[Isla] Hi, I'm Isla and you're watching the last episode of coding@home.

Throughout this series we've been learning how we can use coding to develop a digital solution

and we've heard from some inspiring people who are

using coding to keep Queenslanders safe and to make our lives easier.

Let's recap what we've covered so far.

In the first episode we covered cybersecurity and the importance of knowing

and understanding our audience in order to design a solution for them.

Then we looked at algorithms and turned some tasks into flow diagrams,

we learnt that the way a user interacts with an algorithm can be influenced by branches

and how coded algorithms were used to make drones smarter.

We started to learn how to code using a language called Python

and discovered that syntax is really important.

Thanks to some experts we now know about functions,

variables and loops and how we can make our program interactive, robust, and easy to maintain.

Now you have most of the skills you need to complete your project.

Today we'll be looking at the final touches for

your project - evaluating and presenting your work.

Let's start by speaking to this industry expert

who'll tell us a little bit about evaluating your work.

[Stacey] Dr Cam thanks for joining us today.

Now can you tell us about some of the research you're doing

and how it's helping people be more successful in their work?

[Cam] Sure. I research how feedback can be made more effective for students

in their learning and a big part of this is self-assessment and self-evaluation.

[Stacey] Now those terms might sound similar but really, they're quite different, aren't they?

[Cam] They are different but they all work together towards setting students up for success

let's look at feedback first.

So, feedback answers three questions for students. First it answers, "Where are they going?",

or what success looks like. Second it answers,

"How are they going?", are they on track for success.

And third it answers, "What could they do next to improve?"

Self-assessment is a bit like you're providing your own answers to those questions along the way,

whereas self-evaluation is typically something you do at the end when you reflect and look back

and say, "Did I achieve what I set out to?" [Stacey] Why is it important that the learner

has these skills. I mean it sounds like this is something the teacher

would be assisting with ordinarily? [Cam] And of course teachers are a big part

of the feedback process but we have to remember there’s usually only one teacher to many students.

So, students can be waiting a long time to receive feedback. So, it's really important

that learners can start to build their own skills and strategies in self-assessing.

[Stacey] Okay, so now we understand the importance of self-assessing, but how exactly do we do it?

[Cam]

Step One is to have a really good understanding of how you're being assessed we call this

the Success Criteria, and a good way to do this is to look at -or critique- a range of models.

Look at similar thinking, similar examples that other people have done

and analyse these according to the strengths and weaknesses of the strategies that were used

A great next step is Peer Feedback but you need to remember that Peer Feedback is a two-way process.

Sure, there's the benefit of getting someone else giving you feedback on your work,

but what learners might not realise, is just how powerful or how effective the strategy is,

when they actually look and review their partners work.

In this sense you're working or looking at the work through the eyes of a teacher,

and this can start to develop a greater understanding of what's required for success.

Then it's really important to come back and look at your own work - "Now that I've looked

at my partner's work, does my work look different?" and we call this Transfer.

When we compare our performance or our work to those other models or examples.

That's when we the learner can self-assess and see,

"What opportunities do I have for improvement?"

[Stacey] How can we continue to develop these self-evaluating skills?

[Cam] Basically we can get better by being more active when we self-assess.

Successful learners are much more active when they self-assess. When they review models or

peers' work, they really look for the success criteria and see, "Where do they stand out?"

They then look back at their own work to compare. Another good strategy you could do, is to review

your work and actually go through and highlight the key success criteria.

"Are they really evident?"  "Do they really stand out?"

[Stacey] Let's consider the Premier's Coding Challenge - one of the criteria for Years 9 to 10

is: Modular functions improve efficiency of digital solution and data structures

used to organize data and provide structure. So, how could a student self-assess how well

they're going according to these criteria?

[Cam] So, in this instance the criteria is asking,

"Is your solution easy to use?" So, the first step may be to

do a test and navigate through your solution and see if everything works.

A second and -I guess more critical step- would be to see what could be improved.

"Is there anything that I could add or remove, maybe to make it more efficient?"

For instance, you might code your solution to do the same thing many times.

It's all well and good to write out the code multiple times and get the right outcome,

but when we stop to self-assess and look at the assessment criteria,

we can see that it's actually asking us to use the most efficient solution.

