

CONNECTED PLACES

MASTER SCRIPT

EPISODE 60: AVIATION ACCESSIBILITY

INTRODUCTION

[theme intro]

Intro clips

Anne Frye:

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Gavin Neate:

And then you think to yourself, well, wait a second. If training isn't working, how the hell can we sort that? And you go, oh my god, I could totally change customer service. Not just for visually impaired people, but for all disabled people, if I speak to everybody five minutes before the disabled person meets them.

INTRO:

Welcome to Connected Places; a podcast about the future of our towns and cities, and how we live and travel in them.

I'm Ivor Wells, the producer of Connected Places, which is brought to you by the Connected Places Catapult.

We're the UK's innovation accelerator for cities, transport and places.

We help to connect businesses and public sector leaders to cutting-edge research and new technologies that can spark innovation and grow new markets.

Music bed

Ivor:

You might not know this but here in the UK there are 14 million people with some form of disability?

Or maybe you do know this, because you might be one of those 14 million.

Or maybe you at least know someone who lives with a disability?

Either way, you might have a pretty good idea of how hard it can be to use public transport - whether it's getting on and off a bus, or navigating the complex, stressful and often-confusing environment of a large transport interchange.

Because sadly, when it comes to equality of access, or accessibility, there's some way to go before we can genuinely say that our public transport system really is open and accessible for all.

Now, regular listeners to the show will know that in January of last year we published an episode looking at what tech innovators are doing to help make rail travel more accessible here in the UK.

Well, in this episode we're going to take a look at another part of the transport sector that perhaps gets less attention, but is just as important for millions of travellers, and I'm talking of course about aviation.

What is being done to make flying more accessible to people with disabilities?

It's an important issue, not just for passengers but for the Government as well because under UK law, and I quote,

"disabled persons and persons with reduced mobility, whether caused by disability, age or any other factor, should have opportunities for air travel comparable to those of other citizens."

So when it come to taking to the skies, whether on holiday or or on business or to see loved ones, we're not talking about a 'nice to have' here, because accessing air travel is an important right for all of us.

STING

Ann Frye:

My name is Anne Fry. I am an independent consultant specialising in the mobility of disabled and older people across all modes of transport. But I'm also currently the UK Government's Disability and Access Ambassador for Aviation.

Ivor:

Ann has a fascinating role in this space, because at the heart of what she does is working with Government, and industry stakeholders like airlines and airports and the civil aviation authority, as well as disability and passenger groups - to really join the dots and share ideas across an aviation system that can be very complex to navigate. And it begins by really understanding the needs of the passenger.

Ann Frye:

Almost all of us are infrequent flyers, and many disabled people, have not flown since becoming disabled or are not used to flying. It's quite a bewildering experience and made more difficult by the fact that if you ask for assistance, you're asking your airline when you make the booking. But in the UK, the assistance is actually provided by the airport, which should work fine, but it's, it's another confusing factor for people.

You know, we have quite strong legislation in place that says anywhere you arrive at the airport, whether it's the car park, the train station, the whatever, assistants will come and meet you there. But people don't always know that, they don't understand it, they don't know who to talk to, and very often they don't know how big an airport is.

At the heart of all of that really is better information for people before they fly, and really trying to, again, take the stress out of the booking process.

Another issue is for the quite large number of people who don't have smartphones, aren't very adept at online booking. They need, you know, one to one guidance when they get to the airport. So, you realise how many people you risk excluding if you don't maintain that human experience.

Ivor:

Given Ann's work with the UK government on the issue of accessibility, I asked her what some of the key priorities are in this area.

Ann Frye:

I think one of the priorities for government is looking at the powers that the Civil Aviation Authority has to monitor and to enforce bad practice in this field. So for example, we've had instances of airlines who've refused to take a disabled person's wheelchair or somebody being really badly treated and handled. At the moment, the ability of the CAA to take action is quite limited by their powers. And government are absolutely looking at extending those powers to give them a lot more teeth to bite, if you like, to actually push for better practice.

Ann Frye:

It's the basic stuff, like making sure your staff have been properly trained in disability awareness, disability equality, they know what to do, so they, they treat people appropriately. I mean, for years we've had the battle of assistance providers turning up and trying to put a blind person in a wheelchair. Absolutely, totally inappropriate, nightmare for all concerned, but it's easier for the assistance provider, so, you know, that should be long gone with better training, better information.

