Key: <mark style="background-color: yellow">Positive aspect</mark> <mark style="background-color: cyan">Negative aspect</mark> <mark style="background-color: red">Usage difficulty</mark> <mark style="background-color: lime">Feature suggestion</mark> <mark style="background-color: magenta">Personal thoughts on DGBL</mark>

Interviewer

I think that transcript should have started.

Participant 2

Yeah, I just got a notification saying it has.

Interviewer

Yeah, that looks like it's going well. Yeah, it looks like it's going on there as well. Awesome. So.

Interviewer

Let's jump into it. So you've had a chance to, look at the participant information sheet. We've got your content form through as well, still happy to carry on with everything?

Participant 2

Absolutely yes.

Interviewer

Awesome. So have you got any questions for me before we get started, before we jump into it?

Participant 2

Nope.

Interviewer

Cool. Works for me.

Interviewer

The project itself, then, just to kind of kick it off, you might know a bit about it, but it's looking at designing a sort of GCSE level teaching tool for defensive cybersecurity. So we've got obviously cyberattacks on the rise. We've got a workforce gap that keeps getting bigger and new teachers coming into computing that aren't always necessarily equipped with the subject knowledge to teach the curriculum, that just kind of keeps getting deeper and deeper in technical skills. So this is trying to aid all of that to try and support GCSE computer science. And so did you study GCSE computer Science then with that in mind?

Participant 2

I did, yes.

Interviewer

You did. So what's the highest level that you've come to since then? In cybersecurity knowledge.

Participant 2

A module at university, but it was never cybersecurity itself, was never really covered in GCSE or A Level when I studied it on the government set curriculum. It was only when I came to university and took a cybersecurity module that I learnt more about it.

Interviewer

So, or it's just kind of mentioned, yeah, it's just kind of mentioned here and there, right? Just kind of these topics exist, these are concepts that exist.

Interviewer

This here's an attack. Here's a defence, that's kind of where it ends, right?

Participant 2

Yeah, absolutely.

Participant 2

Yeah, it was always very like when I had to question a teacher about it. It was always more. "Oh, yeah, this is the thing. But you need to be doing, you need to do a degree in cybersecurity to do it", which from what I've learnt at uni, I don't think was true.

Interviewer

So, so you would have appreciated being able to look at something in a bit more depth, you know at the time?

Participant 2

Absolutely yes.

Interviewer

Perfect. Then I'm thinking back to sort of not necessarily just GCSE, but studying in general. Were there times when you've used digital tools to kind of support your learning or have looked around for that kind of thing?

Participant 2

Yes.

Participant 2

Like you see when I was learning how to code for the first time properly, they put the online tutorials.

Interviewer

Yeah.

Participant 2

And always like coding camps online were very helpful just to reinforce what you've done in the classroom and.

Participant 2

What you do then to like take it further after that.

Interviewer

Yeah, sure.

Interviewer
Sure. So, it's never a replacement, is it? It's more of a, a kind of kicking in the right direction. You know, building on what you've learnt in the classroom, just trying to take it in, in another, take another step with it, go a bit deeper.

Participant 2
Yeah, absolutely. It's a supplementary tool. It can't. I personally don't feel it can replace in person teaching, but it can definitely massively improve a student's ability.

Interviewer
Sure. Perfect.

Interviewer
Then of the tools that you have looked for these coding camps and the current tutorials. Do you prefer kind of straight to the point, here's the content. Here's what to know. Or do you like to have a sort of layer of gamification to that?

Interviewer
Yep.

Participant 2
I kinda like a hybrid approach, so a like a page of not, not lots of text, I'm dyslexic, so I don't, I don't deal well with lots of text.

Participant 2
But like.

Interviewer
OK.

Participant 2
As in information about like what you're about to do, how you do it in like a tutorial format and then maybe on the next page a like a game or like.

Interviewer
Right. Ok. Sure.

Participant 2
But actually, they do the typing and the background activity and see how they implement it. So, there's a practical and non-practical approach to learning.

Interviewer
So, you like an interactive game, but with a tutorial that comes before it, just to make it absolutely clear what's going on.

Participant 2
Yeah, absolutely.

Participant 2
Yeah. If they're just jumping straight in to or personally, I would say that if I was just in there and I didn't know what I was doing, I jumped straight into a game. Yeah, I might be able to blindly make my way through it, but you get more out of it by having the, at least some context. Why are you doing it?

Interviewer
Yeah, yeah, absolutely. OK. Yeah, that's a good point to know, that's one I'll look at taking forward as well. So, moving on from those sort of background questions then if it's all right, we'll take a look at the prototype for the game itself.

Participant 2
Yeah, absolutely. I realised. I just nodded. But we don't have the camera on, so it doesn't help.

