



Story 2: Hacker Games a CyberSprinters adventure story

Press here to continue



Kids

Hacker Games is the 2nd story in the CyberSprinters series – so get ready for another cyber spy adventure!

In this story you decide what happens on each page. Can you identify The Hacker?

There are some tricky choices and brain teasing puzzles along the way. You can read this story with your parent/carer, grandparent, aunt - any adult you trust - and swap ideas on what the right answers might be.

Adults

This is an adventure story families can read together. It is the 2nd story in a series of 3. We recommend starting with the 1st story.

You can read this story several times, making different choices each time. You can read the story with your child/family member, and discuss the answers together. Or they can read the story and ask you when they want extra help with their choice.

This story contains important advice about cyber security. It's a great opportunity to talk about how to keep information secure online. For more advice for families, see our CyberAware webpages.

On each page you will see buttons to either 'continue' the story or decide what happens next. Choose 'Let's Go!' to begin your adventure.

Let's Go!

You love your job as a cyber spy at the national intelligence agency, GCHQ. They provide puzzles to keep their cyber spies' brains sharp. You grab a hot drink before getting to work on today's one. Can you solve it?

GCHQ Daily Brainteaser

cakerh

Rearrange the letters to find the word

Click here for a clue

Press 'Continue' to find out the answer.



What is the name for a person who uses their computer skills to break into computers or networks that are security protected?



Just as you're writing down the answer 'hacker', your boss Jess strides into the room. "I've got an urgent job for you." she says "SparJam Games have asked for our help."

SparJam? Whoa. This is a huge gaming company. Millions of people play their games. You sit down. This could be interesting!

"Someone's broken into their computer system and stolen the code for their newest game. It's for sale online. And that's not all." Jess says "Lots of players are complaining that their accounts have been taken over. They've had character skins, tools and other gaming items stolen. People are asking if it's the company's fault. Maybe SparJam are not keeping player login details secure. So, Jacob Kosky has been in touch."



"Oh yeah I've heard of him." You say to Jess "He's the co-founder, and he now runs the business with his sister?" You've seen glamorous photos of Jacob and his sister Rachel online.

"No, Mr Kosky runs SparJam Games alone." Jess corrects you. "Rachel has her own business. Anyway, he's looking for a security check. He wants to know how easy it is for criminals to get into their building and hack their systems. He wants you to try to get into his office, and to access his laptop without being stopped by anyone. Are you up to the job?"

You grin. "Yes, I'll get started straight away."

Search for Mr Kosky online Search for SparJam
Games online

You type 'Jacob Kosky' into a search engine. A picture of Mr Kosky pops up. There is an information box giving some basic data.



Interesting! You make a note and decide what to do next.

Search for SparJam Games online

Report back to Jess

You search for 'SparJam Games' online and find a link to their YouTube channel.

The latest video shows Mr Kosky standing on some steps, talking to the camera "So here we are at SparJam Games HQ. This is where the magic happens."

You watch intently.

"Not many people get to see inside. Follow me!" Mr Kosky enters the building. "Morning Jake!" says a security guard, before biting into a chocolate doughnut. Mr Kosky turns to the camera. "That's what my friends call me! We're all friends here".

You keep watching the video as Mr Kosky goes through each room of the building. As well as offices and meetings rooms there's a Chillout Room you are impressed with.

"This is where we hang out and relax." says Mr Kosky. It's huge and has beanbags and colourful sofas. You can see someone wearing a virtual reality headset and swiping at the air. At the far end of the room, someone is halfway up a climbing wall. A third person is sleeping in a hammock.

You've seen enough. You pick up your coat and pop your notebook in your pocket. Your boss Jess asks you to see your colleague Ross before you leave.

"Did you see the video about SparJam HQ?" Jess asks you. "You can find it by searching for the company online."

"Good idea, thanks Jess," you say.

Search for SparJam Games online

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Search for Mr Kosky online

Report back to Jess

You type 'Jacob Kosky' into a search engine. A picture of Mr Kosky pops up. There is an information box giving some basic data.



