[music playing]

[Narelle] Hi.

Welcome to this episode

of The Digital Access Show.

Now, as we've gone along

the last 60 plus episodes,

you've heard me talk

about screen readers.

You've heard about Braille

devices, puff and sip tools,

lots of different tools that

are assistive technology tools

that are used by the disability

community to read information.

Today, I've actually

brought on a guest who…

who's involved with the NonVisual

Desktop Access screen reader,

NVDA for short.

The reason I've brought

him on is, you know,

I do think it's a tool that

developers should be aware of,

should know what the use is for,

and learn a little bit about

how to use it themselves.

It's a good testing tool.

Quentin Christensen, from

NV Access Online, thank you.

[Quentin] Narelle, thank you

for having me, and hi everybody.

[Narelle] Quentin, can you

tell us a bit about yourself?

What you do, where you're from?

[Quentin] I can. So, I have been

with NV Access for 10 years now.

Before that, I was an

Assistive Technology Trainer.

So, I taught people to use…

both screen readers

and magnification,

and other things as well,

with one of the major

blindness organisations.

So, now I specialise

just in NVDA,

And I've…

been writing training material,

working with users,

doing a lot

of our communications.

If you read our

blog or our emails,

that are probably written by me,

and answer a lot of questions,

and do things

like talk to Narelle.

[Narelle] Quentin, obviously,

I use NVDA all the time.

I have a severe

vision impairment. I am…

about 90 percent reliant on it.

Can you explain to people

exactly what NVDA is,

and why it was built.

What was the hole

it's there to plug?

[Quentin] Absolutely.

So, NVDA is a screen reader,

which is a program that will…

basically read out everything

on the computer aloud

to someone who's blind and can't

read it visually on the screen.

NVDA will also work with,

if you've got a

refreshable Braille display,

you can have it read out,

put the information there so you

can read it in Braille as well.

[Narelle] Yeah. Why…

I know the story behind it,

but could you tell everyone

else why, Jamie and Mick,

where it was developed

and why it was developed?

Because I actually find

this a very interesting…

story, I really love it.

[Quentin] Absolutely. So, Mick

and Jamie met at university,

or met before university.

Before then, actually. They…

decided to, that the cost of

traditional screen readers,

so NVDA is not the

only screen reader.

But the cost of traditional

commercial screen readers,

these days can

be $2000 or more,

which is quite

prohibitive, particularly,

not even just here in Australia.

Here in Australia, that's

quite a lot of money. But…

in developing countries,

in the Pacific,

in Vietnam, in Africa,

people wouldn't see

$2000 in, you know, years,

so that just left that

completely out of reach of them.

So, they…

wanted to see what they could

do to develop an option that…

wouldn't put such a financial

burden on the end user,

and also just to see how far

they could get with something…

that was free.

And you know, at the

time, they weren't sure.

And here we are, 20 years later.

So NVDA was first

developed in 2006,

and you know, the

first main version,

and NV Access itself as an

organisation to support that,

in early 2007.

So…

NVDA…

is free,

is basically our

main difference,

point of difference to

any other screen readers.

And it was developed

like that from the outset.

So a lot of people ask us,

how do you make it free?

If other screen readers can

cost $2000, how is yours free?

And the reason

is that we set out,

or Mick and Jamie set out

to do that from the outset.

We have partnerships with some

of the big tech organisations,

Google, Microsoft, Adobe,

and so on who help

fund what we do.

And in return, we give them…

advice on how to make their

products more accessible.

So that ends up a

win-win for everybody,

even if you don't use NVDA.

[Narelle] Yeah. That's

something I didn't realise,

that you were in partnership

with all those companies.

And the other thing that I

don't think people realise,

is the actual way NVDA works.

Because when you look at a

document, a Word document,

when you're reading it visually,

that's one way,

but NVDA doesn't work like that.

NVDA actually reads

the code behind, doesn't it,

and translates it to make sense.

[Quentin] That's right.

So if you're reading

a Word document,

it's not so different,

and your experience

will be pretty similar

as someone using

a screen reader,

compared to someone

reading it visually.

And we also make

sure that, for instance,

NVDA has a command to say all,

or to read from the

current point onwards.

And if you do that,

as the document scrolls,

and as NVDA reads further down,

we make sure that it does scroll,

so it does keep up for

sighted users as well.

Where it has traditionally

been quite different,

and I'm…

pleased to say that we're working

on things to mitigate this,

but where it has traditionally

been different is the web.

