<upbeat music>

[Lia] Hi, I'm Lia, and you're watching coding@home, a regular educational program, which you can catch right here on 10 Peach and it will also be available online.

Now our mission is to show you guys just how cool and awesome coding can be.

On Wednesday and Friday mornings from 11:30 till 12:00, you can grab some tips on coding to create your very own project which you can use to enter the 2020 Premier's Coding Challenge, but more on that a little later.

Also, we will be catching up with some amazing Queenslanders who are using coding to shape our world.

So, get ready to delve into some super cool applications for coding in the real world.

Coming up today, we'll learn about cyber security...

[Holly] The reason cybersecurity is so important is because so much of our lives are intertwined with technology these days.

[Lia] ...and how to plan your project.

[Scott] We love to show students, just like yourselves how you can bring your ideas to life.

[Lia] The coding project we're looking at designing is all about cybersecurity.

This is something, we all know is very important and we're going to show you guys how you can be more cyber secure.

And how you can spread that message to other Queenslanders by creating a chat bot app.

Cybersecurity is part of your cyber safety, using a strong password, keeping private information private and secure, and thinking before you click on suspicious links means that you are being cybersecure.

If you don't do these things, then cybercriminals can use your information to commit crimes - like stealing money, like stealing people's identity and also spreading computer viruses.

These things can happen without you even seeing them, without you even knowing that they're happening.

Cybersecurity is important for all of us when we're online.

If you're in Years 3 to 10, then you can help Queenslanders become more cybersecure by submitting your app to the 2020 Premier's Coding Challenge.

Winning students will share in a $10,000 prize pool of some great prizes, including robotics and electronics kits.

Cybercriminals committing cybercrimes sounds like a pretty big problem.

But luckily, I can think of a solution, a digital solution.

If we can help more Queenslanders to become cybersecure by improving their online safety, then we can prevent them from being the target of these cybercriminals.

And one way we can do that is by sharing the message of cybersecurity.

A digital way of doing this is through an interactive chat bot app.

A chat bot is short for a chat robot.

It is a program that a user can talk to.

A chat bot is designed to answer questions.

If you've ever asked Siri, Alexa or Google a question, then you have used a chat bot, but a chat bot like Siri is a very complex one.

Our version will be a lot simpler and it will only be able to answer a few questions, but why would a chat bot be a good digital solution to our problem?

Well, let's take a look at the difference between a human helper and a chat bot.

A chat bot's only purpose is to answer questions and to supply information.

So, people will not be worried about interrupting it.

Or looking silly by talking to it or typing a question for it to answer.

A chat bot is a great way to help people who are looking to find out information.

However, chat bots can only help with simple questions and they're only as clever as people program them to be.

There are plenty of questions that a chat bot cannot answer.

Our chat bot will only be programmed to help users to learn about cybersecurity.

We also need to decide who will be using the chat bot.

Will it be kids?

Will it be adults?

Or will it be grandparents?

We call the people, we design a solution for, our audience.

Think about the kind of music you like...

Is it the same kind of music that your parents and teachers like?

Is it the same kind of music that your grandparents like?

Different audiences like different things.

And a solution designed for an adult, may not have the same appeal to a kid.

Here's another example.

Imagine if the clothes you wore were exactly the same as your parents' clothes, but smaller, or imagine if the clothes your parents wore were the exact same as your clothes, but bigger.

Kids and adults wear different styles of clothing that are designed differently.

Kids clothes are designed for kids and adults’ clothes are designed for adults.

The audience of a product is who it's designed for.

Let's recap. To create our chat bot we need to follow five steps.

First decide on our audience and design a solution that will appeal to what they like.

If we're going to program a cybersecurity chat bot.

We will also need to learn more about cybersecurity.

So, we'll need to do some research to help us become cybersecurity experts.

The third stage is to design our chat bot, to do this we will write an algorithm.

Our fourth stage is to program our chat bot.

This means writing some code.

And finally, we will need to test our chat bot and evaluate how well we did.

We will need to determine if our digital solution solves the problem.

Today is all about the first two stages.

Later in the show we'll be talking with some very special guests who will help us discover more about cybersecurity.

