AT Banter Podcast Episode 314 - Brandon Biggs and Audio Mapp...

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SPEAKERS

Rob Mineault, Steve Barclay, Brandon Biggs, Ryan Fleury

R Rob Mineault 00:17

Hey and welcome to a another episode of AT Banter. Banter, banter. Ooh, wow, was that like a pedal? Did you hook up on a drum pedal to the cowbell?

R Ryan Fleury 00:30

No, I actually hit the mic with the drumstick by accident and then bounced off and hit the cowbell.

R Rob Mineault 00:42

Maybe we need to get him a drum pedal for Christmas. There we go. Yeah, you get a cymbal. We can do a whole thing. Hey, this is of course podcast where we talk with advocates and members of the disability community to educate and inspire better conversation about disability. Hey, my name is Rob Mineault. And joining me today Mr. Percussion himself Mr. Ryan Fleury.

R Ryan Fleury 01:10

Hello again.

R Rob Mineault 01:12

And look who it is. We also have Mr. Steve Barclay. That would be me. And no Lis Malone this week, I'm afraid. She will be missed. And we own and we're not just saying that because she listens to the show and will bust us on it if we don't say that's totally from the heart.

R Ryan Fleury 01:39
No Bryan Adams song?

R Rob Mineault 01:46
How are you gents? Are you guys already for Christmas?

R Ryan Fleury 01:49
Nope.

R Rob Mineault 01:51
Hardly not at all. Yeah. So you guys haven't started shopping or doing any of that stuff? At all?

R Ryan Fleury 01:57
I've started.

R Rob Mineault 02:00
Yeah, but Ryan, you just you just go on Amazon.

R Ryan Fleury 02:05
Pretty much, Steven. I used to go hit the mall.

R Rob Mineault 02:08
We can we can again.

R Ryan Fleury 02:10
That's true. That's true.

R Rob Mineault 02:13
Yeah. Yeah. And what about you, Steve? So you haven't started at all? I've done some. I've got

Yeah. Yeah. And what about you, Steve? So you haven't started at all? I've done some, I've got a bunch of stuff for stocking stuffers. But that's about it at this point in time. Yeah, hit that dollar store for those stocking stuffers. They should really they should just call the dollar store like the stocking stuffing store. Well, very cool. Yeah, I started. No, not at all. Nothing. I can't even believe it. It's the seventh already. You'd see you know, the first week of December is already gone. It's just nutty to me. So I guess I better get my butt out there and figure out figure out what to get. I hate the idea of going to the mall again. Only 17 shopping days left.

R Ryan Fleury 03:10

Three months till spring.

R Rob Mineault 03:12

There you go. All right. Hey, Ryan. Enough of this. Why don't you tell people just what the heck we're doing today?

R Ryan Fleury 03:25

Well, our guest today is Brandon Biggs, who is the CEO of XR Navigation to tell us all about mapping and tactile mapping and audio mapping and all that good stuff. So Brandon, thanks for joining us.

B Brandon Biggs 03:40

Thanks for having me.

R Ryan Fleury 03:42

Glad you could make it.

R Rob Mineault 03:44

Yeah, we, we love the idea of mapping. I feel like this is this is definitely a still a developing field. And it's going to be really exciting when when you know, this can really this type of technology can really spill out into the community, because it's going to be huge. So maybe if we could just start by just giving us a little bit of a little bit of background on yourself.

B Brandon Biggs 04:13

Yeah, so I am kind of an entrepreneur slash researcher, I guess my background, I got my Bachelor's in Music, my master's in Inclusive Design, and I'm currently getting my PhD in Human Centered Computing. So I'm definitely completely immersed into this inclusion space

and ultimate technology space. I'm also blind myself, so it's kind of personal. I'm very motivated to to you know, find solutions to two problems that I'm seeing within the Assistive Technology space and Technology space in general. So I am part time or researcher at the Smith Kettlewell Eye Research Institute in San Francisco. And I'm kind of splitting out a company based off some of the technology that we've built there into XR Navigation, which is my company focused on non visual mapping and non visual virtual reality. So that's kind of a background on me.

R Rob Mineault 05:21

So what made you sort of focus in on the on the idea of mapping and navigation? Because it seems to me that that's, that's a has been anyways, historically, a really tough nut to crack. I know that a lot of companies are, have tried and are still trying. And, you know, there's a lot of lot of good stuff out there, but it just hasn't really quite filtered through down into the mainstream. What kind of made you focus in on this?

