together what Prove is offering with, you know, five other solutions, right? You've got the, I don't know, consumer data SaaS solution that you've got, or this data set or that data set and you're just fusing it all together.

[20:13] **Tim:** You, you mentioned early in the podcast, this, the, this notion of the identity layer of the internet. And I, and having been in this industry for a long time, I've heard, you know, I've heard that plenty of times throughout the years, I think more so than just the identity layer of the internet, because I think that's, that's largely challenging for most people.

[20:30] I think it's how those identities, can enable you know, those global experiences across the internet is really what I, I see the value and the power that Peru brings to the table. You know, we can, we can definitively tie you to your device and to your key, what we call, we refer to it as a key. So I can look at this as a key and say, now I've bound you to this, this phone device and I can when, now when I go and you see that, I know it's Tim using it and I, I can enable.

[21:00] Some very interesting use cases like an enable, you know web wallets and, you know, credit card experiences and, you know, all these different types of things can be pulled together based on the fact that we know it's Tim tied to that identity and we have an authenticator that's bound to it. You know, a passwordless experience that's driven by local biometrics on device.

[21:18] So. That in turn enables a bunch of you start the sky's the limit as to the things that you can do from there. You can start to say, Oh, wow, I can, I can have this really pleasing user experience when they step in. I can make lines of credit portable. I can, you know, I can enable. Seamless purchasing.

[21:35] I can start to enable you know, top of wallet you know, experiences where, you know, not only are we providing a wallet, but we're also looking at how we can, you know, structure that wallet and provide, you know first choice ranking for credit cards and things, you know, certain credit cards that have more points and, you know, the sky's the limit from a, from a merchant in a, in a commerce perspective.

[21:57] **Satwant:** Absolutely.

[21:58] From Payphone to Prove: The Company's Evolution

[21:58] **Satwant:** A key point that you've hammered home multiple times, and it's my fault for not mentioning it earlier, is the history of your company. So it originally started as Payphone, if my research is correct.

[22:08] **Tim:** That's

[22:09] **Satwant:** it'd be great if you could maybe touch on that very briefly, how Prove ended up going from there to where you are today.

[22:15] what originally drove the Payphone solution, whatever that was, cause I don't really know.

[22:20] **Tim:** Sure, sure. So it's interesting the, you know, I'll, I'll, I'll do my best to recount the founder story of how payphone came about there was, you know, certain, certain geographic markets globally that lacked credit card data, like credit cards but we're buying these iPhones early on with paying for minutes through their, their mobile operators our, our founder came up with an approach to.

[22:45] Monetizing those minutes to be able to enable purchases and thus the name Payphone was born. So you, you would say, Oh, I have, I have a hundred, like a hundred minutes left on my plan. That's worth a certain amount, you know, X dollars. I can, I can now turn around and monetize that to to buy songs on iTunes or, or, or apps and, you know, to download you know, because I don't have a credit card.

[23:07] So that, that, that was sort of the, the, the genesis of what, of what Payphone was early, early designed to do. We, we joined up with Early Warning Systems, which is this sort of consortium company for the, the major tier one banks here in the U. S. And we started being a technology provider to Early Warning.

[23:26] And we were in that position for quite some time. You know, basically early warning selling it to the banks. We were selling it to the banks as well. These all the tier one banks here in the U. S. Several years ago the contract with early warning ended. And we decided that it made sense for us to Take the lessons learned that we had from, you know, selling into those banks and, and building up this rich technology stack to be able to support early warning and the work that they're doing to bring those to a variety of different other, other verticals and start looking at how we could do things like pre fill, like do a seamless identity verification flow. You know, we still, you, you mentioned sort of the, the sort of the stable of things that we sell. We sell those ingredients to make these things happen, but we also sell solutions that are built with those things that, that, that are in a standard that are wired together in a very standard way. That addresses a majority of the use cases that are out in the market.

[24:18] So when we, when we made that switch from payphone. We became Prove Identity, which for my money is probably one of the best identity names that are out there. It's out there. I thought I'd tell our CEO all the time. I'm like, this is a great marketing move by calling us Prove. You're proving identity.

[24:33] It's, it rolls off the tongue very well. So we joined Prove. You know, we became Prove and we started looking at how we then in turn So, you know, selling into not just the banks, but also bringing the the good word of proof to other, other verticals and, and looking at how we could apply them to things like credit card onboarding or merchant onboarding or online gaming you know, you pick, we've, we, we are pretty much in those verticals.