[Holly] There's been many times where technology that I've built here in Queensland has helped customers all over the world actually, save themselves from being attacked in a cyberattack situation.

[Lia] ...and how to create a plan for a digital solution that matches our audience.

Welcome back.

Earlier we talked a little about cybersecurity.

We discussed that different audiences have different wants and needs, and discovered

more about chat bots and what they're used for.

The chat bot we're working towards is going to be a simple one.

It only needs to be able to answer a few questions.

The aim of it though is to help Queenslanders by spreading the message about cybersecurity.

If we're going to be designing something around cybersecurity, we need to research the topic.

[Stacey] Hey everyone, Stacey here.

And today, we're going to catch up with another industry professional to help us stay safe online.

Who better to help us navigate all things chat bots?

and cybersecurity than IBM Security software engineer, Holly Wright.

She helps companies stay safe online using coding software.

Holly, how did you start you career in cybersecurity?

[Holly] So I got into cybersecurity because I wanted to work in an industry where you could help lots of people all around the world.

And I thought going into engineering and learning how to problem-solve would really help me do that and have a real impact.

[Stacey] What do you love about it?

[Holly] So the main thing I love about my job is I can sit at my desk and I can build one small innovative piece of technology and that can go all around the world.

So not just here in Queensland, I can have a global impact with one little thing I'm doing in my day-to-day job.

So, my day - I might spend my day coding, I might spend my day talking to people around the world.

My colleagues that are around the world and together we come up with new ways of helping protect businesses and individuals.

[Stacey] You must have many career highlights so far, but can you tell me about a time where you feel, you made a real difference to an organization and individuals as well?

[Holly] Yeah. So, because we work in security, we can't talk about specific customers or specific events, but there's been many times where technology that I've built here in Queensland has helped customers all over the world, actually save themselves from being attacked in a cyberattack situation.

So, what this means is they can detect the attacks quickly they can respond to them quickly and it means that they save millions and millions of dollars and actually prevent customer data from being leaked online.

[Stacey] It must be very rewarding.

[Holly] Absolutely. It really is.

[Stacey] Now, obviously you're doing a lot to help people, but how do chat bots help people?

[Holly] So IBM Security actually has a chat bot of its own and that chat bot

helps customers who have a quick question that they want to ask.

It can answer those questions without the customer having to make a phone call.

So, you can kind of think of a chat bot, like a little baby, when it starts out it doesn't know anything yet, but we teach it by giving it lots and lots of documents to read and it builds up it's understanding of a particular topic.

So then when someone comes along they can say, they can ask their question and the chat bot can either answer or maybe if it doesn't know the answer to the question, it can say, can you rephrase that or it might say, give us a call. I don't understand yet.

[Stacey] Holly, why is it so important to understand your client's needs and to know your audience?

[Holly] So, it's really important for us to understand customer pain points so we can actually come up with some innovations that help alleviate those pain points.

So, you can imagine trying to serve chocolate to someone who didn't like chocolate.

[Stacey] Hang on. So, you're telling me, there are people out there that don't like chocolate?

[Holly] Yeah, that's what I'm saying, but it's never going to work right?

If somebody doesn't like chocolate and you're giving them all the chocolate in the world, they're still not going to want chocolate.

So, what we have to do is we have to listen to our customers and understand what their problems are, so, we can actually build things that really help them.

[Stacey] Okay, I guess you do, make it very good point. Tell me more.

[Holly] Okay, so knowing your audience can actually make or break your design.

So, a good example that we had once was we were working with a security analyst and they were trying to detect cybersecurity attacks that were happening in real time.

So they had to read heaps and heaps of data, and it was a lot of information for them to try to absorb all at once.

So what we did was we came up with a solution where we used virtual reality and we built a star map.

So, you can imagine the sky - like space.

And we plotted all of those pieces of data in the sky.

So, this meant that the analyst they could quickly look up into the sky, and they could see the relationships between the data and they could respond to those attacks more quickly.

[Stacey] So you're the expert - can you explain why cybersecurity is so important?

[Holly] So the reason cybersecurity is so important is because so much of our lives are intertwined with technology these days.