B Brandon Biggs 05:51

Well, I think one of the reasons why the technology hasn't really filtered down and become mainstream yet, and why have a good solution hasn't been developed is because blind people haven't actually tried to solve the problems themselves. And so there's been a little bit of research on mapping. So it was originally like, non visual presentations in general. And there's kind of a lot of research on graphs and charts. And actually, where I'm getting my PhD is at the Sonification Lab at Georgia Institute of Technology, which is where most of the research on non visual graphs and charts has been done. And there's currently a company called HighSoft, with our high charts mapping library that is commercially available, you can go get it right now, put it into your website, and you can get a very good scientific foundations for your graphs, and they keep improving every day. So I actually work with him a lot, as well. And so the problem is it's not completely solved, but it's much better at being solved in the mapping solution. When I was, in my Master's Degree, and looking at, you know, what kind of things weren't sold at all, that it was basically maps. Like, I had never seen any kind of map digitally at all ever. And, and so that was, that was a big, big, huge draw. And, you know, when I was looking at this space, and I was saying, Okay, what is this information that is in the data, so I was reading a lot of raw map data files, and saying, okay, what am I getting here that I am not getting in these representations? I've made a connection that this is pretty much an audio game that, you know, has like spatial information, and, you know, you've got these different objects, you know, features around the map. And, you know, I could, I could really use some of these audio game conventions that blind people have been using for a really long time to do, you know, first person shooters and, and strategy games. And I can apply that into mapping, which is outside of the context of audio games. And so that was kind of the foundation for the audio mapping technology that we're using today. And so the people that I've hired on my team are, have developed audio games in the past, and are really, within this this auditory gaming space. And so that's kind of the foundation for the technology and why I chose maps.

R Rob Mineault 08:43

So I just want to I want to step it back a few steps. Sonification, when you when you use that term, because you've used it a few times now, can you kind of explain just what what that

means?

B Brandon Biggs 08:55

It's data visualization, but through sound. So if you have charts or diagrams, like a boxplot, or a scatterplot, or a line chart or a pie chart, how do you hear that information in audio, that is the study known as sonification. And so in for sighted people, that is the study of data visualization. And then Sonification is the auditory element of that. And kind of the special thing about Sonification is that everybody has the ability to listen to Sonification through their, you know, their computer and headphones. And that's it. That's all you need in order to listen to Sonification stations.

R Rob Mineault 09:39

So taking that then and applying it to maps seems to be a no brainer. Is it sort of that easy to just take that technology and sort of apply it to something like navigation?

B Brandon Biggs 09:52

Sort of. So Sonification has focused primarily on graphs and charts so or, you know, representing real time, kind of data, data streams. And so it's been more of a theatrical performance. And so like, say, for example, you go and search YouTube for NASA Sonification, as you can hear different kind of YouTube videos of sonifications that NASA has put out. Those aren't very useful. And so a lot of the sonifications that have been coming out of like, there's a conference on this called the International Conference on Auditory Display, have been very much kind of balancing an act between being a kind of theatrical performance, and then being something that can actually be used to, you know, query detailed information about graphs. And sometimes, you know, if they both can be there. And sometimes, you know, this, what's useful to somebody might be useful to another person, but you know, it's the kind of sonification that are required for a map are different than that. You have to be able to interact with the interface and really explore and control. We call it the Avatar. so you have a little Avatar that you're moving around the space, and you can move around using like your arrow keys, or your your gestures on your phone swiping or something like that. And you can navigate around this, this map, every time you press the up arrow key, move north, however many meters you want to move. And when you press the right arrow, you move east, you know, however many meters you've set to move, and so on, and so forth. And as you move over different objects, we've got like sounds that will play. So like when you move up a road, there's a sound of a footstep hitting concrete, and you'll hear speech saying the name of the roads like Fillmore Street. And so that's, that's one element of sonification, we also use this thing called 3d Audio, where you can turn on surround sounds and hear what's around you. And you can hear like the sound of plates clinking and people talking, that are representative of a restaurant, and you can turn your your character and walk towards that sound, and basically be able to kind of scan around your head and hear what's around you. And you can also scan speech as well. So anyway, we've got all these different elements of interactivity that you can do to query our sonification.

R Rob Mineault 12:54

You mentioned the fact that you thought the problem, the reason why this technology really hadn't spilled down to the mainstream is that, you know, really, the blind community really hadn't taken a stab at this and developed it. Can you can you sort of talk a little bit more about that?

