05-03 – Hearing Accessibility

STEVE SAYLOR: Hello. In this part, we're going to be talking about the deaf and

hard-of-hearing accessibility guidelines. These are sort of the basic

kind of common accessibility guidelines that we would recommend

when you're trying to be able to create a game or when you're

looking into accessibility and you're just kind of curious what are sort

of the common accessibility barriers. This will be the common ones

for deaf and hard-of-hearing, and we'll be using The Last of Us II to

be able to showcase that. The first guideline that I want to be able to

mention, the first sort of thing that you want to be able to have in

there, is obviously provide subtitles for all important speech.

Important speech means that which would make a significant impact

to the experience without either narratively or to someone's ability

to be able to play. In most cases, this means speech by protagonists,

and instructions and prompts given through speech. Subtitles are

widely relied on by gamers more than consumers of other types of

media. They're used for all kinds of reasons due to physical hearing

loss, due to low quality mobile speakers, due to a noisy environment

because of unpredictable dynamic sound mixes, to avoid waking the

baby, because localization has been done solely through subtitles,

and many other reasons too. So it's kind of used... We'll jump into

The Last of Us II, actually, in a second. But essentially, I want to be

able to kind of mention in regards to important speech. So this is

anything that is required either from a story standpoint or from a

gameplay standpoint. Obviously, for those who are deaf or hard-of-

hearing, you want to be able to at least convey... Excuse me. I just hit

the mic. You want to be able to convey the story. And if it's conveyed

in dialogue, you want to be able to have every single piece of

dialogue that is actually enabled in the game as subtitles, or

essentially full captions. And also, when it comes to anything that's a

visualization or anything that requires sound in order to be able to

play, you want to be able to have those important... that information

being provided to the player via a visual visualization. Again, whether

that's dialogue, and that's kind of generally typically where subtitles

sort of lie in there. I have seen games that have full captions,

essentially, that could also work as well. But essentially, you want to

be able to have that available. So let's jump into this in The Last of Us

and I'll show you exactly how they were able to do that. So again,

we're in the Options menu, and if you go to Options and then if you

go to Subtitles, you actually have the option... I have it currently set

to this particular setting, but I'll go back to kind of what it generally

would be at, which would be Off. You do have the option to be able

to turn it on at the beginning of the game, which is really great, but

the sort of default subtitles is Story Dialogue. Again, this is sort of just

story that... Actually, as it even says here, "Enables subtitles for main

characters, important enemy dialogue, and cinematics." So this is any

time that characters interact with each other and cinematics, but

also if there are important enemy dialogue, whether they found...

like, an enemy has found you or is looking for you, and you want to

be able to have that as part of the subtitles, so at least then a player

can be able to know what is going on in that particular sense, or you

can be able to set it to story and combat dialogue, so you can actually

be able to have both. In combat dialogue, in this game, enables

subtitles for additional enemy dialogue while in stealth and in combat. So this also even adds an extra layer of subtitles so that any combat dialogue, essentially, will be conveyed via subtitles. Now, the subtitle options. These are generally, I would say, probably the best subtitles I have ever seen in a game, and I kind of wish that this could become the standard for deaf and hard-of-hearing, in regard to at least the presentation of subtitles, because essentially, you want to be able to have it so that every single dialogue or every single piece of dialogue is portrayed in the subtitles, but you also want to be able to display it in a great way. So, for instance, in the way that The Last of Us does it, you can be able to set it from... You can see on the example here, you can set it to small, medium or large. But even what's great is that the medium is actually already a decent text size, and we'll get into that when we get into sort of the visual disability. But I do want to be able to mention that having a default text size that is this large, even for subtitles, is actually really, really great. And this actually lines up with even the default text size that is on screen for a lot of the HUD. So keep that in mind, that essentially, you want to be able to make sure that the default text size, even at your

medium sort of default setting for subtitles, is still a decent size, but

that you can also go a little bit smaller if the player prefers it that

way. You can also be able to set the background from either… which

is Off or Default, which kind of adds a little bit of transparency in

behind the dialogue, or Darkened, which is sort of, like I said, an even

darkened, kind of like more an opaque kind of background to this

subtitle text. I'll actually show how The Last of Us kind of does it, but

generally, in most games, it usually is a black box that is surrounding

the subtitles, typically how you would see captions in a TV show.