So you can imagine, you know, most people are on social media, on the internet, even when you're just driving along, traffic lights are powered by technology.

So it's really important for us to get cybersecurity right from the very beginning.

So it only takes one small time for a silly mistake to result in some of your information being made available online forever.

So a good example of this might be a fingerprint, say someone was able to get a copy of your fingerprint, that person would be able to unlock your phone for the rest of your life.

[Stacey] So, can you explain how we can protect ourselves in this cyberworld?

So, there's a lot of things you can do, the first thing is just being aware of it.

So make sure that you're never reusing the same password on different websites.

You want to make sure that your password's really long, but you can use something like a password manager.

So you don't have to remember all of these different passwords.

You've got one place to go.

So you can also do things like making sure that all of the information that you share online is only ever with people that you actually know and that you trust.

So you should never put anything personal up there for the public to see.

[Stacey] Let's talk passwords - what makes a strong, secure password?

[Holly] So here are some of the really commonly used passwords and they're not so good because they're not very long, they're not very complicated, you can see some of them, somebody just swiped their finger along the keyboard.

So that's really easy for either a person or a really smart computer to guess.

So, what we want to do is we want to make sure we have a password that's unique.

So we're never reusing it and we want it to be really long so you can use things even like, phrases.

Something like, 'a hippopotamus called Mark', right?

It doesn't have to be a really complicated password.

Just the most important thing is that it's really long.

[Stacey] Are you ever too young to get a taste of coding and get involved?

[Holly] You're never too young to enter the coding world.

So while you're still at school, there's lots of things you can do.

So often there's robotics clubs or coding clubs.

There's also other things like the Premier's Coding Challenge,

or often companies will host coding challenges too.

And usually there's lots of prizes involved.

[Stacey] Holly, I've learnt so much.

Thank you so much for teaching us all how to be cyber secure.

And now I think I have to go away and think about my passwords and make them a lot more secure.

[Lia] Thanks, Stace!

Now we have our research.

Coming up, we're going to meet a super talented guest.

[Scott] Hi there.

My name is Scott Millar and I'm from BOP Industries.

We love to show students, just like yourselves, how you can bring your ideas to life.

[Lia] He'll give us advice on putting together the best team for our project and talk us through a plan to target our audience.

<upbeat music>

In this episode, we're starting the first few steps of our coding project hat will help assist Queenslanders with cybersecurity.

[Holly] We have to listen to our customers and understand what their problems are, so we can actually build things that really help them.

[Lia] We've done our research on cybersecurity.

Now we need to work out who our project is for.

How do we come up with a plan to find a certain audience?

You can have the greatest idea in the world, but it won't reach its full potential, if it can't find, its right audience.

Big ideas, cool tech and finding an audience is what BOP Industries is all about.

[Scott] Hi there.

My name is Scott Millar and I'm from BOP Industries.

BOP Industries is an education and technology company that travels around the world teaching primary and high school students about entrepreneurship, tech and innovation.

We love to show students, just like yourselves, how you can bring your ideas to life.

Would you believe me If I told you that I've been doing this since I was 14 years old?

I love coming up with big crazy ideas and then figuring out how to make them work.

That's how I went from selling keyrings at local markets as a 14-year-old to running holographic events, all around the world as a year 12 student.

Now, as a 20-year-old, I have the really exciting job of working with students, just like yourselves from all around the world, [to] bring your ideas to life.

Now, before we get started, there are three key personas that I want to tell you about, that'll help you with your project.

Now when it comes to building a strong team, you need three key personas and those are Hipsters, Hackers and Hustlers.

Companies all around the world, have these three key personas on their teams to help them solve big problems and build really effective teams to create really exciting solutions.

So what we're going to look at is Hipsters, Hackers and Hustlers and how you can incorporate those into your team.

First up, we have our Hipsters.

Now our Hipsters are very design focused and have a lot of great ideas.

They love to make sure things look great and work smoothly for the customer.

Next up - we have our Hackers.

Now our Hackers are problem solvers, they love to take a challenge and figure out how to build that final solution - looking at how things are going to work.

