R: So basically what happens with this, is you interview somebody, you write it up and transcribe the interview and analyse it. Now I know yours was done very quickly, quite a while ago

M: yes

R: So it might be more of a recall exercise

M: It’s true, and then… it’s not like a huge amount that I need to remember

R: we’ll start with- we’ll go through chronociligically, I’m interested first about the proposal. So your proposal was super, super cool

M: yeah, I was really looking forward to playing around with it, but all of my… tech demos that I did at home are just straight up… wouldn’t work, or they would work but… the best I got was a five centimetre distance to the infra red blaster and receiver, so I think I needed to power them externally…

R: Hmm

M: And then just, use the data… figure stuff… yeah…

R: What… do you think that would have worked… turning up to the school and uhm… if you had to do stuff with powering external stuff…?

M: I just think it’s just a case of more external parts there would have been, the more it would have needed up- We even had issues sourcing the parts in the first place from the BBC anyway…

R: Yeah

M: So more parts, is more difficult to source in the first place, and then… I mean, Peter said that he’d be happy to like, pick up any external stuff,

R: Yeah he said that to me too

M: On his end, but that’s kinda the case of…

R: yeah

M: It wasn’t totally comfortable with doing that, because I didn’t have chance to clear it through you guys or the BBC… and uh

R: I mean, yeah

M: It was only for three lessons, and the microbit has plenty of stuff in it so… the lesson could… the lesson… Microbit has plenty of stuff, you can still teach something in the… time… we gave for it. If anything the hard work was the way you spend ages setting it up, we had to take five minutes at the beginning of the first lesson just to set everything up.

R: yeah

M: I remember reading on the chat, that S and L were doing it in the car on the way there-

R: Just get the kids to do it” [laughs]

M: Yeah, I just though… look at the batteries put them in… and then sometimes they put them in the wrong way round which was an experience… I forgot how unworldly year 8s are…

R: [laughs] that’s a nice way to put it

M: Yeah

R: Uhm, so in terms of like- did you use the microbit before you wrote the proposal?

M: Uh… no… that was the first time I’d ever used it… I mean, I looked at the block editor because… There was a workshop-y type thing at Open Lab, as a sort of precursor, introduction thing to convince people to apply at that point. And they said “here’s what the thing is, don’t need to go too in depth, also try out the block editor”

R: Hmmm

M: But we didn’t get any devices-

R: [laughs] we ran out of time

M: So… it was quite… it was surprisingly accurate actually, the bugs in the hardware turn up on the virtual version

R: They are pretty good… so in terms of the prior work, from the stuff in January, do you think that helped? Was there something missing out of that workshop?

M: So, where the guy from the BBC came in and said hi?

R: Hmmm

M: That was quite good actually, that was what convinced me to actually apply at all, because up until then… I was really, sort of out… “Come up with something new” and then I realised that was just… teaching kids how to code and do all of that thing… Uhm, yeah. I… some bits, some aspects, seemed kind of forced from the beginning… like the Dr Who themes. That was basically a struggle which then effectively I failed at…

R: You’re not alone in that, even some of the stuff I’m doing “like, let’s make a Tardis”, and they say “Does it have to be a Tardis?” and it’s… no… not really, they can make it whatever they want. Yeah… the integration…. The reason it was Dr Who or Springwatch is because they originally had the idea that they could generate some clips for it-

N: But they didn’t do that… I remember they were saying they’d rather them be Blue Planet, but they don’t have the rights, but they do have for Springwatch and Dr Who… So “There you go!” Uhm, yeah, is… it’s just a bit odd.

R: Yeah, uhm, uhm that’s the whole reason for this dis- looking back at the BBC, and saying “thee feeback was…”

M: The most telling part “Who’s heard of Dr Who?” and nobody puts their hand up, and you ask “Who’s seen the Tardis before?” and nobody puts their hand up. “Who’s ever watched any Dr Who ever at all?” and no hands. So it’s like…

R: Yeah

M: Ten years too late for that really…

R: …yup [laughs]

M: [Laughs]

R: One of the things I was thinking in the proposals, to make it a little bit more linked in with the schools… the schools would… set like a… they’d almost give a brief. Like “we want a lesson that looks at logic” and the kids can say “We want it to be about spaceships.” So then say you’ve got five schools taking part, you’ve got five options and then you can decide who you want to write your proposal for.