Ivor:

What's interesting about Ann's role is that she also has quite a degree of autonomy when it comes to focussing attention on areas that are of real concern for passengers. So I asked her to explain more about what she's particularly focused on at the moment.

Ann Frye:

The two main priorities that I've adopted so far, the first one was to tackle the issue of, particularly, powered wheelchairs being broken by ground handlers, so either loading or offloading on the plane, and that's a real issue for a lot of disabled people who use wheelchairs, and it's frightened a lot of people away from flying.

Ivor:

The second area of focus for Ann is work she's doing with airports across the country on an initiative called Design for the Mind.

Ann Frye:

So, this is about the stress that a lot of us feel when we go through airports. And in particular, people with autism, with a whole range of neurodiverse issues get really, really stressed and distressed going through airports. I mean, duty free, for example, absolutely freaks out a lot of people with shiny floors, bright lights, too much noise, curving directions that you can't get through. For quite a lot of people, it's the factor that makes them too frightened to fly. So we'll be focusing on what airports can do to manage and design that stress out of the airport environment.

Ivor:

So where does the Catapult come into all of this? Well, I spoke to Andrew Chadwick, the Catapult's Interim Ecosystem Director for Airports & Aviation.

Andrew Chadwick:

The work that we're doing has come from us identifying, in some cases, how poorly some people are treated when they travel on public transport, and in particular, in aviation and airports. And we see lots of examples of that in the press. And that really has inspired into us the need to start addressing it and looking at what those challenges are. Why is that happening? You know, is there a systemic failure, which we think we've identified in the work that we've done over the past, I mean, 12 months now we've been looking at this, really. And really, what can we do to help address that?

Andrew Chadwick:

One of the things that we don't do, globally I can argue, is take into account every single user in our transport network. And what we're finding particularly now post covid where more people want to get out more they want to see the world, they want to go to the places where everybody else wants to go. So, we, within the network of what we're doing, the nature of within the catapult, this is sort of in the sweet spot of the type of things that we look at.

Andrew Chadwick:

So what we've been doing is looking at what sort of technologies, available today, with some of the SMEs that we've been working with and others that we've identified can actually help a person in their journey when they arrive at an airport and all the way through till they get onto the aircraft itself.

Ivor:

So I asked Andrew to give an example of the kinds of problems that these companies might be able to help solve.

Andrew Chadwick:

So for example, if you book a ticket to fly, you don't book your ticket with the airport, but there's an expectation that you'll turn up at the airport, and they will, first of all, expect you to turn up, and they will know that you're going to turn up, and you may have a specific need.

For about three quarters of the number of bookings that are made, so over 75%, that doesn't happen. The airlines either don't pass that information or the system they use does not pass it. So you could arrive at an airport expecting to be, well, first of all expected, and you're not. And therefore, airports have to respond to that. In a lot of cases, people who have not pre booked or pre advised, you know, again, it's the how do they then respond in the airport to dealing with those number of people, because they don't know how many people and at what time, so they're looking at shifting and rosters. And again, that can affect the type of service people get.

Andrew Chadwick:

One of the ones we've identified is for signing. So people with hearing difficulties. So, one thing you don't see at airports, for example, is support for the people who need signing. But we know of companies out there. A good example is Signly, a company that we've worked with before that actually provide that service. So, you can actually use a QR code, put your mobile phone against that QR code and the sign that you're looking at is then signed literally on your mobile phone.

Now we get told by some airports that we never get requests for that type of support and my response to that is you've probably never got asked that because the hard of hearing community have probably got tired of asking for that sort of

support because they know it's not available. So let's make it available and see what the response is.

Ivor:

One of the companies that we've been working with has a really interesting solution. Fredi Nonyelu is the CEO and Founder of a company called BrightYellow, and their entry into the world of airports and aviation actually began with a product that they have tested, with us at the Catapult, in a railway environment.

Fredi Nonyelu:

And that's really where the penny dropped to realise that here are people, a group of people that have real problems with traveling. And then the more research we did, we found even more data to really say, this is a big problem. So for us, that, that connection between talking to real passengers, having the evidence and the data sets, the data behind to demonstrate that this is, this is a real problem and that needs solving was for us, really, really a powerful moment.