Interesting! You make a note. You pick up you coat and pop your notebook in your pocket. Your boss Jess asks you to see your colleague Ross before you leave.

Go see Ross

"That was quick! Thanks for letting me know what you've found so far." Jess says. "Don't forget to search for Mr Kosky online. You might find out something useful."

Ross is the IT specialist at GCHQ. You haven't actually been in his office before. It is jam packed with technology. Bits of computers, smartphones and gadgets.

Ross looks up as you come in. "I hear you are heading over to SparJam. I've prepared some tech to help you."

There are three objects on the table.

Pick up the USB drive

Pick up the pair of glasses

Pick up the ear bud

As you look at the USB drive, Ross says "Leave it somewhere in the building. I've saved a file onto it. If someone plugs it into their computer and opens the file, I'll get an email to show they've done it."

You are confused.

"It's a test," Ross explains. "It's a really bad idea to plug in a USB drive if you don't know what's on it. If an employee does this, we will know they need to improve their staff training."

Ah, much clearer!

Pick up the pair of glasses

Pick up the ear bud

Say goodbye You put the glasses on. Nothing seems different. You look at Ross and shrug.

"Oops! I forgot to turn them on!" Ross presses a tiny button on the side of the glasses. A rainbow of colour ripples across the lenses before fading away.

"It's AR. Augmented Reality. They look like normal glasses, but you'll be able to see extra things. I've pre-loaded them with a map of the building. Look." Ross does something on his smartphone and a map of building appears in front of your eyes.

"That is pretty cool!" you admit.

"There's more!" grins Ross.



"They have a heat sensor too. You'll be able to tell where other people are from their body heat," Ross continues. "For example, you'll know if someone is in a room before you open the door. There is also a microphone, so I can hear what you're saying. Keep me updated as you move through the building."

"Oh, and one more thing," Ross adds. "Remember to turn the glasses off before you go to the toilet." He shudders and mutters "Never again..."

You put the glasses in your pocket for now. This is great, you feel like a real cyber spy!

Now, have you got everything?

Pick up the USB drive

Pick up the ear bud

Say goodbye You pick up the ear bud.

"Put it in your right ear, and we'll check you can hear me," says Ross.

You push the ear bud into your ear.

"Testing. Testing," he says.

Have you picked everything up?

Pick up the USB drive

Pick up the glasses

Say goodbye

[&]quot;How odd!" you remark.

[&]quot;You'll get used to it." Ross replies.

"Wait." says Ross. "There are three gadgets for you. Have you got everything?"

You take a moment to think if there any objects you haven't picked up yet. If there are, you should pick them up before you go. Otherwise, you can thank Ross and be on your way.

Pick up the USB drive

Pick up the pair of glasses

Pick up the ear bud

Thank Ross "Oh, before you go," says Ross. "Take this too." Ross hands you an employee ID badge. It has a clip so you can attach it to your top. It shows a photo of you, with a fake name, alongside the SparJam logo.

"How did you get this?" you ask.

Ross shrugs. "You seen their latest video online? They're all wearing these badges. So I made my own version."

As you put the ID badge in your pocket Ross adds "The real ones have a magnetic strip that will open the doors. This one doesn't have that. So you can't use it to get into the building, or through the security gate at reception. You'll need to find another way to get past security. Good luck!"

How exciting, here we go!

Head to SparJam

You're standing across the road from SparJam Games HQ deciding what to do next.

Should you go through the main door into SparJam's reception now, or pop into the café behind you to think a bit more about your plan?

Go to the SparJam reception

Go to the café

"Can I help you?" says the receptionist.

"Morning!" You give a big smile. "Can you let me through? I have a meeting with Mr Kosky."

The receptionist nods. "I'll ring upstairs and let him know you're waiting."

"Oh, no, that's not necessary," you say. "I'm actually half an hour early. Mr Kosky said I could wait in the chillout room until he's ready."

The receptionist pauses. He doesn't look convinced. "I'm afraid I can't do that. Please wait while I call upstairs."

You tell the receptionist not to bother. You walk away while deciding what to do next.