M: Almost like you can…

R: If you think about your proposal, do you think it would help?

M: I think it might… hm… I wrote most of my proposal half an hour before the deadline… so… It was of debatable quality in the first place… like… I was feeling occasionally… but uh. [laughs] I think helping with the… if there was a little bit more guidance… I think it was almost free style, especially since I’d never used micro:bit before.

R: Yeah

M: “You can do whatever you want” Can I?

R: Yeah, especially if you don’t know what you can actually do

M: So for example, I put down my wackiest idea down and I kinda expected to be told “ok, cool idea but here’s the actual limitations of the microbit, and here’s how the actual idea might work.” Then what we were actually told was “These sound really cool, give us hardware lists.” And I’m here thinking “…is it possible?” because I’m still not sure, if I can even do what I put down

R: I’m not sure either… I’m intrigued, it’s always in the back of my mind… It’s a really cool idea. The only thing I can think of-

M: I think you’d have to use actual infrared lasers, but you can’t really take those into schools… the real lasers are…

R: Uhm, you can use ultrasonic rangers…

M: They didn’t seem to have any issues with the ultrasonic with the microbits

R: So ultrasonic needs to have more battery power

M: So you need a separate 5v…

R: So maybe older students, maybe not Year 8s… it’s a bit of a struggle

M: I spent so much time… fighting with the IDE, I… [muffled] Maybe it would be easier to do it in text.

R: I mean, like, genuinely, the feedback from the teachers, and you know how intense he is, he was really positive… like..

M: Really

R: You did really, really well. So don’t worry about the teaching side of stuff, it was more like an opportunity to let you see the kind of stuff that goes on…. So looking at then, if we move on from proposals towards lessons, you changed the lessons obviously. Infrared stuff didn’t work out… How do you feel the lessons went in general?

M: In general, the first one was fine.. like.. they finished everythingI wanted them to. The second one didn’t quite… basically I just didn’t know what would fit into a lesson. It’s been a while since I learned how to do these things, and even then… I sort of learned how to do these things and even then, I sort, I sort of learned how to program over the course of eight years going from really bad python script into really bad python script to go to university and now I’m doing okay [laughs]

R: [Laughs]

M:If you sort of try to cram all these things into one lesson, it’s kind of… one hour, and feedback about the lessons as well, it’s as about as intense as you can get with year 8s.

R:Yeah

M: Just a case of more lessons, otherwise you’re not really gonna help.

R: Hmm?

M: Yeah… So I didn’t feel like I’d… really… covered much… or I felt like all… out of all the people I teach, maybe one or two of them picked up intuitively and then everybody else needed more time.

R: Yeah… Uhm, so again thinking about that… thinking about maybe, what do you think the teachers should… should help doing an observation lesion? Maybe go in for a lesson and then see what the class is like…? Kind of… do you think… do you feel like if you’d have had something like that it would have helped you tailor your lessons to the class a bit better?

M: Uhm… I’d like to say yes? But I’m not sure the answer really is yes, because I think that’s just a set amount of… a lot of the kids just weren’t interested. Like… So…. This sounds pretty bad, but having done this I’m less of a believer of teaching everyone to code now than I was going into it beforehand, because…

R: Hmm?

M: I mean… there’s a certain amount of programming is probably not as important as like… reading, writing and maths and that sort of thing, because you depend on it. Like… One of the comparisons I heard one time was like “you don’t want the mayor of London to be an amazing Java programmer but you want him to understand basic maths, be able to be… uhm… be able to read, and sort of management-y type stuff, but it’s not really important to know how to code… So IT lessons were always about “make something bad in Flash” … that’s too far this way-

R: Yeah, and they’ve scrapped it now, it is now-

M: And then going “computer science”, throwing computer science at Year 8s, it’s just… too far in the other direction… and I think that’s…

R: Well if you think about programming, it isn’t just… a skill in itself…

M: Hmmm… it’s sort of a logical way of thinking-

R: If you think about the way…. You think about tasks and how you approach problems, it really is a way of thinking…. And programming is the concrete example of that way of thinking. So… I think everybody needs a certain level of that…?