[24:56] How can we enable healthcare onboarding, those types of things. So there's, it's, it's applicable across the board.

[25:02] **Satwant:** Thanks for that explanation. That was really interesting, actually.

[25:05] Exploring Passwordless Authentication with Prove Auth

[25:05] **Satwant:** Um, I want To move on to the convenience of your platform for end users. So, one of the parts of your solution is called ProveAuth which helps people go passwordless. And combined with that, I noticed on your LinkedIn profile that one of your job roles, I think it's current.

[25:22] Role as well.

[25:23] The Role of FIDO Alliance in Eliminating Passwords

[25:23] **Satwant:** You are part of the Fi DO alliance,

[25:25] so if anyone listening doesn't know what that is I believe that's a industry set of players that have got together in tech to eliminate password. So more of an industry standard approach rather than tech companies doing their own thing. So it'd be great if you could talk about both of those and if they're even interlinked if, if the proof solution was developed because of that.

[25:45] **Tim:** For sure, for sure. Yeah, I want to just briefly I was when I was at my previous employer, I, I was our board representative for FIDO and then proved rejoined FIDO, the FIDO Alliance last year. And so we just became a board member again, and I'm our primary board member, but I'm focused on how interestingly enough, you know, we talked about the differences in identity verification between doc verification and and what we do, what Prove does today, this sort of, this very frictionless approach.

[26:14] When I was at, when I was previously on the FIDO board, I was part of the ID working group, which is really focused on how do you bind an identity to a FIDO FIDO token or a FIDO key? We were focused on, at that time, heavily focused on doc verification and selfie matching that's still ongoing but the, the proves a big part of what Proof's trying to do is, is help provide like education and input on on newer ways to approach that problem.

[26:40] And so we're helping, we're still engaged in ID Working Group, and they've got a, an ID, an ID Next effort that's really looking at how. These other signals can be used to do identity verification. So we, that's where we kind of leverage, but, but for the listeners FIDO, you're right.

[26:55] Understanding Passkeys: A Leap Towards Secure Authentication

[26:55] **Tim:** So FIDO stands for Fast Identification Online.

[26:58] So it was founded a handful of years ago with a number of different approaches to doing Establishing authentication. We, FIDO2 being the most recent, which actually most people will probably be familiar with it as Passkeys, especially if they track the authentication market at all. A couple of years ago, the Alliance decided to rebrand what was called FIDO2, the FIDO2 standard into what they call Passkeys through a big support with Google Apple and Samsung.

[27:27] They were very much interested in making those not just strong authenticator on the device to replace passwords, but making them portable across your user, your own ecosystem of devices. So Passkeys was was chosen as the name and really focused on it. Conceptually, the idea behind Passkeys is that rather than me have to remember, A hundred passwords or store a hundred passwords and a password manager, you know you know, come up with some random collection of digits.

[27:52] I can use cryptographic surety to be able to, to establish a passkey on the device when I create my account. And that sort of look, you, you know, I, I use here in the us. I don't know. We have Wayfair as a good example of. PASKEYS, that was one of the first first implementations, one of the first implementations of PASKEYS that I ran across actually was, was at Wayfair.

[28:12] I, I happened to be out buying new furniture for a house I was, we were renovating. And I was getting ready to say, Hey, do you want to not have a password? And I said, Hey, this is neat. I know what this is, right? It's, this is PASKEYS. So I, I set that up and, and basically, Rather than put in a password, I just click the button and say, create my passkey.

[28:30] It, it does a local biometric match on the device. So using my face ID on my, my, my iPhone biometric never leaves the device. You don't have to worry about it being lost or stolen or anything like that. There's a set of keys that are created on the device. The private key sits on the device. The public key leaves and goes back to the server.

[28:48] Now when I come back to the Wayfair in this example, I authenticate. I do a match on my face on device. The private key on my device signs a message, basically, and sends that off, and then the signature is validated on the backside. And that's, turns out, to be much stronger than doing passwords, because it's not phishable.

[29:09] So nobody can actually ask you to that message in and of itself isn't useful to a phisher the, the real piece of importance is that private key that sits on the device and that can't, that can, can't be extracted from the device without destroying it. So that, that's sort of the, the beauty of it.

[29:26] It's a, it's a non phishable technology that does away with having to remember all these passwords and, and relies on technology that's on your device.