So,

you know, you might know

the web is often built on,

most web pages are

built on, you know, HTML,

[Narelle] Yes.

[Quentin] And then,

you know, you use CSS

and other things to style it

and make it look how you want.

NVDA reads, and

screen readers in general,

read that underlying HTML code,

and know that here's

a paragraph of text.

So, where it's been

tricky is, you know,

there's your paragraph of text,

but we don't know that

the CSS has styled that

so that actually is one

very long narrow column,

or one very wide…

piece of text.

So that's always been tricky.

Excuse me.

But…

we have tried to introduce

a few more features

to make that a bit easier

to manage for people,

particularly our sighted

and partially sighted users.

We know that…

actually only a small percentage

of people are completely blind.

Most people who, and even

people who identify as blind,

have some vision…

that may or may not be usable to

work, you know, with a computer,

to read things visually

or to use magnification,

but in some cases it is.

So we want to allow

people to make most of…

every way they've got of

accessing that information.

[Narelle] Yeah.

And this is it, because,

for me, as a developer myself,

I wrote code for many years.

And some of the techniques

you use for websites

and things like that,

they work well.

They work great for

a person with vision.

Now you can hide

an object, whatever.

But do you know, NVDA,

these screen readers,

any assistive technology tool,

generally, will pick up

those pieces of information

that you want hidden,

and it really distorts the

message that you're getting…

via screen readers.

That's why I

wanted to talk to you,

because as a developer,

one of the things we are

told is to test, test, test.

And you test for every

variable that you can think of.

Most developers

today don't test for…

a person without vision,

or a person with dyslexia,

or a person with colour

blindness, these things.

The NVDA tool is the tool that

I'm actually saying to people,

go and get it,

Test it.

-[Quentin] Yep.

-[Narelle] What are you hearing?

[Narelle] Is it matching up

with what's on the screen?

That's where I think

NVDA has got a great…

use as well.

What are your thoughts?

[Quentin] Yes, absolutely.

And one of the things

that we do get feedback on,

is that NVDA doesn't…

try and interpret

everything and go, ah.

I know what that means.

I'm going to tell you this,

when that's not actually

what was written…

on screen, on the page at all.

And there are times

when that can be useful,

but there are also times

when that can be less useful.

I know a couple

of the synthesizers…

Microsoft have done this a

couple of times to us recently,

where there was

one example where…

it would read C, U, P, S

and go, ah, I know what

that is. That's Cuban pesos.

Which was great if you were

reading currency information.

Not so good if you were

trying to read a recipe.

-[Quentin] So…

-[Narelle] Yeah.

[Quentin] So, we've always

made sure that NVDA…

doesn't make those assumptions.

And you can put things

in that do if you want,

but yep, in general, it doesn't.

So, you know when

you're testing something,

that it will tell you,

you know,

what it should tell you.

And if that's not clear,

if you've written cups

and that's not clear…

what it's supposed to mean,

maybe that goes back to the

design of what you're writing,

and that should be clearer,

rather than relying on…

a screen reader or something

to try and interpret that.

[Narelle] Yeah, I know one that

I get the giggles every time,

is you'll see a capital

U and a capital S,

and it's always read,

US.

Always, where really

they're wanting you to say us.

And that comes back to the way

that NVDA, or any screen reader,

is interpreting those

two letters together.

And it is such a big issue,

because it actually

changes the meaning of…

what you're talking about.

That's the value of using

testing with a screen reader.

[Quentin] Yep, yep. And

that's one of those things that…

can be worth knowing as

well when you're testing,

that you've written, you know,

us and for whatever reason you're

writing a sentence in capitals.

You've written it that way, and…

yeah, visually, you

look at it, it looks fine.

[Narelle] Yeah.

[Quentin] Then, yeah,

it's not until you test

that with a screen…

I don't think

there's any standard

that's going to tell

you to look out for that

until you actually test it,

or have somebody

test it to pick up on that.

[Narelle] That's it.

What are some other things

that NVDA is really useful for,

for developers,

coders, designers?

[Quentin] So a few

other tools that we've got…

in NVDA that will help

developers and designers,

and testers and things

is, particularly sighted…

developers.

We've got things

like focus highlight,

which will draw a border around

whatever currently has focus,

so that can help orient you…

visually where NVDA is reading.

We have things like the…

speech viewer.