M: Hmmm? I think… maybe there’s a way of teaching that… instead of jumping into coding? Like “let’s just jump into the IDE and start fighting logic, and also you’re going to fight with the computer you don’t know how to use” because… it’s uh, a school with kids who aren’t yanno… from great backgrounds, so they might have access to this sort of stuff normally… And then they’ve got to fight with the IDE as well… because they’ve never seen it before…. You sort of just, trying to learn three things at once and it’s way too much

R: And that’s maybe where there’s a bit of a downfall with this whol system, it’s going in with something that’s completely new, very quickly.

M: In too many areas basically… I think… Where I feel like I could have done better, is maybe sort of focusing…. I mean… Ideally instead of three lessons over the course of a term or something… it could just focus on the thinking logically and the programming part without having to fight… I can understand block IDEs being… minimal sort of IDEs… but they’re still, they’re very still… “Where do I find an IF statement?” “What is an else”, “Where do I get this other bit to pair…?” So then I have to show them… It’s like… delving into the really complex menus and windows when you want to change something, and nobody can find it

R: yeah, I think there’s something to be done around that background to knowing where the kids are at and what they’ve done… because some kids have done Scratch before-

M: Yeah so some of them mentioned that, like “Why can’t we do this on Scratch?” Well, cause otherwise you can do the hardware stuff and they seemed satisfied with that stuff… and then some kids had no idea what was going on

R: Genuinely you’ll get that in every school in every lesson

M: Which is fine, but it’s when you just have no idea which part they’re confused about

R: Yeah

M: because a lot of the time I couldn’t tell if they could find the if statement block or… well some people were finding it, but just couldn’t comprehend what It does, and if they did find it… well… even then…

R: That’s… So that’s a teacher issue, again, it’s not something you should worry too much about. The fact you’ve gone in and taught it, and they got anything good at all… is a positive. So don’t worry too much about the “I don’t know if they understand the basis of the if statement” because for ages when I first started university I had no fucking clue what a FOR loop was! I was in university to do computer science and… admittedly, had no computer science background and just thought it would be fun… but probably took me about three weeks?

M; Yeah

R: And that was okay…

M: And that’s fine

R: So the fact that, yanno-

M: But that was three weeks learning it most days

R: As opposed to these groups that have done literally an hour a day…

M: Yeah…

R: So if they got anything at all, that’s all you need think about!

M: Yeah…

R: But I think knowing the particular skill level of that group would…. Their background, maybe some starter exercises that you could give the teachers to teach to prime them… and teach them how to use the interface so you can fit in and do that, and then do your lessons and not have to worry about “oh no, how do we download things?”

M: Yeah

R: Cause that is an issue in itself

M: Yeah that was a lot of wasted time, and it doesn’t really feel like you’ve taught them any useful skills. It’s just part of the tools

R: But you can probably think in a few years time, they’ll think back and remember “oh that time we did the things with the computers…?” Even just that stuck in their minds, knowing they programmed these mini computers is quite cool… Even if they were just like “Oh we just made it show LEDS!”

M: Yay…!

R: That’s still fine!

M: In the end it did reach a point where they could all play rock paper scissors. Except I accidentally… swapped the uh… the win and lsoe conditions… for like… paper or something… so they would both be told that they lost…. And…. One of them…. They were all like, a bit confused

R: Was it through radio and broadcasting in the group? And then they both received-

M: -it was just wrong, and bad, I was just throwing some-

R: -It doesn’t matter…! So like, moving on… like thinking about, kind of the lessons and what you’ve learned… do you feel like there’s skills you’ve gained from the process, that you can use..?

M: Yeah, yeah! I mean, it’s sort of… More comfortable… It’s like my first real teaching experience, so it’s all like…..

R: Like presentations and stuff? There’s not that many opportunities to do-

M: Hmmm… Most of the software engineering module forces it upon you semi-regularly, so as long as you volunteer to give them you still get to give them if you do a couple of slides… I’ve probably given half of them. I think, and sort of…

R: Now you’ve done three hours in front of a very interesting audience [laughs]

M: yeah… you don’t get audiences much less assertive than year 8s

R: [laughs]

M: Yeah… uhm… yeah… so sort of telling them… stuff as simple as “can everyone turn around in their chairs and look at the board” and you’ve got to wait for five minutes for everybody to do that-

R: “Can everybody turn their screens off”

M: Yeah… Especially when you’ve been speaking for an hour… and then… all of them do that classic thing where they do control+alt+left, and then the screen rotates-

R: And it turns? God… I remember that from school

M: They just… two of them, sitting their, spinning each others screens upside down like “sir my screen’s not working, what happened?” “You know what happened?”