[29:34] Prove's Approach to Identity Verification and Passkeys

[29:34] **Tim:** Now what Prove does we, we do a, we strongly bind that, that identity component to the device. Through a lot of the things I've talked about, you know, the, the, whether you're in possession of it, you know, what the reputation is, is, are you indeed owner of that device?

[29:50] And then we issue a passkey on behalf of the merchant site or You know, for log on or for whatever the use case is going to be. Then next time they show up, you can use that. And the benefit is not just that I've replaced the password because passwords don't have an inherent identity attached to it.

[30:05] It's but that I'm using this as a sort of as a an indicator of my identity now. So it's a strongly bound. I, I strongly bound identity to that that authenticator. So every time I use it subsequently, we are able to into you know, basically assert that identity and, and push it forward in the space.

[30:24] So that's, it's really, it turns out to be a very strong way to be able to do things like for recurring visitors, or if you've got a brand that Potentially has you know, you are a, an onboarding brand or, or let's say you're, you're a scheduling brand and you, you work with a number of different customers, then you can do a federated, one of the token like this that allows you, your users to authenticate once or, or onboard once and that, that in your experience and then carry it across and federated across all your customer's experiences too, which is kind of a neat, a neat approach to doing authentication.

[30:54] But

[30:55] **Satwant:** Excellent. Well yeah, I'm seeing more retailers, especially, I mean, just in my example, eBay, I mean, I've still got my username and password, but it's hammering me every time to, are you sure you really, really, really don't want a passkey? Like they've, they've done the workflow in certain way that.

[31:11] **Tim:** it, it is.

[31:12] **Satwant:** press another button.

[31:14] **Tim:** Yeah, it's, it's very interesting. I mean, I think it's a, it's a, it's a world where once you get people going in that direction, it becomes, it becomes quite self evident that it's the right thing to

them, for them to do. You know, I, I, you hear too often, the great thing about it is that you can't fish it.

[31:31] I mean, to me, for as a, as a, an identity and authentication geek I think it's, it's the, the great part about that is that, you know, my My parents or my friends can't receive an email saying, Hey, click this link because this is, you know, Bank of the USA, but it's spelled slightly incorrectly and they don't catch it because it's got some weird character.

[31:53] And, and, you know, haven't been they click that link and then give away their password. You know, That's the best part about this, is that it goes a long way to addressing rampant fraud in the industry. But it also I think you can start to see like some really interesting use cases that start to enable, you know, powerful interactions with consumers and making their, making their identities, their identity and their data portable so they can start to interact across the internet with security in mind and convenience.

[32:24] The Future of Authentication: Trends and Predictions

[32:24] **Satwant:** There's a few things I want to talk about next. But before I do in terms of your platform and really messaging for any business listening that wants a better solution to convert more, sell more and more easily at a lower cost. Is there a key message or anything you want to get across that I might've missed?

[32:40] Enhancing Business Solutions with Prove's Identity Verification

[32:40] **Tim:** I, I think if you're looking for ease of onboarding for your consumers and for your businesses, you know, you mentioned you were, you were interested in talking about prefill for our small and medium businesses product that we released last year. You know, whether it's, whether you're onboarding consumers, you're onboarding principles of a company into a B2B commerce you know, our, our prefill and our identity solutions that we have do it quite easily.

[33:03] And, and the good news is you're not sacrificing any, you're not sacrificing any fraud or, or not worry about fraud because it's the, the flows have been proven to show that they, they have high success rates, low friction high conversion rates while doing it with a very low fraud rates, which is, which is largely unheard of in the industry.

[33:23] It, you're normally sacrificing one for the other.

[33:26] **Satwant:** Great stuff. Okay.

[33:29] Impact of Governments on Wallets, Centralisation and Decentralisation

[33:29] **Satwant:** So as we're heading towards the end, I'd like to talk about some fun stuff. So you said earlier, you said earlier that, you know, you're always looking to where the puck is going. Saying that to me is like showing a red flag to a ball. I love that stuff. So I'm definitely gonna ask you if you can, if you can talk about where you think things are going in payments and this sort of space in the next sort of six to 12 months.

[33:51] **Tim:** Wow.

[33:52] **Satwant:** Given also that you said earlier that you've been in this game for a while, many years, it'd be great to hear some crazy stories. If you're dealing with criminals in that world, I would love to hear some, some crazy stories that you might have, one or two, maybe.