B Brandon Biggs 13:11

Well, it's kind of like this, this thing, where, you know, why haven't? Why haven't people explored your telepathy? For example, it's, it's really hard for somebody who's never experienced it to know that it's a thing that you shouldn't try and do. And so, you know, when bind people talking about maps, the only thing they ever have experienced is a tactile map. And when blind people create, when blind people create audio games, they use something, they don't really call it maps, per se, they do call it maps, but they they will create tile, grid based interfaces for for those in text editors. And so they will like manually create these things. And then, you know, and have a record representation as you're navigating around. There has been a few projects that have been fairly small that has come out of the audio game community. Before looking at maps. There's, I think, one audio game that's kind of famous, called Eurofly that has a really nice, like country map. But I think the reason why what we're doing is is much different is because we're using the web, and traditionally, audio games and audio interfaces built by blind people have been for Windows only. And so they haven't really been applicable outside of the Windows environment. And so technology has advanced enough so that we can actually do this in the web browser and interface with existing data sets and SDKs that are out there. Software development kits that are out there for maps. And so that's we can be a plugin for different mapping tools that are existing. And we can be inserted into any website or any app, because we're based off of web technology. So I think that's really that's that's to be honest, is probably one of the biggest innovations we did was move all this information to to the web, and then really focus on this mapping experience.

R Ryan Fleury 15:39

You mentioned, you could plug into a website. So if you wanted to visit your local mall, and that mall had your plugin installed, you could do a virtual exploration of that mall in an audio format, correct?

B Brandon Biggs 15:52

Yep.

R Ryan Fleury 15:53

So what are we waiting for?

B Brandon Biggs 15:59

Yeah, so there's, there's that there's a few elements that that kind of need to be in place before, you can explore in as much detail as you want. So first is the we need the data. And the that's, that's kind of the first step. So there are companies, a lot of different companies out there doing like indoor spaces. And sorry, let me let me caveat this, there are two types of maps, there are thematic maps, which are like maps over the US that shows statistical information like choropleth maps, you know, where you see COVID cases in your county, and that's kind of layered over the US. Then there's referential maps, which are like the maps of a Mall, where you can kind of learn about routes between point A and point B, and you know, kind of explore the topological features, the different features around you like, here's the door, and here's the bathroom, and all that kind of stuff. So they each require different ways of obtaining data. And so the first step is get the data and for buildings in particular. One way to do that is to work with companies. There is a company that we work with called GoodMaps, and they do turn by turn navigation. But the really interesting piece that they do is they go out, and they scan the whole building with LiDAR, and then they create a two dimensional map in a mapping format that our mapping tool can then use. And so the first step is to get the data of the Mall. And so that's it, we really just need that that data. And then once that data is created, we'll go through and just make sure that things are mapped and named correctly. So in audio, for example, everything needs like a name attribute. Because if you're looking at just like a box, it's kind of hard to figure out what that is. And so we try to name it, like this box is a women's restroom, so we have some context for it. And then we can also add sounds to that map, and stuff like that. And then we give the the people who want that map, we can either post it on our website, or we can give them a link that they can insert into their app or website, or we can embed it into their website through our software development kit.

R Rob Mineault 18:34

And so do you sort of see the solution behind all this? Is it? Is it a multifaceted solution? Or do you feel like just somebody somewhere needs to take all of these different pieces that have been developed, and put them into some sort of one ubiquitous navigation app, whether that's, you know, something that Apple actually comes out with on their phones, and then Google follow suit, just so that there's just something that everybody has sort of access to in terms of accessibility? Or do you see this as being sort of a community driven, open source solution?

B Brandon Biggs 19:16

I definitely see a want, a tool can be embedded into any app. So if Apple wanted to embed it, they can. Definitely open for conversations. If Google wants to embed it into their mapping tool, definitely open for that. If ESRI wants to embed it into their tool, you know, we're definitely built for that. So that is kind of our - we want to we want to partner with these big companies to kind of get our audience tool into all these ubiquitous mapping platforms. And that would be kind of the ideal situation. So we started with high charts that HighSoft, the company with they have a mapping tool as well. And so we're I'm in the midst of working with them. And then also these apps, like you mentioned, GoodMaps, we're also kind of working with them to embed our map into their, their, their app. And so we've been applying for different grants and funding through through the government and other places to get our tools, continued development and integration with with our map into these these existing technologies. But we do have a website that you can go and kind of experience audio for yourself, www.audiom.net. And you can go in and log on and search for any address in the world and get a map of that location.

R Ryan Fleury 20:45

In your experience so far, I know GoodMaps has been doing this for a while now. And there are slowly other companies coming on board and mapping indoor spaces. But you know, some of the barriers been the cost of standalone LIDAR cameras. Are our phones smart enough now with LIDAR to be able to scan indoor spaces? And can we source the community for more more data?