Phone Jess

Go to the café to think about what to do next

You give Jess a call and explain that the security at reception is very good and you can't get past it.

"There might be another way in," says Jess. "Why don't you take some time to think about it?"

You decide to go to the café over the road.

Go to the café

It's quite busy in the cafe. You order a hot drink and sit down by the window. You notice a group of people next to you are all wearing SparJam Games ID badges. They're talking very loudly and you can't help hearing their conversation.

"All I did was come to work in here on Tuesday afternoon," one in a yellow t-shirt says. "I don't need to be in the office to reply to customer complaints. I can email from here! I like the coffee, the doughnuts are great and they have free WiFi. He totally overreacted. He said I shouldn't have been using my company email in here. It's ridiculous."

Sip your drink and keep listening

The person next to them replies "I think you're overreacting Sanjeev. It's not a good idea to use public WiFi for work stuff."

Sanjeev frowns "This company is no fun anymore. It was much better when Rachel was here."

You take a moment to think about this - what is the problem with using public WiFi for work?

It may not be secure

It may not be fast

Ah, you remember your cyber spy training now. It doesn't matter too much if the WiFi is slow. The risk is that it may not be secure. Other people may be able to see what you're doing online and what your account log in details are.

Also a criminal may set up a fake WiFi hotspot made to look like the venue's real one (e.g. using a café's name). So you think you're connecting to the café's WiFi, but it's someone else.

If you use public WiFi:

- ☐ Check you are accessing legitimate WiFi e.g. ask the café what the name of the WiFi hotspot is.
- Use your mobile data for anything involving private or personal details e.g. buying things or using email. If you have to use public WiFi, go to the secure website (https, not http) instead of using an app.
- □ Turn off your device WiFi and Bluetooth when you're not using them

Continue

You make a note for your report that some staff are accessing work emails on public WiFi. They don't understand the security risk.

You notice the group get up to leave. You get up too, do you follow them back to SparJam HQ or get a delicious doughnut before you go?

Follow the group

Buy a doughnut

You buy a doughnut before heading over to SparJam HQ.

At the security gate beside reception, you pat your pockets, sigh heavily and mutter loudly "Oh, where is it?!" You turn to the security guard "I've left my ID badge in the car and I'm already late for my meeting. Can let me through?"

He looks apologetic and is about to speak but you interrupt him "Oh, I nearly forgot! Jake told me you love these chocolate doughnuts. Would you like this one?"

The security guard smiles gratefully "Thank you! I was in a rush this morning. No time for breakfast." He takes the doughnut and presses a button to open the security gate.

Just inside the door, you make a quick case note on how you got the guard to let you in. You'll need to tell Mr Kosky about it.

Explore the building

The first person to get to the staff entrance uses their ID badge as a swipe card. It unlocks the door and everyone follows them through. You slip in with them and noone notices! You make a note, Mr Kosky definitely needs to do some staff security training.

You put your glasses on while whispering "Elvis is in the building."

Ross quickly pipes up "Who's Elvis?"

"It's me. I'm Elvis. I'm telling you I've got into SparJam HQ." you say. Ross groans. "The phrase is 'Elvis has left the building'!"

"It doesn't matter. You know what I meant." You grin. So far it's going great! What should you do next?

Take the lift up to the first floor

Take the stairs down to the basement

The lift doors open and there's a woman inside. "Going up?" she asks

You get into the lift.

"Do I know you?" the woman in the lift asks you. "I thought I knew everyone who worked here. Can I see your ID badge?"

You show your badge. She looks closely before holding the lift doors open "The magnetic strip is missing on this badge. I'm calling security." She gets out her phone.

You whisper to Ross "Help!"

"Ask her to check her email," he replies.

"Check your email," you say. The woman looks at her phone, and apologises to you before getting out of the lift.

"How did you do that?!" you ask Ross.

"I worried that might happen. So I hacked into the receptionist's email account this morning. I emailed all employees to say there's a problem with some ID badges not having a magnetic strip."

"Phew!" you reply. Thank goodness you are a cyber spy with tech expert colleagues! You decide being stuck in a lift with someone else is too risky.