[34:05] **Tim:** Yeah, I so that's funny. So let's, let's, let's start from the get go there. Yeah, where the puck is going. I, I actually, I'm, I'm, I'm keenly interested to see how successful the, the European unions move to decentralization is going to be, right. They've, they've clearly articulated that the, the member states have to focus on protecting consumer privacy and, And improving experiences for certain verticals.

[34:35] So it's, it's largely government mandated that's driving, you know, I think it's if I remember correctly you know, healthcare, travel, banking, and government services are the four main verticals that the EU is looking at to be able to say, Hey, look, these are perfect. And they're ripe for using an identity wallet.

[34:52] And using digital credentialing to be able to experience, for the user experience, be able to do data release and you know, consented data release and rather than, you know, having a having your data farmed. And, you know, and I, and I think we're starting to see a little bit that in the US at the state level.

[35:08] You know, we're getting these protectionist, consumer protectionist laws being passed that are focused on, you know, how do I, I mean, in the news has been a lot about age verification that it's been you know, really kind of closing the grips on how onboarding people into, you know, avoiding onboarding minors into adult sites, things like that.

[35:27] You know, Trying to improve the ability to tell who, how old somebody is behind the phone. I think we're starting to see a world where, those types of decentralized credentials may play an important role in that. But I do think that there's that's going to be interesting to watch, right?

[35:42] I think the, the, the wallet wars, if you will, where identity ends up. It's going to be quite interesting whether that ends up in an OEM wallet here in the U. S. or EU wallets and, you know, specific state based EU wallets and, you know, globally that I think that's, that's probably not so six

to 12 months, that's probably 24 to 48 months out as we've seen some of those regulations occur, but it's definitely an interesting place.

[36:06] It's you know, it's a, it's a move, it's a seismic shift from identity, from a centralized perspective to identity. from a decentralized and consumer controlled perspective. And I think that, that in and of itself is interesting. And we see in the US you're seeing that somewhat in the, the driver's license and mobile driver's license space.

[36:22] You're seeing a lot of, a lot of adoption putting mobile driver's licenses and, and the OEMs are doing their, their, their best to help and help accelerate that with use cases like travel. So that's been kind of interesting. I think other, And given that this is an election here in the U. S. I think another thing that's very interesting to me is the the, what is going to happen with deepfake technology, you know AI generated video and audio.

[36:50] I think there's been a number of there have been a number of challenging challenges. Occurrences recently that have been well documented in the news. There was the, the, the zoom incident that resulted in a 23 million loss to a company. There was the on somebody onboarded with an AI generated driver's license into.

[37:06] Into a crypto exchange. So I think you're gonna start to see more of that in, especially in technologies that are really focused on image based capture. You'll start to see, you know, those types of attacks occurring and that's gonna be disruptive. And it's gonna be disruptive not just to You know, I did onboarding experiences and, you know, at the level that we haven't seen before, but it's also going to be disruptive in our normal lives just from what the news we consume and related to that.

[37:34] It's interesting. There's there are some initiatives in the creative space. My wife is a creative and she's a graphic designer artist. So she's always looking at how. How do I, how do I attribute her identity to the, the, to the creative stuff. The creative things that she, she makes and pushes out into the world.

[37:52] There's, there's an effort in, you know, being led by Adobe and companies like that, that are trying to add a sort of identity provenance to data that are to imagery Videos and that type of thing. That'll hopefully go a long way to helping us combat some of these these suspicious videos that are being pushed out onto X or onto Facebook or into into the news that hopefully there are, there are identity attestations out to who actually created it.

[38:17] Whether, whether was it created by, was it video created by soa? Right? Things like that. It's like those, those types of attestations will start to carry along in the video, and I think that's gonna be. That actually, I think, we'll see a lot of movement on in the next in the next 12 months, I think there's going to be, especially given the importance of, of the election here in the U.

[38:35] S. and, and the, the, you know, troubling trends in in fraud and, and creating, creating bogus data that's getting, that's leaking out into the web.

[38:42] **Satwant:** Yeah. One example of what you even said about the sort of standardized wallet. I used to live in Australia and they've got myGov over there and they created that I mean, obviously the scope of a project like that's quite big, but one of the areas of that from memory was you shouldn't have to provide the same things again and again, if you're opening a bank account or this or that.

[39:02] That private businesses or banks should be able to tap into that data set which has been done already rather than everyone have their own in Fido or this or that, you know? So yeah, I mean, it did make a lot of things more convenient, as I was using it, but after they introduced it and it was quite good.

