**ENQUIRING MINDS**

**EQM EP 9 SEG 1**

GIRL: When I grow up...

BOY: I would like to be an animator.

GIRL: A marine biologist.

GIRL: An artist.

BOY: A forensic scientist.

GIRL: A zoo keeper.

GIRL: I want to be a photographer.

BOY: A chef.

GIRL: An author.

BOY: Teacher.

BOY: A surfer.

BOY: Video game designer.

GIRL: A doctor.

GIRL: A fashion designer.

BOY: A builder, cartoonist or stunt man.

VOICE-OVER: Join our reporters as they check out some great jobs, meet interesting people, and go on some cool adventures. Enquiring Minds shows you that you can have fun while following your dreams through higher education.

HOLLY: Hi and welcome to the show. On this episode Lockie and Elliana meet an astronomer who has made some amazing discoveries way up there in deep space. But first, Bec and Matthew head to the computer labs to see what's going on in the world of motion capture.

BEC: It's really cool checking out the CGI in the movies or the latest video games, it just seems to be getting more and more realistic every day. A big part of the work that goes into your favourite games is due to motion capture which records human movement. Now I'm about to meet Matthew who I hear is pretty interested in animation.

MATTHEW: No!

BEC: So Matthew, tell me what do you like about animation?

MATTHEW: Well, I like that there's different characters on animation and they're like cartoonish.

BEC: Yep. What do you know about motion capture?

MATTHEW: They draw the character first then they put the person there and then they have the green screen behind them so they stand there like in 'King Kong' how he's on the Empire State.

BEC: They do do a lot of that kind of stuff, don't they? Do you want to go meet

somebody who's into motion capture?

MATTHEW: Mm-hm. Oh yeah.

BEC: Oh, man!

CHEK: My interest in computers really began when I was about 9 when my dad and mum bought me my first computer which used one of these floppy disks which we can't even find nowadays.

BEC: Hi, Chek.

CHEK: Hi, Bec.

BEC: I have Matthew here, he's interested in animation and I was wondering if you could show him what you're working on?

CHEK: Sure. Hi, Matthew.

MATTHEW: Nice to meet you. I've got something to show you.

CHEK: What do you have?

MATTHEW: It's a game.

CHEK: Okay, cool. So what is the game?

MATTHEW: It's called Free World. There's levels and each level is challenging. You get to create explosions and build your vehicle and there's four characters to choose from. They're the characters, that one's Matthew, Christy, Joe and Jessica. You can enter an underground mine, meet face to face with

zombies, wolfs, mummies, vampires and Frankensteins.

CHEK: Cool game.

MATTHEW: Thanks.

CHEK: Games are all about, you know, interaction with the user so a big part is finding out what is exactly the experience you're trying to give the user in the game you create.

MATTHEW: What have we got here?

CHEK: So currently what I'm working on and what you see here it's called Speakman derived heavily from Pacman. You do know Pacman, right? All credit goes to Ko who created this game so our role is really to create this new motivation for kids with speech problems to pronounce better words. So that's why we have this speech-control versioned of the Pacman over here. It's the same game as the original Pacman but now instead of eating the power pills to chase away the ghost now you have to say the names of the ghosts in order to chase them away and be able to eat them.

MATTHEW: Vegemite.

CHEK: Yeah, you got it.

MATTHEW: Butterfly.

CHEK: When I had the chance to choose something in uni which had some form of, you know, computer-based programming stuff in it I just went for it.

MATTHEW: What do you like about your job?

CHEK: Being able to wake up every day thinking about new ways to make games, new forms of games, new ways to use games for, you know, real life problems, it's just very, you know, fascinating to me. And I could do this as part of my job requirements which is totally cool, I don't think you can get a better job than this.

MATTHEW: Say I want to do this for a job, when I grow older what subjects will I have to do?

CHEK: You have to be a really good student in school to be able to get into this industry. Like, for example, most modern games you need to recreate what you see in real life. So physics is important. I would say pretty much all of the computer-related subjects like programming, networking, algorithms because games are like a huge mix of all these components. So you need to be a very good student, Matthew.

You have to have an inquiring kind of mindset. Everything that you see you would want to know more about how to create this stuff so that you can create new ways to do things in a better manner.

Let me introduce you to Jaime who is working on an application to help the elderly.

JAIME: Basically we have developed this game for improving the physical health of the elderly, more specifically to prevent falls so it's basically to improve balance and stepping performance. So I'm intended to step on those sectors as quick as possible and return to the origin so you can see there is a real time interaction.

CHEK: Basically motion capture is really a system that captures whatever a real

person is doing and translate that into a 3D model.

JAIME: The version of the game we just saw is a clinical test that has been developed for a stepping and balance performance. Now we're going to show a game that is based on that test. Basically in this game the idea is you're exploring Mars so you have to step on the white sectors to avoid the fall. And when you collect three sectors you get some energy so if you clap you can fly so the idea is you have to touch your friend's hand which is at the top.

MATTHEW: Oh, quick.

BEC: Clap, clap, clap, clap.

MATTHEW: How hard is it to design this game?

JAIME: Well actually I don't want to say it's too hard or too easy but the truth is it takes a little bit of time and you have to come up with a nice game idea, from that you need knowledge in mathematics, physics, mathematics to move objects, physics to make the game look real, also some knowledge in terms of animation and all that stuff.

CHEK: The whole university course environment, the collective learning experience has really given me a huge amount of knowledge in terms of very broad skills for me to be able to do what I do today.

BEC: Besides video games what are the other uses for motion capture?

CHEK: One obvious use other than games is obviously the use of it in film and animation. Another example might be also improving sports performance, for example, in the same way we collect data about your running

performance and then try and improve the way you run.

Each one of the sensors is like a Wii remote which has motion sensors to allow you to capture the rotation, the position as well as the direction of each one of your joints.

MATTHEW: So now that I've got all the gear on, what do we do next?

CHEK: Now I'm actually going to show you how we transfer all of your motion on to a virtual corrector in our game that we showed just now. I'll let Bec show you what moves she has.

BEC: Move our arms up and down. From side to side. Running man. (Imitates gunfire) I'm going to throw a grenade. That's it. Alright.

CHEK: So now we are going to put all of that exciting movement that you've just made and Jaime's going to help us transfer all of that on to an actual 3D model into the game. So your movements will be now part of the game itself.

MATTHEW: Amazing.

BEC: That's great, well done.

MATTHEW: Thanks.

CHEK: I think what excites me about the motion capture in computer gaming is really the ability to use motion capture to create novel kinds of interactions with the user, to think about, you know, new possibilities of interaction with the game rather than the usual controllers in your hand.

MATTHEW: It's awesome how it captures it and then puts it on to the screen and how it can just show you moving.

BEC: Thanks to Chek and Jaime, Matthew got to see motion capture in action and maybe one day soon we'll get to see him create an animation for the next blockbuster movie.

HOLLY: Up next – Lockie and Elliana size up our solar system.

END OF TRANSCRIPT