Take the stairs to the basement

You say no. You've changed your mind. You don't want to get trapped in the lift with someone who might ask tricky questions. You let the lift doors close and head in the other direction.

Take the stairs to the basement

There are two doors in front of you. One door says 'Changing Room' and the other door says 'Gym'.

Which door do you choose?

You push open the door to the gym. There's a man on an exercise bike but he doesn't notice you at first. You decide this is a good place to leave the pen drive. It will look as if it's fallen out of someone's pocket. You put it on the floor next to a treadmill.

The man on the exercise bike is watching a video on a tablet. The picture quality is very poor. You walk closer to him and ask what he's watching.

"It's the latest blockbuster. I found a site where you can download all the latest films for free!"

"You mean it's an illegal site?" The man laughs "Yes, I guess so. So what?"

You think back to your training - how many people who have illegally streamed online content have also experienced fraud, been hacked or been exposed to online scams?

You remember now – it's 1 in 3 people who have illegally streamed online content that have experienced fraud, been hacked or been exposed to online scams as a result.

You explain this to the man on the bike, adding "Be careful downloading apps to mobile devices as well. Use official sources such as the play store and check all safety and security settings are turned on. Look at the user reviews before downloading apps or games, and you might want to search online to find out more about them first."

You go into the changing room. There is a pile of clothes and an expensive-looking tablet on the bench. Anyone could steal that tablet! You decide this is a good place to leave the pen drive. It will look as if it's fallen out of someone's pocket.

You put it on the bench and whisper "The chicken has laid an egg."
Ross's voice crackles in your ear "What? There are chickens?"
You grin. You're enjoying this. You turn to leave but at that moment a man in sports gear walks in. He's talking on the phone.



"The cloud's locked up too? Oh no! Look, I'm going to have to go but I'll call you back later." The man puts his phone away.

"Is something wrong?" you ask.

He sits down. "We've got a virus on the network. It's corrupted the customer database. We always keep a backup on the cloud, but that's corrupted too."

You reply "I'm sure the cloud company will create a backup every day. Ask them to give you a copy they made before you got the virus, if they can. It's also a good idea make an additional backup of really important stuff on a separate device, like a USB drive, so it won't be infected if you get a virus."

"You really know your stuff," says the man. "What do you think about all the hacking that's been going on?"

"You mean the gaming code being stolen and the customer complaints?" you say. "I guess we just need to improve security at the company."

"I'm not so sure," the man says. He pauses before adding "It doesn't feel random. We keep getting hit. I think someone's targeting us deliberately."

"Really? Hmm." You're about to say more when Ross hisses in your ear "Get a move on. Not much time!"

"Got to go. Catch you later!" you say to the man as you head out of the room.

Take the stairs to the first floor

On the first floor you recognise the 'Chillout Room' from the video you watched earlier. There's a beautiful spiral staircase in the corner.

Something bumps into your feet. Looking down you see it's a robot hoover. It's doing a good job on a patch of crumbs.

"That thing's been here for years!" a woman says to you. "The app still works but I don't think the company sell them anymore. In fact, I think they went bust." "So how is it kept updated?" you ask.

The woman pauses. "I guess it isn't," she shrugs. "Why does that matter?"

You explain that regular updates help to...

...keep the hoover working properly

...prevent the app being hacked Just as you're about to respond, you remember a bit more of your training. Although regular updates can help to fix bugs that are discovered, so the hoover keeps working properly, you realise there is a bigger risk.

Ah yes. Out-of-date software and apps can have weaknesses that make them easier to hack. Companies fix these weaknesses when they discover them by releasing updates. It's important to keep devices updated.

Many devices and apps update automatically. But some need to be updated manually. You may see a reminder about updating on your phone or computer. You should update them as soon as you can. If you can't do it straight away, set yourself a reminder so you don't forget to do it.

It could be a risk to the whole SparJam network if there is a device connected to it that is not up-to-date. Another security risk to add to the list!

You look around the room. Where to next?