[39:19] But yeah, it's all about how the law and privacy and all that interact in different countries, isn't it?

[39:26] **Tim:** It is, it is. And I think you you hit on something. I think there's there's also a movement to, and, and, and you're seeing a reaction to this in the U. S. on the, a lot of these age based verification attempts or, or the laws that are trying to, to force age based verification. You know, you're seeing industries pull out of certain states and, and a big reason why is people don't necessarily want to share their PII.

[39:47] You know, you know, getting back to the doc verification. We, why, you know, we live in a world where breaches happen and it's like if I send it, if I'm sending an image of my driver's license off to a company that's going to process it to, you know, are, are they keeping it? How long are they keeping it?

[40:06] What security is in place to be able to handle that? Is the data encrypted? You know, there's all these questions that pop up. And that we all should be asking so really kind of that move towards a credential that allows for it to, you know, you to be able to assert that the, you know, you hear a lot about zero knowledge proofs in, in the crypto space you know, similar, like how can I, how can I assert my, my age my state of residence, my country of residence, how can I do those things without having to release any PII to you and you can trust it.

[40:33] I mean, I think that model is going to be that's sort of implicit in what the EU is trying to drive to. And I think we're going to start to see a lot more of that in the US as well. And, and those types of interactions. Certainly, now that's one of the big things that we're trying to do at Prove is to make that identity as portable as possible and be able to handle those types of, those types of things for you.

[40:53] Those use cases as you travel as a consumer across the internet. So,

[40:58] **Satwant:** Just popped into my head a line from the Team America movie, Freedom Costs a Buck O'Five.

[41:07] Entertaining Anecdotes from a Career in Identity and Authentication

[41:07] **Tim:** So you know, you asked the other part of your question there was interesting stories. I you know, we've got it there. Yeah, it's, it was, it was interesting. Some of the forensic software that we, that we created was used by the U. S. To, to for, you know, bringing back a lot of the forensic material from, you know, Afghanistan and Iraq.

[41:24] And it was, it was very interesting to see those you know, that, that, that the use of those, of our tool puts you, those tools being used in, in like very high risk scenarios where you know that there's a life or death situation on the backside. You know, you're trying to quickly identify the person who, you know, created an IMD or something like that.

[41:45] And and those, you know, ID and, and those are That was actually kind of that really struck as, as of importance. You know, it's not quite a, a sexy story, but it was just, just being there and seeing interacting with the teams that were responsible for making those split second decisions based on the software that we were building was pretty, was, was pretty interesting.

[42:04] Yeah, I, I try to think about some of the other things that have been no, no, we've, we've there's Something I could share from a biometric perspective. I, we did one, we, we, it was funny. We actually I had a boss and this is just a funny story. I, I, I had a boss back in the two thousands and we, we were looking at how we could bring face recognition as a SaaS platform.

[42:24] And so there was a lot of interest in certain, like we, we had talked to a customer, a dating customer, who said, look, you know, what we really want to do is say, all right. You know, we want this person to look like, you know, I'm somebody who's looking for a dating profile and I want to say, I want them to look like Brad Pitt, right?

[42:43] So that's what we want to give you a picture of Brad Pitt and we want you to search the, our, our, our dating profiles and come back with everybody that looks like Brad Pitt, right? And then we're going to serve those up to whoever's trying to look into that. And so of course we were collecting all of our data and And putting together like, you know, test databases with our own photos and things like that.

[43:04] And so we started searching with Brad Pitt and our boss got hit. And then of course we never heard the end of it, right? So he always looked like Brad Pitt. So he kept the picture of Brad Pitt up. So yeah, it was, it was, it was kind of funny. It's always, it's always cute to see when, you know, you're like, oh yeah, you look nothing like Brad Pitt.

[43:18] Trust me on this. But but it didn't, it didn't

[43:21] **Satwant:** the very first attempt at catfishing.

[43:23] **Tim:** Yeah, exactly. Exactly. But yeah, it's, it's it's been a, it's been an interesting career. Lots of lots of interesting, lots of different things that I've encountered over the years, whether it's customer use cases, like, you know, early fingerprint implementation that we had, we targeted doctors, we tried to get doctors to use it as a way to log on.

[43:42] But at that time it just wasn't fast enough. You know, passwords were much faster. So that that kind of fell by the wayside. This was back in like 2000, 2001. You know, just, you know, Yeah, I know another one. This was actually up to me. I had, we were doing testing of our forensic platform. And of course I, I ordered a fingerprint dusting kit and I, you know, dusting my own fingerprints in the office, pulling my thumbprint off of it, and then seeing if I could match against my, against my 10 prints in the, in the system.