Fredi Nonyelu:

The problem that passengers experience going to places like airport, one is a lot of stress associated with the journey, that stress is because they can't always anticipate what to expect when they arrive. So, the first thing we help is with the pre visit planning. One, what does that space look like? Can I actually explore that space and understand it? And we do that through our app on our web portal. We give them a fully digitized virtual tour of the space. So, they can do a dry run. They can understand how long journeys might take them so they can plan better.

Then the second thing is about understanding the crowds. How long queues might be. Be able to show them before their journey, this is the current forecast of the queueing when you arrive. Therefore, you can plan your journey better. And just that alone reduces stress. Makes people have a better experience of their journey through that airport.

Ivor:

The name of the product that Fredi and his team have developed is called BrightWay. Now it can provide you with guidance when you're in the airport using augmented reality via the camera on your phone, and this can really help with the stress of navigating an airport environment.

Fredi Nonyelu:

We have different modes of guidance. One is with camera. So that's the augmented reality where they use the camera app on their phone, and they look at the screen of the camera and we provide the route through that in an augmented way. That also includes voice navigations that have audio for those who are partially sighted to assist them to be able to use that. And of course, we do that in a normal map view. So, like a 2D, 3D map view that can also navigate them. We've done quite a bit of user testing over the last few months, and we're getting the feedback that the camera navigation is really, really helpful, especially those who are older or who have some kind of accessibility requirement.

Fredi Nonyelu:

We're starting to see large global airports coming to us with problem statements around what we've just talked about. These are European airports, Middle Eastern airports, and we know that this indicates that there's a potential global opportunity. Even UK airports have also shown an interest in using this use case to bring this kind of technology into the space.

And of course, once you have it available for people who have accessibility needs, you know, older persons, in the end it's useful for everyone. And I think that was one of the really nice aha moments for us earlier on in the journey, when we realised that it's okay to focus on a narrow user group, because if you get it right for them, you get it right for all.

Ivor:

Fredi's product is certainly empowering a lot of travellers with disabilities to both plan for and experience a more pleasant journey. But coming back to something that Andrew mentioned earlier, what about a product that can help an airport respond to the needs of passengers better?

Wel, Gavin Neate is the CEO and Founder of a company called WelcoMe. They've created the world's first proximity based smart training tool for disability. And for Gavin, it all began with a personal story...

Gavin Neate:

For 18 years, I was a guide dog mobility instructor. I trained blind and visually impaired people how to use their mobility

aid. I would walk with them into shops. I would observe how they interacted with staff and how staff interacted with them. And I would think to myself, why don't staff know the most simple, basic bits of information when it comes to talking to somebody who's quite obviously visually impaired? You then think, well, I need to ask them the question. And you say, when was the last time you had any training? And they say, oh, about six months ago.

Did you hear about visual impairment? Yeah, yeah, yeah, yeah. We got some information about it. And then you think to yourself, well, wait a second. If training isn't working, how the hell can we sort that? And as a mobility instructor, I used to go into the shop five minutes before my client went into the shop.

And I would say to the staff member, right, remember, introduce yourself. Do not talk or feed or distract the guide dog. If you're giving the person sighted guide, don't take their arm, offer your arm, and say they can take your arm. Don't walk away from them without saying you're leaving. Don't walk at your pace, walk at their pace.

Don't say things like it's over there. And you go, right, that's six tips. If you put all of those into practice, they are going to have the very best customer service they've ever had in their lives. And you go, oh my god, I could totally change customer service. Not just for visually impaired people, but for all disabled people, if I speak to everybody five minutes before the disabled person meets them. And then I thought, wait a second, what if my mobile phone could communicate with a staff member before I walked through the door?

And at that moment, I had invented the world's first proximity based smart training tool for disability. Remarkable to believe, but nobody had ever done it before. Training based on my proximity to the building I'm just about to enter. If I could connect them via an app, you can set up a profile. You can say you want to go to a particular venue and a prepopulated profile then triggers staff training at the venue with the person who's going to meet you when you walk through that door.

It's so, so simple. And as soon as you say you're going. They get a notification to say somebody's coming. They're called Gavin. They're living with acquired brain injury. When they arrive, remember what acquired brain injury is. Here is an overview of that in a paragraph. Here are top tips on how you should interact with anyone with an acquired brain injury.