B Brandon Biggs 21:10

Almost. I think that GoodMaps is working on a solution for phones, actually. Because they don't they want to cut down their cost of you know, sourcing that as well. So it is something that is happening and should be here very soon. I don't know when it'll happen. But, you know, absolutely. Data is the most important piece. Another element to this is that blind people actually want different types of data than sighted people. So I've done a couple of studies, where I've asked blind people, you know, what would your ideal navigational solution kind of include? And what kind of data would it have? And blind people want doorways. Like where's the door? They want the sidewalk information, the shoreline information. What's on the border of the sidewalk? Where are the poles, where the manhole covers? Where are the landmarks that I can, you know, hear as I'm walking through this space, or, you know, hit with my cane, you know. Where the benches and in where the bus stops, and where's the bus going to stop? You know that those are really the most important pieces, or any big bushes as well. Like those are really important elements for blind people, important features that blind people want to have. And OpenStreetMap has almost none of that. And so what I really would like to see is blind people finally getting access to participate in the OpenStreetMap community and add kind of this information or advocate for this type of data to be added to OpenStreetMap. Because Europe has been like sidewalks, for example. Europe has been mapping sidewalks for a very long time people in Europe, and just finally came to us very, very recently, through the Open Sidewalks Project. And they had to fight tooth and nail to get you know, some extra elements added to that that sidewalk information. And it's still it's kind of a property on the side of the road right now. So somebody thinks that roads are the most important information for blind people, that's not true. And so once blind people have a voice and can experience what's happening, I think that's going to really be an amazing, amazing change agent within the mapping data communities like OpenStreetMap.

R Rob Mineault 23:43

Well, you know, this is really interesting, because it seems to me that you know, all the technology with maybe the exception of the LIDAR stuff, but like, honestly, like 10 years ago, like the whole idea that you can even, you know, you could even attempt to map a space with a LIDAR camera with your phone is is incredible, it would have blew our minds 10 years ago. So the fact that we can even kind of do it half assed now is amazing. So but it sounds like everything else, like all these tech technology pieces are pretty much ready for Primetime. It's just really, it's the implementation of it. It's that human element of just somebody needs to, to, you know, figure out a way to really make this ubiquitous and easy for people to use.

B Brandon Biggs 24:32

Yeah, I think I think a lot of it's there, you know, definitely there's more work to do, but it's, it's, it is a little bit of, of, you know, if we just have a little bit more funds, you know, we can get over the finish line kind of thing. You know, there's there is a lot more research that needs to be done like within our mapping, for example, especially within like thematic maps. and even indoor spaces, we haven't done a lot of indoor maps yet. And so we really want to kind of figure out, Okay, do we, you know, how do we handle multistory information, there's not even a data standard for indoor maps that can handle like they can, they can show that the important information that blind people want. So it's kind of it's still in the early stages, but it's really, it's going to be there in next, you know, hopefully, a year to five years, we shouldn't be seeing, you know, lots of indoor navigation, and, you know, cross sensory map apps, like our tool, and, you know, OpenStreetMap is going to be, it already is ubiquitous. And so it's, it's, it's it, that this is a really exciting space to kind of be in.

R Ryan Fleury 25:58

Are there companies or is there an organization that is currently working on standards for indoor spaces? Because the last thing, you know, we want as blind people is five different apps to navigate different, you know, different mapping solutions?

B Brandon Biggs 26:11

Yeah, Apple has their indoor mapping data format. But it needs a little help. And so oftentimes, what happens is that, you know, we'll go in and, and kind of use that as a as our introductory standard, but then, you know, we need more stuff, like we need something that can represent drinking fountains and the size of drinking fountains, or tables and chairs, because that's really important for blind people, as well. So you know, that stuff isn't really supported by the indoor mapping data format very well. And neither is like their relationship to, to the building. And so this chair is on the third floor, is in my office on the third floor, in this building on this campus, you know, that's that kind of relationship isn't really there.

R Ryan Fleury 27:02

So do you think one of the hurdles is you're trying to include too much detail right off the bat? So, you know, nothing gets accomplished very quickly? Or would it make more sense to, you know, come up with an overarching mapping solution, and work on the detail as you go along?

B Brandon Biggs 27:24

I think it's a little bit of the iteration phase right now to where we're trying to figure out what is what is going to work, and what do people need for this, and, you know, as like, for example, our tool coming out, is not something that any of the data format creators ever imagined would exist. And so you know, that, that makes making a standard really hard. And, and so, but GoodMaps has been, you know, kind of expanding their format. And we've been kind of tagging along and getting our, our format in there. And I think what's gonna end up happening and

what has happened even within the, the, the outdoor mapping communities, it is it is everybody has kind of their own standard, but in a particular format. So like Geo-JSON is, like, the standard format for mapping. And so then it's just kind of a matter of how do you get your format into a format that we need. And it's, it's actually very easy to kind of translate between the different formats. And so you know, that's our tool makes it very fast for us to, you know, support a new, a new data type, just as long as we can get it into Geo-JSON. So a new format, just long as you can get it into Geo-JSON, which is kind of the format that we we support.

R Ryan Fleury 28:42

It just sounds like it's so daunting, you know, to get as much detail as you're talking about wanting to include, you know, bushes, tables, chairs, bathroom signs, bushes, poles, bus stops, like, the job will never, never be done. So you have to start somewhere, right? And yeah, and evolve it as you go. So, kudos to at least starting the project, for sure.