That's generally how it's done. You can also be able to set names. So,

for instance, if I turn this off, you won't be able to see that is Ellie

saying, "Come on, let's go," but if you turn on speaker names,

essentially then the player knows who is actually speaking. This is

also great, again, especially if you're in a game that has a lot of

different characters. For instance, Assassin's Creed, there's a lot of

characters. Or any, actually, RPG, there's a lot of characters that you

meet, and if you repeatedly interact with them over the course of the

game, sometimes you can forget who's talking to who, especially if

there's a lot of people in the same room. You want to make sure that

like having the ability to add speaker names is there so that the

player... Not only just so deaf and hard-of-hearing can know exactly

who's speaking, but also for cognitive disability, too, where

essentially... Like, there are times that you may forget or you have a

short-term memory, and it's like, "Wait, who is that character? I

don't even remember. What is that character's name?" And if you

see this as a speaker name, then you'll actually be able to, "Okay,

wait. That is who is actually speaking, and that's who it is that that is

that I can actually... Okay. I now remember this particular character."

Also, name colours. You can be able to turn that on or off, whether

it's just having a basic default colour or set it as Name Colours On.

You can also set direction, this is the key thing that I love about the

subtitles in The Last of Us Part II is this direction arrow. So I'm going

to turn it off so you can actually see. This is our default. That always

is on, but if you have the direction on, this arrow will basically point

to the direction as to where that character is if they are off screen, or

this... And then the arrow will point even to the... Like, even if you

move your camera around and you're in a sort of a gameplay setting

and a character is talking to you and it's not a cinematic, you can be

able to move the camera, and the arrow will move wherever that

person is so that you know where that person is and where they are

speaking from. This actually also is enabled in the cinematics as well.

So if a character is off screen or off camera, that arrow will also still

work and will point in the direction as to where that character is in

relation to the scene itself. So this... I kind of hope that other studios

and other games will include this feature in, because I think this is

really great, not only just for deaf and hard-of-hearing, but also,

again, for cognitive and for visual disabilities, knowing where that...

Like, if you have a low-vision and a cognitive disability, knowing

where that character is that's speaking to you is such a nice addition,

and it actually kind of immerses you a little bit more, and it actually...

Like, to me personally, I love this setting. I use it, I love it, it kind of

helps in that regard, especially if the audio is... Unless the audio is

able to sort of do, create a 3D audio space, which some consoles...

Like, the newer consoles, the PS5 and Xbox Series X actually do allow

you to be able to do that if you have a 3D audio headset. This game

actually does have a 3D audio sort of functionality built in just for

headphones, not necessarily for... Actually, for 3D audio, just if you

have specific 3D audio headphones. We'll get into that one, actually,

when we get into the visual disability, because I do want to be able to

showcase that a little bit. But again, this directional arrow is amazing.

Again, I wish that other games would have this. So if you're building

subtitles into a game, having this arrow here is chefs kiss, as the kids

like to be able to say. So that's for direction. Also, you'll be able to

adjust the colour of the subtitles themselves, whether it be white,

yellow, blue, or red, or green. This helps for colour blindness, but also

just to be able to kind of separate the text and make it a little bit

more noticeable and give it a little bit more of a pop if you need to

on the screen so that it doesn't necessarily blend into the

environment as well. I'll show you, actually, how all this works

together when I kind of... when we go into the gameplay itself,

because I do... because a lot of this combined works really, really

well, and I do want to be able to showcase that within the gameplay

itself. So next for deaf and hard-of-hearing guidelines is provide

separate volume controls or mutes for effects, speech, and

background music. Actually, you know what? I'm going to switch

the... Here we go. So next, we're hearing and... So next, for deaf and

hard-of-hearing accessibility guidelines, you want to provide speech

volume controls or mutes for effects, speech, and background/music.