And on the day the person arrives, they get a message to say the person has arrived, triggered by the person who's arriving at the venue. Staff member reads it. Meets the person, person gets best customer service they've ever had.

Ivor:

Gavin explained to me how it's really exciting times for Welcome and their solution is in real demand now. But when it comes to testing and deploying in an aviation environment, well that's not always easy.

Gavin Neate:

We keep getting approached by different organisations saying, can we have your organization as part of our tender bid? Because everybody's looking for this solution. People need this solution, but there are complexities within aviation. The person arriving at an airport needs to go to a service desk or a PRM desk.

They then get service to a gate. They then get onto an aeroplane. The aeroplane then takes them to their destination. They get off the aeroplane and they're met by a PRM team or a service representative at the destination if they're lucky. And tying those three together is complex. Imagine three big companies that all have their own identity and their own way of doing things.

Well, you're going to have a situation where you've got three different parties all going, I don't need to be part of the same system as you guys. So, the challenge here is the communication of need and the communication of solution to all the parties that need to be involved. And that's not impossible.

It would be very easy to prove this by getting departure airport, an airline, and an arrival airport and saying, right, we've got a passenger going from A to B. You guys are all part of that journey. You've all got this information. Put it into practice. Now the disabled person is pressing a button to say, I'm here, I'm here, I'm here, I'm here. So everything is possible. But nothing is possible if you don't take the first step.

Ivor:

Of course, Gavin is right that that first step can be the hardest, especially within the complexity of an airport. And that's certainly true for a company called Step Hear. They

specialise in indoor wayfinding services for people who are blind or visually impaired.

Yael Shomron is their Marketing Manager.

Yael Shomron:

For a person with blindness or severe visual impairment, it's quite difficult to get around. It's especially a challenge indoors because outdoors you have different apps that are based on GPS, like Google Maps or other apps. But GPS technology is not accurate enough. It's around 30-meter accuracy.

So, for instance, when you're using Google Maps it could tell you, you have arrived, and it's 20 meters away from you, but for a person that sees, it's not a problem to find the place. But for a person with visual impairment or blindness, it's really a problem. They don't even know if it's on the right, on the left, behind, or forward.

So, we're using a technology combined of Bluetooth communication, developing the hardware and the software, the software being The app that the users use, it's free and it's accessible, and the hardware are different devices that we install, and through Bluetooth, the users can get audio guidance, and also we use something we called an audio sign, which is a combination of a loudspeaker with Bluetooth connectivity, so it's only activated when the user of Step Hear is close by and it's really, really important to find, for instance, an entrance door in a very large facade of a building because they can follow the sound that's from the door and actually it brings one meter accuracy for the users.

Step Hear is especially useful in places that are very complex, like in airports. The wayfinding in the airport, even for a person without any disability is not easy. Because what we have now is called wayfinding. It just tells you how to get to the next point. But if you make a mistake and you didn't turn the right turn, then we don't give you the directions. But soon we're gonna have a real turn by turn navigations. So that is also very helpful.

Also we have the ability to connect to other systems if we connect to the system of the airport to know where your flight is departing. So, we can give you the wayfinding directions or the navigation directions only to where you want to arrive.

Ivor:

As we heard from both Gavin and Fredi before, there's so often a strong personal angle when it comes to explain the value of these products. And that's also been true for the users of Step Hear's products too, as Yael explained.

Yael Shomron:

Some of them really give us feedback that is very, you know, moving, because they, they really want to be independent. Now I remember a feedback from a woman that every time she had to have her family drop her off at like a social centre for people with blindness. And it's really difficult even if they drop her off close by because there's not, it's a very crowded street, they cannot park there.

And then just to find the exact entrance to the exact building, it's really difficult. And the first time she used Step Hear, she was so overwhelmed that she can do it by herself. She doesn't need them to call the manager to meet her downstairs or anything. She can just find the entrance by herself. It's really exciting to get these feedbacks.

Ivor:

So coming back to that first step that Gavin mentioned earlier - in a complex operational environment with multiple stakeholders - well that's where the Catapult can often help. And when it comes to testing and trialling in airports, we recently launched the UK's first Connected Airport Living Lab in partnership with Glasgow Airport in Scotland.