R: Had one kid, and he’s just slam his head down at the back and I’d just have to say “cool, you’re obviously loving this” and then he’d go “Oh sir, I don’t get it”. So I’d go ask “what don’t you get?” and he’d say “oh I don’t understand this”, and I’d have to say “Well I’ve just explained it, were you listening?” “No…”. Basically, it’s just practice, it’s all it is… The first few times it happened I was like “oh my god, I’m so shit at this…” and now, it’s just… nah. Kids just want… they want to test you, especially at that age… Year 8 is interesting.

M: I think Year 8 was the year I realised that I didn’t have to do anything for the entire year.

R: I was horrible in Year 8 [laughs] I was a nightmare! So skills where… you… the… presenting confidence…

M: Yeah.. I think…

R: I think… one of the things I wanted people to get out of it, to know… So… computer science is quite technical, and a lot of the time you’ve got to explain technical things to non-technical people… In this case, Year 8.

M: I think… Interestingly I actually kind of… semi-struggled more teaching the technical stuff to the IT teacher who was with me in the class… because…

R: Hmm?

M: The kids, were sort of… they’re used to not caring about lessons because they go to all their lessons, and well “I don’t care but I’ll do what I’m told because I’m expected to”… uhm, the IT teacher didn’t particularly want tot learn any computer science and was under absolutely no impression that she needed to listen to me talk about it… so…

R: Yeah?

M: She was really, really not interested…. So yeah, I think there’s a certain amount of…. Once people really decide that they don’t care then it becomes impossible, but it was possible to fit it into… computing because this is what I do, and you can drill it into people an explain what things do… yeah at leas the concept of an “on start” and “forever loop”.

R: Yeah, so I’m attempting to run this as part of the career development model, doing basically the same thing but semester one would be working in schools, and just like… being a classroom assistant and then doing some research stuff here around computer science education. Then the second semester would be like this, but from what you’ve learned in first semester, then develop… some kind of… so the teacher would say we want XYZ, the kids can say they want XYZ, so then you could make something in response, whether that’s a lesson, workshop, lesson plan… or lesson resources… or video… you get the idea

M: Yeah

R: So please share that to anybody who’ll be looking for module choices [laush] I’d really like people to get academic credit for it

M: I’ll see who might be interested, because I’m in a year in industry next year now, so I’ll come back and then if I decide that’s something I’m interest in…

R: What’s your…?

M: I’m in London in a place nobody’s ever heard of-

R: What’s it called?

M: [Name of Company]

R: [Name of Company]?

M: Yes

R: What’s it for?

M: Sort of… you know Waterstones? That. But in London

R: Bespoke software?

M: Yeah, that, but sort of more like… teaching companies with agile spin off…

R: Sounds cool!

M: Yeah, it should be good! They have a sort of… teaching-y style and it will be really interesting to what they want me to do…

R: Definitely. And if there’s… if there’s anything that comes up, and you’re wondering how the university’s got anything, just send me an email…. Well… That’s most of it! There’s a couple last questions

M: That’s fine

R: So, one of them’s about the timeline. How did the timeline of the project fit you?

M: Uhmm.. sort of… preparation… or…?

R: So… the knowing about the thing, doing the thing… or preparing for the thing, doing the thing…

M: So… It was… I think the only awkward part was…. The two weeks where I was most active on working on the project were the two weeks leading up to the project because I’m a student and I’m lazy-

R: Yeah [laughs]

M: And it just happened to be the same two weeks where… everyone’s on holiday… and then I was coming back… that time was a bit awkward, but other than that I had plenty of time to prepare… If I had-

R: Would you prefer it to be-

M: -[muffled]

R: -Before the Easter Holidays? After the Easter Holidays? It’s difficult because there’s deadlines before, exams after….

M: Hmmm… The thing is the exams are way after. After the Easter Holidays are fine… but the week after you can’t do much-

R: Not the first week back, but the second week back…?