R Rob Mineault 29:04

I mean, it sounds like a lot of that stuff. I mean, that's I think where the community driven part really comes in comes in handy. Because if you do if, if all of that data is provided by the community about people who are at that mall, every day and run into that damn tree branch, every frickin day, when they're on the way to the bus, you know, they're going to they're going to go out of their way to to map that into add that data point. And so I don't think it will take long at all, to actually build out all of all of that information.

B Brandon Biggs 29:40

Yeah, and what we're trying to do with our map viewer right now is kind of make an editor so that blind people can actually draw their own maps and add features in you know, and create, you know, points, polygons and lines, which are the fundamental building blocks of maps independently and then they can tag it in hopefully eventually added to OpenStreetMap. And that would be, that'd be an amazing outcome. And so we're working on it.

R Rob Mineault 30:09

Well, I'm telling you this is I'm excited, because you know, we are going to hold you to that between a year and five years that all of this is gonna be in place. So I've written that down.

B Brandon Biggs 30:20

GoodMaps just raised, what, $3 million in a seed round? Very, very, very amazing. I've never seen that big of a seed round. So that's, that's great. They just posted that on their, their blog. Yeah.

R Rob Mineault 30:48

R Rob Mineault 30:48

Well, I want to ask a little bit about funding, because you did mention it. And so I'm just wondering if that if that is like a sort of a big challenge when it comes to this technology? And I'm just wondering why why that why this isn't more of a priority? Or maybe it's slowly becoming more of a priority? I'm not sure.

B Brandon Biggs 31:07

I think part of it is just communicating to the right people. So we've been, I apply for a lot of grants every year, probably nine or 10, there's a lot of work to write. And so, you know, each one takes about 40 hours, at least of time. And that's time I'm not spending on, you know, development and research and, and all that other stuff. And so, you know, there's the National Institute on Disability, Independent Living and Rehabilitation Research has really funded a lot of our research. The problem is, they're not big enough. And you know, they've got these enormous problems to solve. And they're severely underfunded. But, you know, Institute's, like, National Institutes of Health, they're Ophthalmologists evaluating these grants. And, like, you know, what, what kind of experience do Ophthalmologists have with, you know, navigating outdoors as a blind person. So, especially somebody who I never see an Ophthalmologist To be honest, because I'm don't have enough vision to make that useful. So it's like, you know, there's, there's not much collaboration or, you know, communication between what an Ophthalmologist thinking of and you know, what we're trying to do here. And so that's, that's kind of the problem. The people reviewing these grants are not the ones who understand the problem. And so, you know, I've been advocating for for more collaboration. But it's government slow. So yeah, that's a problem. And also, when you submit a grant, it takes almost six months, you know, typically before you hear anything about it, so that's also a problem.

R Rob Mineault 33:05

Right. Yeah. Well, I mean, it is interesting. I mean, I've been since we've been talking, and I've been thinking about maps and mapping technology in general, and really, like, if you think about it, and I've said this before, like, I don't know, what, what did we do before, you know, Google Maps or without Streetview, like, without all of this, like, basically having a GPS direction finder in your pocket all the time, that it makes it impossible, pretty much to get lost. You know, I think back to like, 20 years ago, But, you know, 20 years ago, like, if you wanted to find a street or something, you'd have to go buy a map book. You know, you'd have to figure out where that street was before you left. You know, geez, or even like, the early days of the internet when you'd have to, like, you've needed direction somewhere, you have to go to like Mapquest. And you'd have to like, plug in the addresses, and then print off the directions and stuff. But now, you know, it's, you know, we have this this the capability to just do that on the fly with with with our phones. I think we really take that for granted. So I do think that navigation and maps is really important for everybody and we really need to really get this technology accessible and available to everybody.

B Brandon Biggs 34:32

Yeah, I mean, the digital mapping market is about $21 billion and grows about 18% a year so it's huge and indoor mapping is is like a I think it's like an eight $8 billion market and it's

growing 40% every year so it's you know, this is a huge huge space. That's that's just exploding and and blind people haven't had access to just about any of it so far, you know, turn by turn directions, like you mentioned are great. But have you ever used Google Maps without looking at the map? Like the visual map?

R Rob Mineault 35:13

Yeah, I'm sure it's a nightmare. I haven't.

R Ryan Fleury 35:19

I don't think so. I'm totally blind myself, Brandon. And yeah, typically, it's always been blind specific navigation apps.