Here's Andrew again.

Andrew Chadwick:

It's the first of a kind R&D innovation centre, or hub, at a real-life airport. And so, the intent is to integrate within airport operations a number of innovations, looking at some of the challenges they have, but also looking at new technology and some of the issues regarding getting that, first of all, approved, but also to showcase some of those technologies.

And that's everything from passenger experience, looking at logistics, looking at data analytics, looking at automation, and how that will all fit into an airport environment. And we're very fortunate in the partnership with Glasgow Airport that they're willing to provide that space for us to jointly, so in a collaboration, to actually do those demonstrations.

And so the plan is that we're working with them now to scope a series of demonstrations, which will hold hopefully towards the end of this year, where we take some of the lessons that we've learned over the past year, and we look at some of the technologies along that journey that we can actually, sort of present, either demonstrate, trial, or as I said, showcase within the airport itself over a period of days with real customers and to see what works and what doesn't work and to get feedback on that and also to do some technologies which you wouldn't normally see at airports.

Ivor:

Now of course, in all of this, technology solutions can be absolute game changers. That's a given - you'll get no argument from me on that point.

But they do have to solve a real world, human-shaped problem. And when it comes to developing solutions to whatever problem that might be, and what it's like for the people whose problems you're trying to solve, well that has to be done with sensitivity and respect, as well as an open mind.

Here's Ann again...

Ann Frye:

Talk to the people you're trying to help before you think you've got a whizzy solution that will answer all their problems. Because you may be on exactly the right track, but you may be looking at something that isn't actually the central concern. And I would then say, you know, does your development make life simpler? Will it give people more confidence? Will it enable people to do things they couldn't do before? Maybe those are the three sort of key tests that the SME should be going through themselves before they go any further. Because if you can't say yes to those three, then you're probably on the wrong track.

Ivor:

Here's Fredi again.

Fredi Nonyelu:

Right now, the pleasing indications are that we're able to have a conversation around the problem, which they're identifying the problem as being more inclusive, helping all passengers to have a great experience with it through the airport, and not thinking of it as some small demographic than

they shouldn't bother about. They see this as a problem worth spending money to solve.

Ivor:

I finished my conversation with Ann by asking her what she's most optimistic about.

Ann Frye:

I mean, some of the things I think that are looking particularly interesting now are the apps that will if you like, it's a sort of Uber type service, so, you've booked your assistance and you get to the airport and you'll be told that your assistance provider is John, here's a picture of him, and he's on his way to you now, he'll be there in two minutes.

That's a great breakthrough because up till now, you've booked your assistance and you're standing there and you're thinking, are they going to turn up? Am I going to miss the flight? I don't know where I'm meant to be. So that sort of direct one to one communication is hugely reassuring for people.

Anne Frye:

Government is obviously working very closely with the Civil Aviation Authority on the nuts and bolts and the implementation. And they are also increasingly engaging with disabled people, which is always the best and the first and the right thing to do. There've been some interesting workshops run by Department for Transport recently, trying to work with disabled people to understand the priorities and, you know, what are people's core wishes in terms of taking this forward. So I think things have improved a lot in recent years.

STING

Ivor:

Well, that's all we have time for in this episode. If you'd like to know more about any of the companies featured in this episode, or of course the work the Catapult is doing as part of the Connected Airport Living Lab in Glasgow, or our airports and aviation work more broadly, then there's links in the shownotes to this episode.

And don't forget you can subscribe to the Connected Places Podcast on iTunes, Spotify or wherever you get your podcasts.

And if you'd like to find out more about the Connected Places Catapult, you can also visit our website at cp.catapult.org.uk.

And finally, before I go, I'm really excited to announce that registration is now open for the Catapult's first ever Connected Places Summit. It's going to be a two-day event held on the 20-21 March 2024 in central London.

Now, across both days we'll be featuring interactive content, live project showcases, inspiring thought leadership and opportunities to connect with peers from across the worlds of technology, transport, mobility, cities, academia, and Government.

Registration has just gone live and there are discounts for early birds, so do put the 20-21 March in your diary now, and do check out the link in the shownotes if you'd like to register.

The theme music on this episode is by Phill Ward Music.

I'm Ivor Wells, this is Connected Places.

Thanks for listening.