So, in this case, a modular function would be the most efficient strategy to replace

those repetitive sections of code and best fulfil the success criteria.

[Stacey] Do you have any last advice for students who would like to expand their knowledge?

[Cam] One of the best things we can do, is further develop our understanding of success

and in our research, we call this, ‘developing a nose for quality'

and this is what highly successful learners do. Whether they're in arts, or sport, or in the

classroom, highly successful learners have a really good understanding of success

and they do this by critiquing and reviewing different examples and

looking at the strengths and weaknesses and then comparing that back to their own.

[Stacey] Thanks so much for your advice Dr Cam!

And with all of that in mind we can’t wait to see your entries in this year's

Premier's Coding Challenge. Good luck everyone and most importantly have fun!

[Isla] Well that was insightful. Maybe we can apply some of what we learned from

Dr Brooks to our own projects, but also to an already completed coding project.

Let's hear from Blair Mckenzie, one of the winners from last year's [2019] Premier's Coding

Challenge, where the theme was cyber safety. Maybe we can learn a thing or two for our own project.

[Isla] So Blair, can you tell me a little bit about this game that you developed?

[Blair] It's a game about cyber safety and it uses the Cyber Safety Heroes to sort of teach

everyone about cyber safety. So, each card has a value,

and the aim of the game is to have a bigger value than your opponent's card.

On each card it has a tip about cyber safety. For example,

this one says, "Think before you share." [Isla] How did you come up with this idea?

[Blair] At the time I just started playing a

popular card game, and then I had this idea, "What if I could try and make a digital version of this,

using the Cyber Safety Heroes?"

while you were programming the game?

[Blair] When I was making this game, I really wanted to have a scoring system,

but Scratch doesn't know how to do Maths, and well take away numbers or add numbers, so I had to use

a bunch of operation blocks to sort of teach it to think.

[Isla] Oh yeah, did I mention Blair was also runner-up in 2018,

so he must know a thing or two about self-assessment and to stay on track.

[Blair] before I would add anything more to the game, I'd play the game over and

over again to make sure it was at a stage that I wanted it to... also get my sister

to play it a few times to see what she thought. It was a little annoying when she kept finding

like little flaws it had but it was it was good because I was able to fix them and make it better.

[Isla] So, Blair what are you working on now?

[Blair] At the moment I'm working on an RPG space game that has you roaming around an open world

solving cybersecurity problems.

[Isla] And are you using all the skills you learned last year for this project?

[Blair] At the end of last year I sort of started to realise that I'm reaching my limits in Scratch

and I've started learning this new program called Unity.

It uses a language called C Script which is a lot more complicated.

[Isla] Blair what would be your dream job?

[Blair] My dream job would be the head of a big gaming corporation

that has a game that everyone loves and enjoys playing.

[Isla] Do you have any tips for people who were thinking of

entering the Premier's Coding Challenge this year?

[Blair] There was a stage when I was making my game where it became, it became really,

really hard and really complicated and I was going to give up.

And [then] I just started loving figuring it all out. And when it started working,

it was like the best feeling ever. So, my only tip would be, "Don't give up."

[Isla] Wow Blair's game is heaps of fun to play, but don't just take my word for it!

So, you've all had a go of playing the game what do we think about it?

[Student 1] Well personally, I think it’s a really great game for kids to get into,

because it'll easily make them able to understand cyber safety,

and to be able to protect themselves online. [Student 2] I reckon the game is pretty impressive

for making on Scratch and it's a good quick game, quick game, fun to play in your spare time.

[Isla] Absolutely, yeah.

[Student 3] Yeah, I really liked the cards,

they were just really creative and really informative for cyber safety.

[Isla] Well i don't know about you, but I'm pretty inspired to keep going with my coding project.

[Isla] Well after that incredible success, how can you not be ready to get into coding?

You never know, we could be interviewing you about your project next year.

If you're interested in entering the Challenge don't go anywhere,

we've got some more tips coming up very soon.

[Isla]

Welcome back to coding@home! Today we're exploring how

to finish up your coding project. Before the break we learned about evaluating

your project so that you could enter your project in the 2020 Premier's Coding Challenge.

[Monte] Hello Isla.

[Isla] Oh hey Monte.