Loss of hearing can affect certain frequencies more than others, so

being able to control volume independently is essential. Depending

on what kinds of audio are important to your game, other sliders

might also be useful such as the Killer Instinct HUD slider. So I want

to be able to show that in The Last of Us Part II. So if I go into Audio...

In the Options menu, if you go to Audio, you can be able to adjust the

volume for pretty much every single kind of bit of sort of sound that

you're going to be able to hear in the game. So whether that's

effects, dialogue, music, cinematics itself separately, or accessibility

audio cues. Again, we'll get into that within visual disability. But

essentially, this is really, really cool, the fact that there is a slider

specifically for that as well, and including the text-to-speech, which is

in the game, and that's, again, also for visual disability. So having

these volume sliders here allow the player to be able to really

customize what works best for them. Say you want to be able to have

the dialogue a little bit more pronounced in the mix than, say, the

sound effects or the music, you can to be able to adjust that just by

using these sliders here. And this is great for a lot of reasons. Not

only just for deaf and hard-of-hearing, but also if you find that

certain... Like, you'll find that those who are deaf or hard-of-hearing

do have some hearing capabilities. And again, because they may not

be able to hear specific frequencies, they may prefer to be able to

have, like, want to have a dialogue or the sound effects a little bit

louder depending on what works best for them. So having that ability

to be able to adjust that for the player, the more options the better.

So you want to be able to include that in the game itself. Next

accessibility guideline for deaf and hard-of-hearing is ensure no

essential information is conveyed by sounds alone. Essential

information means something you absolutely can't play the game

without. Conveying essential information by sound alone is an

obvious barrier for people with physical hearing loss, but is it also... it

also carries problems for situational impairment such as playing in a

noisy environment, through poor quality speakers, or with sound

muted to avoid waking the baby. The obvious way in which this is

achieved is subtitles, but sounds other than speech can also be

essential to gameplay. For example, a siren alerting a player in an

event or an audio-based puzzle. So again, I'll show this in the actual

setting itself, in the actual gameplay itself, but you want to be able to

have, essentially, a visualization of sound for pretty much any sort of

sound that's... Especially if you're in a combat situation and if you're

playing a game without sound, or you're deaf or hard-of-hearing,

essentially, you want to be able to know if someone is going to be

sneaking up behind you or in front of you or they're off to the side.

You want to be able to have that, whether it's through text, through

a full captions option, or as sort of as a compass sort of radial where,

essentially, there's like a little bit of colour that sort of is in the centre

around the reticle that will sort of tell you which direction an enemy

is or which direction a certain sound is. Fortnite actually does a really

great job of this as well. Not only does it have a sort of radial

compass, but it also will sort of tell you what sound is available. So if

you find a chest or if there's a chest nearby, normally you can be able

to hear the chest sound effect and know that there's a chest nearby

you can open, but how do you convey that for deaf and hard-of-

hearing? You have it as part of the reticle, sort of like a little bit of a...

kind of like a circular thing, okay. And then it also has a little icon that

tells you what... and colour also, as well, of what that is. Then there's three different types of sort of visualization that helps a player. Again, just the direction, but also the colour and an icon that sort of tells you what is coming, like what sort of item it is that you're going to be able to... that you'll want to be able to interact with. So that's an amazing, an amazing feature that actually I think is great. And again, this also... You have to think in mind is that any time there is sound present, if a gameplay is tied to sound, you want to make sure that there is a visualization of that on screen for those who are deaf and hard-of-hearing. The next one, actually the last one here, is if any subtitles or captions are used, present them in a clear, easy-to-read way. The most common complaints about subtitle presentation are size, contrast, and the amount of text on screen at any given time, so ensure text is presented no smaller than 46 pixels at 1080p, either by default or through options. Text is against... Text against a solid or semi-opaque background known as letterboxing, ideally, combined with an outline shadow as well. Present no more than 40 characters per line, and two lines per subtitle. Sometimes, three in exceptional circumstances. Other important considerations include accuracy,