[44:13] And You know, it was fun. It was cool to do that. You know, my son thought it was great. He got to, got to see, like, thought I was like a CSI guy but I was very clumsy at it. But the worst part about it was that system got boxed up and shipped over to a customer in Indonesia. And I went over to do training and I opened it up and I was like, Oh my gosh, my fingerprints are here.

[44:33] Who sent this over? And I, and I'm always fearful if I ever go to, if I ever go to Bali on vacation, I'm going to walk through and be like, and then the police can be like, wait a minute, we have your fingerprints on file. That happens to be in this unsolved, unsolved crime database. That was just simply a simply, simply a test.

[44:48] **Satwant:** like hitting the go directly to jail spot

[44:51] **Tim:** Yeah, exactly. So if anybody's in Bali and they're listening and they work for the government, please delete my fingerprints. Right. That's

[44:59] **Satwant:** Stick to stick to vacations in Hawaii, I

[45:01] **Tim:** yeah, exactly. Exactly.

[45:03] **Satwant:** Awesome. I could talk to you for hours. So I think We've had some great conversations there.

[45:08] Final Thoughts and How to Connect with Prove

[45:08] **Satwant:** So what I'd like to do now is, is just sort of summarize if, if anyone listening wants to look at your solution, maybe to implement it, perhaps the way to get in touch with you guys through the web is prove.

[45:20] com on Twitter. You guys are at ProveIdentity and I wanted to ask you if you do demos or webinars, or if you've got any events coming up, if you wanted to share anything like that

[45:32] **Tim:** so yes, so prove. com is correct. Certainly you can reach out to me it's tim. brown at prove. com. We have a we actually have a wonderful customer event that's coming up in April at the end of the month. So if we have any, anybody stateside that like to join us in Charlotte, you can reach out to me about that as well. It's And we are we also have a number of events going on throughout the year.

[45:55] We just had a great happy hour event in DC. We have plenty of these things going on. I encourage you not just to, to go out and look at our website, but also to, to connect with us on LinkedIn. Our marketing team does a great job of pushing all those events out and making sure that people are aware of what's going on.

[46:14] And so we always love to see new faces and I think you'll find a very exciting crowd to talk to from, you know, new technology. We love to talk about what we can do with our products.

[46:26] **Satwant:** Imagine your events are full of people with hoodies. Is that right?

[46:29] **Tim:** No, not exactly. I mean, I don't know, we, we get we, we, we actually have a, like our customer event is going to be a lot of banks. I don't address code at all the banks anymore, but not so much hoodies, but no, we get, we get some interesting conversations. I mean, personally, you know, the events that I go to probably more so get more into the weeds, but you know, for a lot of the events that we, that we, that our buyers that show up to the to the events, it's it's a great crowd.

[46:53] Yeah. A lot of interesting faces and a lot of interesting people that we interact with.

[46:58] **Satwant:** Great stuff. Well, I'll share all the links in the show notes and we will move to the final question, a light one, before we end.

[47:06] Chit Chat

[47:06] **Satwant:** I always like to know what people are reading or listening to, or watching that they're enjoying. I, I, Literally the other day, watched the BlackBerry movie. So if any of you have watched the Steve Jobs movies they were great, but the BlackBerry one was absolutely hilarious.

[47:20] I just did not realize what a character the ex CEO of BlackBerry was. So I'd recommend that.

[47:25] **Tim:** Yeah, I agree. I watched the Blackberry movie on an airplane a few months ago, and it was, it was fantastic. Wow. That's so not at all topical to this conversation, but I am absolutely loving Shogun. It is, it is a, I have, Having grown up in the 70s, I remember the original teleseries. And yeah, this is the, this Shogun's doing a great job with it.

[47:51] It's fantastic. We've also just started Three Body Problem. So it's a sci fi fan. Also great. So those are, there's a couple of things that I'm, that I'm getting into from a TV shows perspective.

[48:03] **Satwant:** stuff. Well, thanks so much, Tim. I really appreciate your time. That was a very fun conversation. And we'd love to maybe carry on one day again either face to face or in another episode. So thanks so much. I wish you all the best in future and yeah, all the best.

[48:19] **Tim:** Great. Great. I appreciate it.