[Monte] Are you ready for your coding presentation?

[Isla] Wait, what?

[Monte] Yeah, after you've coded your chat bot you need to make a presentation.

[Isla] Presentation?!

[Isla]

Ah, thank you.

[Camera operator] All right Isla, you good to go?

[Isla] Yep. [Camera operator] Right

camera set, rolling, and action. [Isla] If you've been designing

along with us you should be well into your project by now and if you're planning on

entering your project in the Premier's Coding Challenge you'll need to put together a short

video presentation showcasing your entry. But never fear, just like I've been giving

you all the tools you need to help with your coding project, now I'm going to

give you some awesome tips and tricks to help with presenting your coding project.

[Isla]

Welcome to the pre-production phase. Also known as the planning stage, it's during this

stage that we really need to plan out exactly what we want our presentation to look like.

Your video presentation should have a strong dominant message throughout, so that by the

end of the video, whoever is watching it understands exactly what you want them to.

Remember when we started our coding project and we made a flow diagram to map out our algorithm?

Doing this first, allowed us to make a roadmap of our project,

and we were able to see really clearly what the project would look like,

and pick up any issues that might arise before we actually started writing our code.

And we should do the same with our presentation.

Instead of writing an algorithm, we’re going to write a script.

And instead of using decision blocks and rectangles,

we're going to plan out each part of our presentation.

Let's start by writing down the main points we want to get across in our presentation.

Introduce yourself - you might want to say your name, where you're from and what year you're in.

Introduce your project - What’s it called? What's it about?

Who is your target audience? How have you designed your project to suit that particular audience?

Evaluate your prototype - How well do you think it meets the judging criteria?

Talk about the innovativeness and sustainability

of your prototype - How can it be scaled up into something to help all Queenslanders?

So, here's our plan. Now we can break these points down even further into dot points

and start writing our actual script.

If you think you'll have trouble memorising a script word for word,

then you could just use these dot points as reminders for what you want to talk about next,

or maybe you do want to write out the script. Everyone is different.

Once you've got your script, or your plan, the main thing is to practice saying it out loud.

Practice in front of a mirror.

Practice in front of your pet.

Practice in front of your family and friends.

It might even help if you record yourself saying it, and playing it back.

This way you can hear if you stumble over words, or you talk too fast in some spots.

Remember we tested and evaluated our algorithm

and got feedback on how it worked, so get some feedback on your script too.

[Isla] All right. I'm ready for my close-up.

Okay it is time for production, but there are a few things we

need to double check before we actually start the camera rolling.

There are two really important things to consider - video and audio.

Let's talk about video first.

Obviously, I'm shooting coding@home on a big TV camera

but you don't need anything like that to make your video.

You could film using a smartphone, or a laptop webcam, or even a DSLR camera.

They say the best camera to use, is the one that you... have access to.

Most phones these days have the capability of capturing high quality video,

so you only really need your phone and yourself to make your video.

[Camera operator] Oh. So, you don't need us then?

[Isla] Wait! What what? No no no.  Come back! I need you! Please.

[Isla] Now this is important. We're not making social media videos right now

and since your entry will most likely be viewed on a TV or a computer screen,

make sure you film it in landscape orientation.

Now let's talk shot sizes. You're probably familiar with different shot

sizes, but you may not know what they're called, or why we use certain shots at certain times.

This is a wide shot.

It's often used to help establish the scene we're in and allow the viewer

to get an understanding of the location we're in.

This is a mid-shot.

It's a shot commonly used for delivering information.

You've likely seen it in news footage, documentaries, and all sorts of video content.

It's a great shot that allows you to clearly communicate information to the audience.

And like I said before...  I'm ready for my... close-up!

This is a high impact shot and can be used for emphasising really important parts of your script.

Maybe there's a part of your chat bot or coding project you really want to talk about,

and cutting to a close-up as you talk can really have a big impact.

All right, I think we're ready to move on to the next step.

[Sound technician] Hey wait!

[Isla] Wait... what's that I'm hearing?

[Sound technician] Don't forget about the sound!

[Isla] Oh yeah! Everyone always seems to forget about sound, but it's just as important.

If your audience can't hear what you're saying,

how are they supposed to get the information from just the video?