positioning them at the bottom/middle, or the bottom middle,

essentially, and avoiding any other UI clashing with them, and using a

clear, easily readable mixed case as opposed to full caps font. I've

already showed you, essentially, how to be able to adjust that within

The Last of Us Part II, but this is, again, extremely important because

you want to be able to make sure you can be able to customize

however a player needs it for. And I do want to be able to point out

as well... This is something that I didn't bring up, and I won't be able

to show that, at least in an example But essentially, there are games

that do use multiple lines to be able to convey a subtitle, like a line

for a subtitle. I've seen games that have, like, five or six lines per

subtitle, which is a lot for anyone to be able to read at any given

point. And you're also asking a lot of the player to be able to read at

a specific time, because all subtitles are timed, so you want to be

able to like, if you have a lot of information that is on screen with five

or six lines of dialogue, you're asking a player to try to be able to not

only read that amount of dialogue, but also read it at a specific pace

before the subtitle goes away, so that is a lot. So having it on two

lines, sometimes three if it needs to, if you're finishing up a line, that

is ideal because then you can be able to customize the size and the

background of each subtitle, and it won't necessarily break or affect a

lot of the UI if you include that from the beginning. So again, this is

kind of one of my own personal things, and also for deaf and hard-of-

hearing. Please do not have more than two lines, three sometimes,

for subtitles, because it's a lot. You're already pushing the limits for

dialogue and for people to be able to follow along. And again, if

you're having multiple lines, then your UI is already in a really bad

spot because, more than likely, that subtitle size is really, really small,

and you're already crunching in a lot of the UI into that, and that is

really difficult for players, not only just for those with disabilities, but

anyone playing in a couch-type setting and they need subtitles, and

they're looking and they're like, "Wait, what is that text?" because

it's very small because of how many lines of text there are. So that is

the hearing hearing accessibility guidelines. So I do want to be able to

show how that all works together in the game. So I'm going to jump

in here. Now, what's great again about the... about, specifically, The

Last of Us Part II, is that if you go into the accessibility menu, and this

is also presentable at the beginning of the game as well... Actually, if I

hide my camera here, you can see in the bottom right corner, there's a thing that says Presets. So if I hit this Presets button... I have it turned on right now, but essentially, you can be able to apply the hearing accessibility preset, which will enable all of the options you see listed here that essentially will be included in the game itself. So I do want to be able to show how this works by starting the encounter here with... And I'm actually going to be playing this with the sound completely off, so it'll just show you exactly what is needed and what is enabled in the game itself. And we'll be able to hopefully know at least kind of how dialogue sounds, and then also how combat works within the game. All right, so here is an encounter with the sound off, and I can be able to actually show you how this encounter works. So I'm going to actually be able to... To help me out, I'm going to actually take out some of these enemies because I usually die in this, so if I don't sort of take out specific enemies here... All right, so if I duck back to here, and then if I... I'm going to use my gun to be able to take anyone out. As you can see, there is a... There is, obviously, like a reticle that sort of tells me which direction each of the enemies are. And also, now that little reticle as well is perfect because then that

tells me the character is dead. As you can see, the dialogue is presented, and that is how deaf and hard-of-hearing, like, presets within The Last of Us Part II works in tandem together. So I don't necessarily always encourage people to play a game with the sound off to kind of help with that, but also that is a good sort of indication of how a game can be presented for those who are deaf or hard-of-hearing. So if you're able to present it in that particular way but also giving options to be able to adjust audio if need be, that sort of will cover a lot of the accessibility spectrum for deaf and hard-of-hearing. So that is how an encounter works within... with the deaf and hard-of-hearing accessibility within The Last of Us II. And I'll see you in the next part, which will be the vision accessibility guidelines. So thank you so much. I'll see you in the next part.