Talk to the man standing at the slushie machine

Walk towards the spiral staircase

The man is drinking a pink and blue slushie but looks fed up. "I'm locked out of my email account. It says my password is wrong. But I'm putting in the right one. Someone must have changed it."

"Have you talked to IT?" you ask. "They should be able to reset your password." "No. The IT person has been off sick for ages," the slushie man explains.

"Someone left SparJam last month and because the IT person is off, they still have an email account here and access to all the systems."

Keep listening

"Hmm. Did you have two step verification set up?" you ask. "It's when you have to give a password and then a second piece of information, such as a code that is sent to your phone"

The man sighs "Nope. It sounds like a hassle!"

"Not really" you reply. "It's quick to do. And you often only need to do it the first time you log in on a new device, not every time you want to use it. But it will stop someone else logging in to your account on a different device. Even if they crack your password, they won't have the second piece of information."

You know a good fact that will encourage the man to set it up. You decide to tell him how many account attacks can be blocked by having two step verification.

It is:

"That's right," you say. "Two step verification can prevent almost all attacks where someone has cracked your password."



Just as you're about to tell him, you remember it's even better than that. You explain that two step verification can prevent almost all attacks, 99.9%, where someone has cracked your password.

"You need to contact your email provider to get your email account back. Check your bank account too. You'd better tell your email contacts about it as well, just in case they get an email from the hacker. And it might be a good idea to run antivirus on your device," you say.

The man looks concerned "There's so much to do!"

"It won't take long" you explain "Do one step at a time, starting with getting your email account back". You have one more question. "Has your password been in a data breach?" you ask.

"I don't know," he says "Check this website https://haveibeenpwned.com," you tell him. "Enter your email address and it will tell you if any accounts have been breached. If it's happened, change all your passwords. And don't forget to set up two step verification in future."

What's that noise?

As you walk towards the staircase, someone touches your arm.

"Are you the new IT person?" they ask. "I've moved into a new role and I need to access a different system now. Can you change my access rights to match my role?"

"Sorry" you reply "I can't help you".

The person looks disappointed. "I can't get anything done if I can't get into the system. It's ludicrous. I can't get into the system I need but other people who don't need access can! Someone left SparJam recently and they still have access to their email and all the systems because there's no-one in IT to close down their account."

You're about to reply when Ross nearly deafens you!

What is Ross shouting?

"The Eagle has landed!" shouts Ross.

"What?" you whisper.

Ross continues "Someone called Sanjeev plugged in the USB drive."

You remember that name. He was in the café earlier. Could he be the leak? You spot him in the yellow t-shirt, over by the ping pong table.

"Sanjeev?" You can see the USB drive sticking out of his laptop. He looks up at you "Yes?"

"That's my USB drive," you say.

"Oh, I found it downstairs," he replies, passing it to you. "I would have handed it in to IT but there's no-one there."

"It was a security test, Sanjeev. It's not a good idea to plug in a USB drive if you don't know where it came from," you explain.

"We could really use better training around here on all these things," Sanjeev says. "No wonder the company keeps getting hacked. I've asked for training but no-one listens to me."

Time to move on!

Head for the spiral staircase

You climb the stairs and find yourself in the 'Coding Room'. It's where they write the code for all the SparJam games. You are alone.

You look around for clues but nothing catches your eye. Suddenly, through the heat sensors in your glasses you see a person coming towards the door - you need to act quickly!

Open the tall cupboard on your left

Say "Ah, got it!" loudly You hold up your ID badge as someone walks into the room.

"I dropped it earlier. Hello, I'm new." You go to shake hands with the person.

"Oh, right, nice to meet you," the person replies. They pick up a coffee cup from a desk and leave the room.

Phew! That was close! Now you're on your own again, you decide to take a look inside the cupboard.

Open the tall cupboard

You open the cupboard door and are astonished to see a flight of stairs. These aren't on the building map Ross showed you! Quickly you go up the stairs, and find yourself on a rooftop terrace.

There's someone sitting at a table and they have already seen you, so you'd better say something. "Hi, I'm new here. Jake said I should introduce myself and spend today getting to know people. What's it like working here?"