Interviewer
That's all right. I can. Telepathy. That's OK. So, I'm going to drop a link in the chat.

Interviewer
On the Teams chat there and that should take you to a website which is called Unity Play, which is what I'm just using to host the game itself.

Interviewer
So, if you could just have a couple of clicks through on that and see if you can run through the game. Just kind of voice anything that's going through your mind, how easy it is to use anything at all and we'll have a proper chat about it afterwards as well.

Participant 2
I think it now.

Participant 2
I've just got a white screen at the minute.

Interviewer
A white screen.

Participant 2
Yes. Oh, no, there we go.

Interviewer
Will you be able to share the screen? Oh, perfect. Awesome. Working, OK.

Participant 2

And it's so, yeah, I don't know. It was just widened. But I clicked on it and then it changed, OK.

Interviewer
Ah, so OK, good to know.

Participant 2
==So, I'm just doing the drag and drop it== at the minute and I've got the first one right, which is my shot. My teachers will be proud of.

Interviewer
Awesome. So how quickly did you?

Interviewer
So how quickly did you kind of get used to, you know, knowing how to control the game? Was it fairly easy to figure out?

Participant 2
Yeah, like there's the box at the bottom and the select the counter measure.

Interviewer
OK.

Participant 2
==I instantly drag and drop.== ==Select suggests that you might be able to just click== which I'm about to try now.

Interviewer
Yes, that is a good point.

Participant 2
Yeah, so just clicking doesn't do anything, whereas like yeah it says select which. So maybe like just ==saying drag your answer here or something along those lines== would probably be a more.

Interviewer
Yeah, absolutely.

Participant 2
I can't think of the words, but you've appeared to get the idea.

Interviewer
Yeah, I've got it. So it's more accurate to the interaction, right?

Participant 2
Yeah, absolutely.

Interviewer

Yeah, it's a more apt description of the, of the motion.

Participant 2

Mm hmm. Yeah, I've just got one wrong and it's come up with the.

Interviewer

OK, the little warning text at the bottom.

Participant 2

Like not an error message the like you've not, you've not. ==You've not got this right. Yeah. So, it's saying that the attack continues, which is quite nice.==

Interviewer

Sure. So, you like that that sort of?

Interviewer

Not aggressive language, more inclusive language.

Participant 2

No, it was, yeah, it wasn't there. Yeah. And it was quite just like.

Interviewer

Yeah.

Participant 2

It wasn't like you failed. It was very like, you know, almost like you've, you've still got time to stop this attack kind of thing.

Interviewer

One thing that came out of another interview interestingly, so to get your opinion on this as well, was this idea of instant feedback. How do you feel about this mechanism of having to drag away an incorrect answer yourself? Would you prefer it to jump back to where you dropped it from but still display the warning message?

Interviewer

So the idea being, if you drag it to on this incorrect, it'll display the warning message, but the defence won't stay there. You won't have to take it away yourself, it'll just go straight back to the bottom.

Participant 2

==Just bounce back. Yeah, that does make sense to me as yeah, as long as I guess the warning message stayed, that would be fine.==

Interviewer

Would you kind of would you lean in either way in particular?

Interviewer
Or do they both do the trick?

Participant 2
I guess it depends how because it's more of a game than a test, isn't it? So I guess in a game it would make more sense for it to just bounce back and say, maybe a pop up window instead of where it is now. Saying this a similar thing saying well that's not quite right. That's the attack continues and then they can close the pop-up window and then just try again.

Interviewer
Right. OK.

Interviewer
OK, good idea.

Participant 2
And then I've got all three of them right now.

Interviewer
Perfect.

Participant 2
I like how the firewall has gone red to green.

Participant 2
And I guess an interesting one could be like instead of the box around the server or the computer little diagram being red and then green, it could sort of like just appear, like because there's nothing there. Or like you've got it as a square and there's kind of like 3 attacks going on every time you get one, right, the wall could be built, if that makes sense.

Interviewer
OK, that is a good idea, sort of like a shield.

Participant 2
Yeah.

Interviewer
Yeah, good idea. So we could build a sort of shield with each correct defence. Yeah, very good idea.

Participant 2
Mm hmm.

Interviewer

All right. Perfect. So is there anything about the design that you would change other than what we've talked about so far? So we've talked about potentially a pop up window for the warning message and more game style sort of shield protecting it built as you go on. Does anything else come to mind about the design that you would like to change or get rid of or introduce?

Participant 2

I guess from where I am, so like I've completed it now.

Interviewer

Yeah.

Participant 2

It could come up with saying like, I don't know, like this. I guess this leans into, like I said before, if there was like a little a little page saying the best way to prevent from phishing is just training your staff to know what phishing looks like. Yeah. So, like, afterwards, you could say, like, oh, congratulations. You have defended against the social engineering attack because of awareness training kind of thing. And just like, why that helps.