B Brandon Biggs 35:30

And even something like I don't know, do you use I think Ariadne GPS is the closest to what we've kind of developed on there. And I don't know, I've tried stuff, like what they've got and that's been really, really hard for me to kind of understand. And so one thing that we're really attempting to do is perform rigorous studies, with blind people to show that, you know, to demonstrate if it can, we can blind people display this, this spatial knowledge that is really important when you're doing maps. Because a lot of times, you know, somebody will come up with a really cool assistive technology and, you know, the kind of always the question is, does it work, but, you know, you can kind of talk it up until you're blue in the face. But I'm really interested in the data, like, do people actually get this information better than what they would get somewhere else. And so that's one thing that we're really trying to do is show that this is actually research based technology.

R Ryan Fleury 36:41

Well, and again, I think, you know, people learn differently, right, some people will learn and absorb more information, tactile than audio, and others will be vice versa. You know, we know that there are devices out there, like the Graffiti Tablet as well, that is, you know, a pin array that will allow high resolution graphics, charts and tables, you know, adjustable pin heights, some people will be able to grasp spatially where things are kind of laid out others, you know, may want something with audio plots that they can navigate through using a keyboard. So, yeah, when absolutely one size won't fit all, for sure.

B Brandon Biggs 37:26

And, you know, we're trying to get it to where, you know, when when you generate an audio map, you can also get a tactile, something that you could either emboss or view on one of the tactile displays that are coming out. But, you know, audio is the least expensive, out of all the modalities, you know, like, the sight, tech global was just going on today. And American Printing House for the Blind was talking about their Tactile Tablet that they're going to be

hopefully releasing some sometime soon. And it's going to be, I think they were saying between 10 to $15,000 apiece. So, you know, yeah, when we get these tactile tablets, that's going to be great. But it's going to be super exclusionary, even more exclusionary than something like the iPhone. And so, you know, some people have done liberal haptic research on audio on maps as well. And so I'm actually working with them as well, on our on our maps, but, you know, I'm a big advocate of what's called cross sensory representative presentation. So you can choose which modality you want to experience the map. And that's why we call ourselves, you know, audio, the world's most inclusive Map Viewer. And so that's what we were really pushing that boundary of what can you show in each modality, as effectively as possible. So that's, that's really important to us.

R Ryan Fleury 39:05

Have you worked, I'm assuming that you've partnered in some way, shape or form with NFB, ACB some of the Lighthouse Organizations as well?

B Brandon Biggs 39:16

To some extent, not as much as we probably should have. We're still a little bit in that early research phase, and, you know, R&D phase, but once we kind of get a more consumer based product out, so we're right now more business to business and business to government kind of technology. But once once we get our consumer experience more rigorous and out there, it will definitely be something that we we go to those conferences and and you know work with the people at those those organizations. But yeah, we've we've definitely, um, you know, partnered with some of those organizations somewhat.

R Ryan Fleury 40:09

Well, will you have something to reveal ar CSUN next year?

B Brandon Biggs 40:14

Yes, we are going to be at CSUN next year. We've actually been at CSUN for the last two years. So this this year, we're going to be focusing primarily on our campus and neighborhood mapping experience. And I unfortunately won't be there. But my, our head programmer, his name is Christopher Tov, he is going to be the presenter on that. And so yeah, we will be at CSUN this year.

R Ryan Fleury 40:44

Very cool.

R Rob Mineault 40:47

Maybe we'll see you there. We've been planning a CSUN live show. We didn't tell Steve that. So who knows? You never know what could happen.

B Brandon Biggs 41:04

I think the hardest part is the noise. You know, it's true. I've done a couple interviews at CSUN. We've had to like duck into unused rooms, you know, to do interviews because it's just too noisy. But if you got a really good mic that cuts out noise, let me know because I'm looking for one.

R Rob Mineault 41:28

Ryan's the mic guy, and he's always looking for the perfect, perfect mic. Well, before we let you go, where can people find out more information? And how can they reach out and contact you?

B Brandon Biggs 41:42

My email address is brandon.biggs@xrnavigation.io. And my you can experience audio for yourself at www.audiom.net.

R Rob Mineault 41:59

Awesome. And we will be sure to include that in the show notes as well. All right. Well, listen, thank you so much for joining us. It's been fascinating. I'm excited to see what the future holds, because it sounds like things are starting to fall into place.

B Brandon Biggs 42:18

The future holds a lot more maps that are accessible to blind people. Awesome. Thank you so much.

R Rob Mineault 42:25

Awesome. All right. Good luck. Thanks a lot.

B Brandon Biggs 42:28

Thanks. You too. Bye. Bye.

R Rob Mineault 42:31

See, very cool. It sounds like sounds like stuff is happening in that space.

R Ryan Fleury 42:37

Lots. That whole indoor navigation. That's the unknown frontier still. Right?