M: On the other hand, it’s easier for the school for it to be the first week back, because schools start to have GCSE stuff the week after that so… The first week back wasn’t that bad, sort of, as long as it’s drilled in that if you’re a student like me, that you will have to get something done… before… that.

R: Yeah

M: Then it’s fine… I think… I mean, you were… you were trying, you were sending out emails like “send me presentations”

R: “Send me the presentations!”

M: -and it was not happening.

R: No… and that’s… that’s fair… because I probably would have done the same at undergrad…

M: It’s… hard. I think… uhm… yet, other than that, the timeline was fine, there was plenty of time between sort of…. Putting it out there, and sort of initial needs fittings and doing that-

R: Yeah

M: I didn’t feel like I was being forcibly like… I felt like any rushing I did was my fault, not like your- it was my fault, so I can’t think of anything else I needed… There could be… If it was before the Easter Holidays, I wouldn’t have fallen into the whole… sort of “can’t… literally can’t email my teacher” thing… so yeah

R: and the last bit, is support. Do you feel like you could have had any more support from the BBC? From me? From your teacher you were partnered with?

M: Okay… so… TEACHERP was fine. He offered a bit of… in the sort of form of “is there any extra hardware that the BBC aren’t going to be able to get?” and I didn’t take him up on it, but I definitely… like… I could have.

R: Hmm. I think… he’s just gonna do it anyway.

M: He’s quite keen to sort of get the ball rolling…. And frankly get other people in to teach computer science-

R: Yeah. He’s uh- He’s put the thing out for…

M: He got somebody to apply for a job, and he was ecstatic at the concept.

R: I think he’s got three people to interview, be interesting to know how that goes…

M: yeah…

R: So what about the BBC?

M: Uhm…. Well… the event.

R: Yeah, they’ve been a bit…

M: Well that’s the bulk of what they’re supposed to be doing though… It did feel like… you sort of let me know that they couldn’t find the things on the equipment list… cause they had known what are output requirements were for a while…

R: Yeah, I had to go through hardware lists and source the hardware parts… like “these are what you need to order” and then they ordered the wrong things [laughs]

M: That’s. that’s…. you gave them URLs to what they needed and then they…?

R: Next year I’ve said they should just get the boxes and then… they should have… like… 20 LEDs, certain number of crocodile kits… so everybody gets the same kits?

M: That… and that… and make… doing the requirements thing initially too. Like you’re told what you get… and you’re also told… maybe some extra… bits of hardware you can ask for. You can request it. [muffled].

R: Yeah

M: You could even make it… like it wouldn’t be the end of the world if they said something like “you can have 12 bit:bots, but you have to figure out how to make people do things in teams” Even that would be fine.

R: Yeah, so even like… yeah. “You can apply for extra stuff but you need to add justification”

M: That was the main fault with that, when I was coming up with that kind of thing. Not only have I never used a micro:bit, I’ve got no idea what I can attach to one-

R: Yeah

M: So I’m just… kind of… guessing. So, actually being given, an actual list, would be actually quite good.

R: Yeah! So do you think there’s anything more that I could have done? Like… to help?

M: Uhm… no…?

R: Taxis? Taxis-

M: No-

R: Be looking at taxis a bit differently next time I think

M: Taxis weren’t that bad I don’t think

R: Well, that’s good! Is there’s anything else then that you think you might want to feedback on?

M: Hmmm….

R: If you can’t think of it now-

M: I think… my possible main thought- this might just be, this might just be the- it might just be the school that I went to, but like the computer science teacher seemed to go the entire way from sort of… teaching it… to the actual sort of… like… these kits quite easily could be turned into workshops for students to taking Comp Sci GCSE or A-Level, and then… yanno… sort of keep them interested in the subject because quite frankly TEACHERP showed me the coursework that they were doing and it was the most boring python script that I’d ever seen in my entire life-

R: Yeah

M: So I think… I think even outside of trying to make Year 8s interested, this needs to be just… a thing to make-

R: Like any year?

M: To make GCSE or A-level comp sci students not hate the subject that they’re doing.

R: That’s true, it would be really interesting. Even just opening it up to being primary school and secondary school, and then… schools can say “oh we want something for this year”

M: I think if the schools had more initial involvement, instead of the BBC coming up with some really odd requirements and then giving schools-

R: “Be crazy!” and then everyone’s crazy and going to schools… like “you can’t do that!”