[Isla, talking over traffic noise] It’s important to think about the

location we're filming in. If there's lots of traffic,

or music, or even planes flying overhead, it can be difficult to record clean and audible sound.

Even wind blowing up against the mic means that your voice will be drowned out.

[Isla] The best option is to make sure you’re filming in a quiet location

where your camera microphone will be able to pick up everything you're saying.

[Isla] Okay, now it's time to head into the edit suite.

There are loads of free editing software that you

can download whether you’re working on a Mac or a PC.

There are even apps you can download that can edit videos on your smartphones.

Make sure you do get permission from your parents or guardians before you do this.

You can use these programs to cut together video footage and add some music.

Remember the music you select will have a big influence on what the feel of the video will be.

Hmm I don't think this track is very appropriate - let's try again.

Remember the music you select will have a big influence on what the feel of the video will be.

That's much better.

As you're editing, try and find spots in the presentation where you can add overlay.

This is footage that is demonstrating what your subject is talking about.

If someone is talking about trees, you could add in some overlay footage of trees, or if you're

explaining how your chat bot works, you could add in some overlay vision of your chatbot in action.

[Isla] And there you have it.

With a bit of work in the editing program of your choice, you have your masterpiece finished.

Now let's quickly recap what we've been through.

Before you start filming anything, plan your presentation and outline your main points.

Practice performing your script and get feedback from others if you can.

Think about the video, or the visuals of your presentation.

This includes the location and the shot sizes you use.

Try using the rule of thirds to help you compose your shots.

Don't forget about the audio of your shot. Can you film in a location to get the best audio?

And is the mic positioned in the best spot to capture clean sound?

Use your editing program to cut together your best takes.

Add music tracks and appropriate overlay to complete your video.

Getting to show off your project, especially one that you've been working really hard on, can be

lots of fun and with a little bit of practice you’ll definitely be able to get the hang of it.

And remember... if you stuff up a line then you can just do it again... let's do it again.

Yep...

And don't forget...no.

And remember...? And remember. Yep.

And remember, if you stuff up a line or forget what you're supposed to be saying,

then you can just cut the camera and do another take.

Even though it can be daunting,

try and enjoy yourself, and your authenticity will shine through.

[Camera operator] Aaaand cut. Yeah that was great! Really good stuff.

[Isla] Cool. Thanks!

[Isla]

Welcome back to coding@home TV.

Earlier this episode we heard from an industry professional

about evaluating our coding projects and why this step is critical.

I also shared the secrets behind movie magic to help present your ideas in

interesting and engaging ways.

Looking back, we've covered a lot of ground.

For the past four weeks we've been showing you the importance of coding,

AI and algorithm design in careers now and in the future.

We've also heard from some experts in the industry

explaining the value of developing your 21st century skills: creativity,

public speaking, critical thinking, including self-evaluation and problem-solving skills.

We also know the importance for all Queenslanders to keep

safe and secure online by improving their cybersecurity.

The Premier's Coding Challenge is a great way to develop these 21st century skills

and to make a difference to your community.

Now you know how to develop a digital solution,

here are my top tips for a great coding challenge entry.

Follow the advice you've seen on coding@home.

You can re-watch episodes online at tenplay.com.au.

Read the relevant criteria on the challenge website - either

Years 7 or 8 or Years 9 and 10 and highlight all the coding elements that you need to include.

Make your innovative solution interactive and robust

by creating an intuitive and functional user interface.

Be concise. Your video should evaluate how well your entry meets the criteria and how it could be

further developed to become a fully-functional, sustainable and innovative solution.

Keep it under the time limit of 90 seconds.

Your educational content must be about cybersecurity,

it should educate the user and provide tips with links for more information.

A great place to start is the challenge website Resources section.

If you need help understanding the criteria, ask your teacher, or a parent or guardian to help you,

or email coding.competition@qed.qld.gov.au.

The STEM team will be happy to point you in the right direction

and you can look at winning entries from previous years online.

Well that's it for coding@home, I've had an absolute blast showing you all those

tips for how to get started with your coding project, and we can't wait to see

where you'll go with making the cyber world a safer, more enjoyable place!

I'm Isla Nakano - Bye.

Authorised by the Queensland Government, Brisbane.