The woman shrugs. "It's OK. It's a pretty good team. It's not the same since Rachel left last month. We were great friends. Still are, actually. Did you know that SparJam was her idea? She's a genius. Not that anyone here realised. But anyway, we're a good team here. We have a laugh."

"So it's good fun here?" you ask.

"Sure, look at this!" She points to her tablet screen. "This is Rachel's SparJam account. I managed to guess her password. I'm going to give away all her SparJam tokens. She loves a prank."

There's a good reason why she shouldn't do that prank! You decide to tell her:

Rachel won't find it funny

It's against the law

While that may be true, your training suddenly comes back to you. It's more serious than that.

Tell her it could be against the law

"It could be a breach of the Computer Misuse Act 1990," you tell her. "It's illegal to break into a computer or someone's account without their permission."

Breaking into SparJam Games would be illegal if you didn't have Mr Kosky's permission!

"Eek, I had no idea!" says the woman. She quickly logs out of the account.

"What's that door over there?" you ask.

"Mr Kosky's office."

"Good. I need to speak to him," you say as you turn to go.

Head to Mr Kosky's office

Your glasses show you that the office is empty. The door is unlocked. Time to see if you can hack into his computer.

You tell Ross you need to guess Mr Kosky's password. Ross brings up a list of potential passwords on the glasses. Which word do you choose?

Nope, that didn't work. Try again.

Good choice! You remember that Honey is the name of his cat. You found that out when you searched for him online. What a terrible idea to use a password as guessable as that!

You whisper "The washing is in the dryer."

"What?" says Ross.

"I'm trying to tell you that it worked! We cracked the password to get into his computer," you say.

You think you hear Ross slapping his palm to his forehead "Just get on with it!" he giggles.

Just then Mr Kosky walks into the room. He stops abruptly when he sees you. "Mr Kosky!" you smile. "I'm ready to report on the security test."

Give your report

You explain all the security weaknesses you found.

"I'm stunned!" Mr Kosky says. "No wonder we keep getting hacked."

"Well, I'm not sure all these hacks are a coincidence," you say. "I think someone is deliberately targeting the company. They've stolen the code for the new game and are leaking customer account logins to make the company look bad."

Mr Kosky looks shocked and asks you "Who would do that?"

"Sanjeev?" Mr Kosky looks puzzled.

"Yes," you say. "He's pretty unhappy. He thinks no-one listens to him and there should be more security training."

"Hmm that's good to know," says Mr Kosky. "But Sanjeev doesn't have access to the customer data, so he couldn't have leaked the data. Plus, if the company is ruined, he'd lose his job! I think you've got that wrong."

Change your last decision

Ask why Rachel left the company

Maybe it's not Sanjeev. Just then you remember something he said to you that might be important.

"Sanjeev said he liked it better when Rachel was here," you say. "Why did she leave?"

"I don't know for sure," replies Mr Kosky, looking a little sad. "She left just after I got my award. Come to think of it, she did leave quite suddenly."

Tell him Rachel has been attacking SparJam Games

"Rachel?! But why would she do that?" Mr Kosky exclaims

"Rachel founded the company with you," you explain. "In fact, SparJam was all her idea. But have you noticed that you get all the credit? She doesn't get a mention."

"Rachel doesn't mind that. She was happy when I won the award for Most Inspiring Tech Leader," Mr Kosky tells you "And she's left now. She runs her own business."

"From what your staff have said to me, I think she felt unappreciated," you say. "She can still log in to all your systems. Her access wasn't removed because your IT person is off sick."



"Oh no!" gasps Mr Kosky. "I can't believe it. Rachel?! I should have appreciated her more, but that doesn't excuse what she has done."

"I'm sorry it's not better news," you say. "But I hope the security test and my report are useful to you. You'll need to disable Rachel's login, email accounts and her ID card. I'm afraid you'll need to call the police too."

Mr Kosky shakes your hand. "Thank you," he says. "I really appreciate your good work."

Congratulations! You identified The Hacker!

Did you uncover all the security risks? If you want to try some different paths through the story - you can!

Try different story choices