So,

we know, particularly

if you've ever…

listened to somebody who's a

proficient screen reader user,

how unintelligible, you know,

NVDA, or any screen

reader can be at,

you know, hundreds

of words per minute.

We were fortunate

enough to be on…

Australian Story a couple

of years ago by the ABC

and that one of the little

snippets that they took

and made a separate

piece out of was Jamie Teh,

one of our founders,

reading at 900 words per minute.

[Narelle] Yeah.

[Quentin] Which is

much faster than many…

sighted people

can read visually.

So,

coming back to developers here,

one of the things we have

is a speech viewer that will…

print everything that NVDA reads

into a window that you can read,

on screen.

Or copy if you need to.

Copying some of that

information can be useful…

to go back and say,

no, this is what's being read,

and this is exactly

what's being read,

because it came

out of NVDA itself.

[Narelle] Yeah. That's actually

going to highlight errors

for the developers and

the designers as well.

Well, hang on.

NVDA is reading the code.

So what have we done in the

code that's causing that issue,

or the design itself?

And don't forget,

for people out there,

NVDA doesn't care about colour.

-[Quentin] No.

-[Narelle] Makes no difference.

[Narelle] Colour or images

that don't have alternate text,

it doesn't care.

[Quentin] That's right.

You can set it.

Just a small point.

You can set NVDA to tell you

about changes in colour in text.

But again,

you know, if you're looking

at WCAG or anything like that,

they will also tell you,

you shouldn't rely on colour

alone to convey information.

One other thing that

that NVDA can do

that also meets up

with the WCAG criteria,

that I can't recall

the number offhand.

But…

Because the web is often used,

you know, quite

mouse driven, originally,

keyboard users

and screen reader users…

need to have other

ways of accessing things.

So one of the things we have…

is the elements list,

NVDA F7

which will bring up a list of,

initially, all the

links on a web page,

just in order,

a big list of links,

and what text is

used to identify those.

That can be really useful…

for, you know,

you'll very quickly see…

I've got a whole page of links

there that just say, click here.

And that's not the best

way of identifying links.

If you can't tell what

a link is from that list,

maybe it needs to be, you know,

identified a little better in the

context of the document itself.

[Narelle] Yeah, because

WCAG does state, you know,

the link name has

to be understandable

and tell you where

you're going to,

and use five words or less.

Cause yeah, I

often run into that.

Learn More. Click here.

I like the one I saw

a couple of days ago.

Button. I just kept getting

button, button, button.

I'm thinking, yeah, but

what's the button going to do?

It doesn't tell me.

So if NVDA sees,

you know, reads

out to me, button,

I don't touch it.

I don't know what

it's going to do.

What is in the future for NVDA?

[Quentin] Absolutely.

So, we've got…

a couple of things.

I had something in mind that's

gone completely out of mind,

that we added recently,

that I was thinking developers

might be interested in that,

and it's gone right out of mind.

But one feature

that is now available,

which...

might be useful to

developers, is previously,

when you're on the web,

if you,

you know, hold down shift,

and press the down

arrow a few times

to select a couple

of lines of text,

NVDA would select that.

It wouldn't show

anything on screen,

but it would select it.

And when you copied

it and paste it into,

say, a Word

document or an email,

what it will give you

is just the plain text.

Not any formatting,

not any headings,

not any images,

anything like that that

you might've selected,

just the plain text.

What we can do now…

is we, last year, it was,

we introduced what we

called Native Selection Mode,

which let you select…

exactly what was…

on the web page,

what was presented,

how it was presented,

and copy that.

Initially, that was

just in Firefox.

Now we've also

brought that to Chrome,

Chromium, Edge,

etc.

So, what we're…

probably going to do shortly

is make that the default,

because that's what

a lot of people expect.

So that will then line

back up with what,

you know,

developers might be expecting,

users might be expecting.

[Narelle] Actually, that's

a good one, because…

Yeah. I get frustrated,

actually, because, you know,

when I'm copying something and I

think, that'll give my headings.

I can copy it, put in a

document, and keep going.

Then you've got to reformat it,

and as a person with

a vision impairment,

I've got my documents

set up to easily do it,

but it's one extra job that'd

be nice I don't have to do.

So, yeah, that's a good one.

[Quentin] Exactly. And the other

thing with that that a lot of…

people who are

sighted who use them,

or partially sighted or

fully sighted who use NVDA,

is, if you select something…

on a web page with the mouse,

you can, you know, click

and drag to select things.