R Rob Mineault 42:42

Oh, that's really feel like I feel like we've been talking about this since we've been doing the show. Honestly, like, it's probably six or seven years. Where, you know, it was it's, you know, indoor navigation beacons, we've got you know, QR codes. Now not QR codes. We're doing, you know, GPS. And so it sounds like there's a lot of different people working on on this solution from a lot of different directions. But I don't know, nobody seemed to crack the code yet. So I'm hopeful.

R Ryan Fleury 43:16

Well, I think there's a place for all of that. You not, like I said before, as long as somebody has their means of getting the information they want. I don't care if it's through a beacon through NaviLens, through an audio map on my phone, as long as I have access, that's the important part.

R Rob Mineault 43:34

Yeah, well, and you know, and maybe you're right, like maybe I think, I guess in different different situations, there's going to be a better solution. You know, something like beacons, maybe beacons would be amazing for like something like a grocery store, where you want to have somebody be able to find, like, the apples, you know, on a shelf, or the cereal aisle, or to be able to identify, you know, what cereal you're looking at. That would might be a better solution for something like a beacon, as opposed to, you know, a map has been created in, you know, in LIDAR. Getting the space of the other grocery store maybe would work in LiDAR, but in terms of, like, actual product that's going to move around, or that's going to change, that might be more more of a beacon that you can just, you know, shift the location of the beacon. I don't know,

R Ryan Fleury 44:33

When, you know, the one of the main issues we've talked about before with beacons, you know, NaviLens or even a technology like audio, is the maps only going to be as good as the data that's been put into them. So if that data isn't kept up to date, your maps going to be rendered useless anyway. So yeah, that's a component that problem still has hasn't been solved.

R Rob Mineault 44:55

Well, and I think that that's where I think it really makes the most sense to just to community driven data, you know, the that's, that makes the most sense to me. Because otherwise, like trying to get trying to expect businesses or, you know, buildings to recreate that data just isn't realistic, they're just not going to do. Well.

R Ryan Fleury 45:18

And you know, even if you did have, you know, blueprints of a building, renovations happen, right walls move, things happen. So again, it would have to be constantly not constantly, but it would have to be maintained. Yeah, but up to date. Static environments, you know, maybe a little bit easier.

R Rob Mineault 45:38

And I feel like all the really most useful use cases for this would be things like grocery stores, or malls and stuff. And those things are always changing. You know, storefronts change, you know, merchandising, you know, where they have this versus that is constantly changing. So it's, it would be really hard to stay on top of, I think.

R Ryan Fleury 46:03

An audio map of a cruise ship. There you go. Find your hallway. Find your restaurant, find the gift shop.

R Rob Mineault 46:13

Yeah, I guess just show you where not to walk overboard.

R Ryan Fleury 46:17

There's not gonna be a lot of renovations on a cruise ship, right?

R Rob Mineault 46:20

Now it's, well, it's true. Not the good ones anyway. But now, it's, it's interesting. But I know that like NaVi lens is is like, Steve, you you sell NaviLens, right?

S Steve Barclay 46:35

Yes. Yep.

R

Rob Mineault 46:36

So I mean, how is that technology developed? Like they they must still be working on that. And that must that must be getting better and better. Because I think the last time we talked to them was what it's like three years ago. Yeah, I need to talk to them fairly soon, because I've got some interest going on right now. But I just did a presentation on it not too long ago. I mean, it's, it's the base product itself, has not changed all that dramatically over the last little while. But it's it's a solid solution. And it's a commercially available solution. I mean, the latest development for them is that they're their codes are now being included on cereal packages for. I believe Kellogg's. So it's starting to actually find its way into mainstream products as well, which is really cool. Yeah. See, that's, that's the frustrating thing about it, right? It's like, it's these cases where the technology exists, but just nobody's implementing it. Nobody's using it. Because there's no, you know, a lot of these companies don't feel like there's a business case to do it. And so you kind of really have to sell them on it.

R Ryan Fleury 47:52

Well, and then there's the marketing side of it too, right. You know, you take NaviLens, and Kellogg's, whatever that partnership is, it, it's great to have that code implemented on a on a cereal box. But if I don't know that code is now in Kellogg's boxes, I'm never gonna see it. I'm never going to decide to pull up my phone, scan the cereal aisle, and oh, there's a box of cornflakes. That's exactly what I wanted. So marketing is a huge thing as well. And it cost a lot of money to market something like that.

R Rob Mineault 48:20

Yeah, I guess so. But I mean, you know, and I guess the other the, not to be a Debbie Downer about it. But like, like, look at something like ScriptTalk. Like we're, you know, we I know, we've got an upcoming show with somebody who's who's going to sort of discuss this more, but ScriptTalk, for those who don't know, it's this, you know, this talking prescription label system. It's supposedly it's supposed to be available anywhere you go at any one of your pharmacies, but a lot of pharmacies have not implemented it. I mean, it's mandated, right, Ryan, is that right?