Participant 2

Yeah.

Interviewer

Right. So a little synopsis of a correct one saying this is that yes, this is how I protect against it.

Interviewer

Yeah.

Interviewer

Right.

Participant 2

I guess again like because, it's not on a, it's not on a timer like or you've only got 30 seconds to get all three answers. You could do it like. Well, you've got one right, up comes the pop up window saying congratulations. That's right. And a little, a little thing saying here's why.

Interviewer

Yeah, makes sense. And you mentioned sort of limiting feature there. What about sort of for example like you have 5 attempts overall, if you don't get all of the threats in five attempts, then another pop up window saying you know you've failed the game or language to that effect.

Participant 2

Yeah. No, that that would sound good.

Participant 2

That would add a little bit more of a challenge element to it, and I guess if you could have some

students that are like almost slightly perfectionist and they would like want to keep going.

Participant 2
To you know, just because they didn't get 100% and ==it would act as a good revision technique as well as the learning technique.==

Interviewer
Yeah, yeah, absolutely.

Interviewer
OK.

Participant 2
I don't know how it's it could be.

Participant 2
Let's say it's in a published format on a website kind of thing. Or like just a school system and ==you could have like a scoreboard kind of thing about how well different students are doing.==

Interviewer
Yeah, sure.

Participant 2
Just to see like ==invoke a bit more interaction from students== just so like.

Participant 2
Working against their friends and things and seeing how well they're all doing.

Interviewer
Yeah, yeah. That makes sense.

Interviewer
Yeah.

Participant 2
==But even if that's not publicly available, that would help a teacher say, like, OH, student X needs a bit more help on this because they've tried five times and they're not getting, they're not doing very well.==

Participant 2
Mm hmm.

Interviewer
Sure. So available to. Yeah. So there's two sides of that like you said. So we've got the sort of competition element to you know, engage students further, but also enable a new source of information for the teachers. They're both really good ideas, hadn't thought of those.

Interviewer

So, supporting teachers to identify maybe weaker students.

Participant 2

Yeah.

Interviewer

So we've talked about extra features plenty then.

Interviewer

Expanding a little bit on the synopsis of a defence, that's good for a threat. What do you think about an extra feature?

Interviewer

During the gameplay, where a student could maybe type in one of the threats or the defences that's on the screen, they're not sure about and get a little synopsis of what the threat or defence is to kind of point them in the right direction, sort of like a tip tool.

Participant 2

==Yeah, absolutely. That sounds good==.

Participant 2

Just like almost like a, not a hint, but like just you're doing it off a limited number of attacks like in this that are in the game. So, you could just have a dropdown saying, oh, social engineering, I'm not quite sure what that is and that could have like a very brief like efficient. What is phishing kind of thing.

Interviewer

Yeah.

Interviewer

OK. Yeah. That makes sense to me.

Interviewer

Thinking back a little bit again to the GCSE days, do you think at all like this? Maybe in a more complete form? It's something that you could have used for revising cybersecurity topics?

Participant 2

Uh, yeah, actually this is, this ==looks really good for like GCSE style== students it's got.

Interviewer

OK.

Participant 2

It ==reminds me of like a bit like BBC Bitesize== kind of games, which I did a lot during like my, for my

maths and English GCSE revision and it's like they were for me. They were really helpful original techniques and I know like a couple of my fellow students at the secondary school did similar things.

Interviewer

Yeah.

Participant 2

Just keeping engagement as well, like even when you're not, you know you're not always in the mood to read a big chunk or, but you need to do some work so you could have that like it's a lighter form of education, which is fun and educational at the same time.

Interviewer

Yeah, I like that phrase that it's a lighter form of education.

Participant 2

Some teaching materials can't often, yeah.

Interviewer

Yeah. Yeah. It's not as heavy. It's not as intimidating to read through. It gives you that, sort of, you know, the real-world implication of I've got a threat over here. Defences here. I need to put that in the correct place or it's not going to work. You know that kind of real-world appreciation for what's actually going on behind the scenes.

Participant 2

Yeah, absolutely.

Interviewer

Alright, great. I think that's all the questions I had then. So the idea is that there'll be a survey released this week to evaluate the game with a first version of it. And then I'll take the learnings from this conversation, the interviews that are going on as well.

Interviewer

Further develop the game next week and release an updated version. You know based on what's come out of these conversations. There's definitely a couple of features that I've talked about with you that I've talked about in different interviews as well that should go into it. So, it's been very useful in that respect. Is there anything else that you might want to ask me or any other thoughts or guidance that you wanted to mention that you haven't yet?

Participant 2

No. Pretty, pretty happy.

Interviewer

Perfect.

Participant 2

Yeah.

Interviewer

Great. In that case, I will stop the recording. Then if I can figure out how to use teams.