NVDA wouldn't recognise that,

and you'd select it

and press control C,

it wouldn't copy it because

it wasn't in NVDA's buffer.

With native selection

mode, that will work now.

[Narelle] Fantastic.

[Quentin] In the meantime,

if you do need to do that,

right click and choose

copy from there.

[Narelle] Copy. Yeah.

Quentin,

we've talked about testing,

and a couple of things within

NVDA and tools that can be used.

What are the really

good pieces of advice,

takeaways for

developers, for designers,

in testing within NVDA,

other than just do it?

[Quentin] Yep, exactly.

I think what I often come

back to is the really…

I'm going to say simple things.

And that's not to say

they're simple but…

the sort of key things…

are, can you get,

and this is perhaps more

for standalone programs,

rather than web pages.

But can you get everywhere

you need to with the keyboard?

In a program itself,

if you can't get everywhere

with the keyboard,

it doesn't matter

what NVDA can do,

it's not going to

be able to do it.

[Narelle] Yeah.

[Quentin] And

have you got things…

linked to,

you know, if you've got an image,

does it have alternate text?

If you've got a button,

is it identified as anything

other than button?

[Narelle] Yeah.

[Quentin] Everything provides,

whether it's the web or

whether it's, you know,

a program you're writing in,

you know, something else.

Everything provides a

way of linking those labels,

and giving that information,

so do make sure you use that.

And if you want a button,

then first of all,

use a button.

Can you use a button, one

of the default defined buttons,

rather than going and creating

something yourself from scratch.

That button that

you styled yourself

and made out of

nothing is beautiful,

but did you include accessibility

stuff to make it work?

[Narelle] That's actually

a good point.

[Quentin] Yeah. If you can use

an out of the box component,

it usually comes with

all that accessibility stuff…

behind the scenes so you

don't need to do any extra work.

-[Narelle] Yeah.

-[Quentin] Yep.

[Narelle] Quentin, how can

people keep in contact with you?

Because if they want to

find out more about NVDA,

you know, talk to you,

what's the best way

of contacting you?

[Quentin] Absolutely. So,

our website is nvaccess.org,

and pretty much everything flows

from our social medias and so on,

@nvaccess and so on.

Yeah. We have a…

One thing we brought in last

year, we've got a mailing list,

finally, so you can subscribe.

And you know,

if you only want to hear when we

release a new version of NVDA,

you can subscribe just to that.

Or you can get our,

you know, fortnightly blog,

or other information

from us, that's…

that's all there.

And yep,

you can reach out to us,

ask us questions,

find out more about

us and what we do,

and how we can help you.

[Narelle] Yeah.

As a developer myself,

I can only encourage

developers, designers,

website developers,

test within NVDA,

at a minimum.

And there's other

things you can do as well.

Definitely contact me

if you want to find out.

There's some simple

tricks that you can do

that is going to

get you on there,

and we're calling it The

Digital Accessibility Movement.

NVDA is used, I don't know how

many countries now in the world,

but many, many

countries in the world.

[Quentin] We conservatively say…

over 250,000 users in

at least 175 countries,

and over 55 languages it's

been translated into as well.

And excuse me,

I've got a frog in my throat.

[Narelle] Yep.

[Quentin] And we also…

That international

community is as well,

so there's 55

languages that NVDA…

interface has been

translated into,

but I know, for instance,

some of the the synthesizers

that you can use NVDA with,

eSpeak…

is a popular,

and I'll say somewhat

contentious sometimes one.

It's not the most

human sounding one,

but it is available in something

like 125 different languages.

[Narelle] Wow.

And that's it. It's all about…

people being able

to communicate,

read the information,

in a logical order,

making sure it is readable,

accessible, because…

everyone loses,

well, not everyone.

Most people do end up

with some form of sight issue

as they get older,

and this is a tool

that you can use.

It's only as good as the

amount of testing that's done.

Quentin, thank you.

I really appreciate your time.

If you like what we do, please

like, subscribe, review, share.

We really do love feedback,

and I keep saying

even the ugly stuff.

And yeah.

We need to know.

And don't forget,

you know, even the vision stuff,

I can't actually

see really well.

So having someone say, oi,

that goes, perfect.

That's great.

Feedback's always good.

And we'll see you next time

on The Digital Access Show.

Have a good week.

[music playing]