R Ryan Fleury 48:57

No, no. Pharmacies can opt into it. Shoppers is probably one of the biggest chains that opted into it, not all Shoppers outlets have it. And we'll get more information on the upcoming show. But you know, you can ask your pharmacy to carry the ScriptTalk reader. And basically, the pharmacist just basically runs this code through this machine, I guess, or inputs information into this script, talk machine, label NFC chip, whatever it is, they slap that onto your bottle. And then I think you have a reader or an app on your phone now and you scan that and it'll tell you what your prescription is and how to take it and you know, the directions and don't mix it with this, that and the other thing, right? You know, so if you've got a lot of different prescriptions, you have to take this one twice a day, this one three times a day, but don't take with milk. You know, you have no idea unless you have a product like ScriptTalk.

R Rob Mineault 49:54

Well, I guess that's my point, though, is that, you know, there are a lot of pharmacies that are still not carrying it. Or they maybe will if you ask them to. But you think of how incredibly valuable that ability is, and like how important that is. And we're not even, you know, moving the needle on that, or it's slow to move, you know? Labeling beacons and you know, labeling the produce aisle in a grocery store, that's going to take a long time to trickle down, because, you know, even the most important stuff is still a bit of a struggle right now. So that's kind of frustrating to me.

R Ryan Fleury 50:35

And again, it comes down to we wouldn't have this information if it wasn't for the advocacy groups telling us about the information. ScriptTalk probably doesn't have a billion dollars for marketing to the mainstream during primetime TV hours. Neither does NaviLens. So without the advocacy groups and following specific newsletters for your community, you know, you're not going to become aware of of these. How is Shoppers supposed to know what's available for those who are blind, deaf, blind or partially sighted? So marketing is, I think, still a big a big issue as well. Yeah. So, so we need the advocacy, advocacy groups yelling and screaming and advocating.

R Rob Mineault 51:22

Right, jumping up and down. Hey, speaking of jumping up and down and storming the legislature - I heard a rumor. I heard you got a new t shirt.

R Ryan Fleury 51:32

I did. I had a mystery t shirt show up at my door. And my wife and I kind of looked at each other. Did you order the shirt? I said, No, I didn't order a shirt. Well, it's from Amazon. I looked at my Amazon orders. There was no t shirt ordered. So it was just a mystery. I don't know where this shirt came from. And then out of the blue, Steve says did you get your T shirt? And I'm like, what t shirt? So he explains a little bit about how in a previous episode I decided that we needed a revolution.

R Rob Mineault 52:07

Last week's episode. Yeah, yeah, yeah.

R Ryan Fleury 52:10

So yeah, Steve ordered me the t shirt. I will let him explain because I still don't know who the person is, I haven't googled him yet.

R

R Rob Mineault 52:21

Oh, gosh. You don't know who Che Guevara is? No, that's all right. Well, he was he was an Argentinian Marxist revolutionary. He was he was a big part of the Cuban revolution with Fidel Castro. So yeah, he's you see him you see him on the on a lot of T shirts. Yeah, his silhouette is fairly famous as a as a revolutionary. How did he die? I don't remember now. Hopefully not in prison. Oh, he he was captured by CIA assisted Bolivian forces and summarily executed. So there you go. Yeah. I knew I knew that was too good to be true that he like just died at home, facedown in a plate of spaghetti or something. Yeah, No he was a he was a Commie in the US took him out. Well, there you go. Ryan, now you have something to wear when you storm the legislature. Yeah. Just be careful about the CIA. Yeah, clearly.

R Ryan Fleury 53:34

They don't have jurisdiction here. Do they?

R Rob Mineault 53:39

Probably didn't have the jurisdiction or wherever they caught the dude. Yeah, nobody expects the CIA Oh, right. Well, ooh, geez. Lis isn't here, so now I'm all confused as to where I'm going. Okay. Hey, Ryan.

R Ryan Fleury 53:58

Yeah, Rob. Where can people find us? They can find us at www.atbanter.com.

R Rob Mineault 54:05

Hey, they can also drop us an email if they so desire at cowbell@atbanter.com. I have to say though cowbells coming through spectacularly today. Hey, Steve, where can else can people find us? Well, they can find us on all of those social medias. Elon Musk's Twitter, Mark, what's-his face's Facebook and whoever does Instagram.

R Ryan Fleury 54:48

We're also now on Mastodon for those people that have fled Twitter. AT Banter is now on Mastodon, ATBanter@disabled.social or just do a search for AT Banter.

R Rob Mineault 55:02

I'll have to figure out this Mastodon thing. All right. Well, I think that is going to about do it for us this week. Big thanks, of course to Brandon for joining us and we will see everybody next week.