And finally, we have our Hustlers.

Now, our Hustlers are the leaders of the group.

They make sure that everybody stays on track and they're going to make sure that the final product is something that your audience is going to want to use.

Now when it comes to building your team for the project, it's important to have a mix of these three roles, but remember that everybody has different strengths, and if you've got a smaller team, that's okay.

You can be more than one persona.

For example, I'm a Hipster and a Hustler as well.

I'm very creative and I have a lot of ideas, but I'm also very business focused and love to make sure that everybody's on track.

So remember, everybody's strengths in the team and remember that it's okay to be more than one persona.

As well as understanding your personas on the team, it's also really important to understand what kind of persona your customer falls into.

In business we call this our customer persona, and it's really important to understand because of the end of the day, your customers are going to be the ones that use your chat bot.

So you need to make sure you're designing a chat bot that they genuinely want to use.

It's important to develop a good customer persona, because you're going to be considering them at every stage of your design process to make sure you're designing a chat bot that they genuinely want to use.

An example of a customer persona might be someone that shops at their local sporting store.

Let's call this person Milly.

Milly is a frequent shopper at her local sports store and most of the time will buy her, activewear, and sports equipment from there.

She loves the store as she's a primary school Health and Physical Education teacher.

So she's always buying new sports equipment, for her students to use, and she's always buying new active wear, as she loves to keep fit after school.

Milly loves buying new sporting equipment for her students that's bright, safe and easy to use.

It's really important that sports stores have a really good understanding of this and a good understanding of customers like Milly, so they can make sure that they have the products that people like

Milling genuinely want to use.

Before you start building your chat bot, it's important to think about who are your target customers going to be, why are they using your chat bot, and why they're going to like your chat bot the most, and what are they using your chat bot for?

A good way to do this and to start thinking about your target customers [is] to look at the other apps and websites that your target customers might already be using.

Think about the features and the level of complexity within your chat bot.

And finally, you've got to make sure that your chat bot is something that your target customers actually want to use and something they're going to enjoy using.

For this I recommend thinking about the sort of colours you're going to use in your design.

Think about the sort of words you're going to ask in your questions and think about how is your target customer, going to use your chat bot and is it going to be something that they're going to enjoy using.

For example, if you're working with pre-school students, you probably don't want to use big words and complex language that might confuse them.

You want bright colours and really fun words to try and engage them as they work with your chat bot.

Now, on the other hand, if you're designing for an adult, the sort of information they're looking for is probably going to be very different to that of a student.

Now to recap, some of the top things to remember, when designing your chat bots are -

1. Identify your team roles and responsibilities as Hipsters, Hackers and Hustlers.

2. Think about who's going to use your chat bot,

3. Identify what their technology knowledge is like, and what sort of apps they use already and 4. Plan some key ways to engage them with your chat bot.

Once you've got these key points planned out, you should be ready to go.

I can't wait to see the amazing chat bots that you create by the end of your project.

[Lia] Wow.

Coding has some amazing applications.

I mean, how cool are chat bots?

Remember when you guys are designing your own chat bots to think about who you're designing them for - your audience.

No matter what you're creating -the person or the people you are creating for- are your audience.

And in order to be successful, you need to think about what will suit them best.

Once you know who you were going to be designing your chat bot for, try and think of three things that your audience will really love about this design.

List these features down and try and take some notes or make some sketches on what they might look like on your chat bot.

And of course, think about joining in and participating in the 2020 Premier's Coding Challenge.

It's going to be so much fun and we'll give you heaps of tips and inspiration along the way.

Remember the 5 stages, we need to follow to make our chat bot.

1. Decide on our audience and design a solution that will appeal to what they like.

2. Research cybersecurity.

3. Design our chat bot.

4. Program our chat bot. This means writing some code.

And 5. Test our chat bot and evaluate how well we did.

We need to determine if our digital solution solves the problem.

We covered stage 1 and 2 today and will be moving through the other stages in our next episodes.

Well, that's it for coding@home for today, but we'll catch you guys on Friday for our Secondary school show.

Make sure you stay safe and look after each other.

Bye!

<upbeat music>

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