



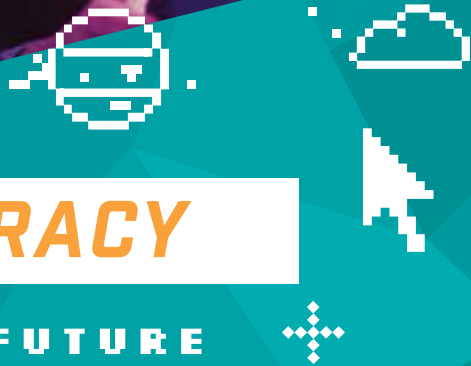
CoderDojoWA



**PROMOTING**

**DIGITAL LITERACY**

**SKILL FOR THE FUTURE**



AN INITIATIVE OF THE



**Fogarty Foundation**

# ***WHAT IS***

# ***CODERDOJO WA?***

**CoderDojo WA is a Western Australian network of community coding clubs (Dojos), building digital literacy skills amongst young people aged 7-17.**

Dojos are free and social open learning environments that provide a space for young people to learn and practise computer programming in a fun environment and work on their creative digital projects with assistance from Mentors.

CoderDojo WA is the largest regional network in the international CoderDojo community which was started in Ireland in 2011. We believe coding should be taught and shared with everyone.

Resources we use are publicly available so Ninjas can take their projects home and keep practising.

**CoderDojos have one rule:**

***BE COOL (AND MAKE IT FUN!)***



## ***WHAT IS CODING?***

Coding is a tool that lets you write your story with technology. It's how we talk to the machines that are increasingly woven into our lives. If you can code, you can communicate your ideas with a computer or a program so they can be brought to life in bigger, brighter and more creative ways. It allows you to create things like software, apps on your phone and websites.

## ***WHY SHOULD I LEARN HOW TO CODE?***

Digital is disrupting everything. Computers, technology and code will play a big part in everyone's future. There is already a worldwide shortage of computer programmers and our needs are only going to grow.

Every young person in the future will benefit from some knowledge of digital literacy, and more specifically coding, which is an enabling skill that will be applicable across the spectrum of enterprise.

Coding will be used in many jobs and industries that haven't traditionally required much use of these skills, from small business owners trying to connect customers online (like dentists, ballet dancers and tennis instructors), to bankers, transporters and digital designers and artists.



**THE PROGRAMMERS  
OF TOMORROW ARE THE  
WIZARDS OF THE FUTURE!**



# **HOW DOES CODERDOJO WA WORK?**

CoderDojo and its WA network present a new solution to the challenge of activating young programmers, when many children lack sufficient digital literacy learning opportunities.

The beauty of the CoderDojo concept is that you don't need to know how to code to start a Dojo (coding club) or provide assistance as a Mentor.

There are free and open source resources online and CoderDojo WA provides ideas and support.

To find out more about how to create and run a Dojo and what learning tools are out there for you to use, visit the CoderDojo WA website.

Young people are able to help each other with creative digital projects that improve their coding skills in guided spaces that are supportive and safe.

Clubs don't need skilled instructors and so the CoderDojo model can activate future programming whizz kids in any location.



# WHO IS INVOLVED?

## NINJAS



Young people aged 7-17 who come along to learn how to code and improve their digital literacy skills.

## CHAMPIONS



The coordinator for Dojo sessions. You don't need to know how to code to be a Champion!

## MENTORS



Passionate people who support the Champion and assist the Ninjas. Mentors range from education or tech students, to parents and professionals in these sectors who are looking to share their knowledge.

## CATALYSTS



Those who support the growth of the CoderDojo movement.



# ***WHERE & WHEN***

## ***ANYWHERE***

**ALL YOU NEED TO RUN A  
DOJO IS A VENUE THAT YOU  
CAN USE FOR FREE. EVERY  
DOJO IS UNIQUE.**

A room with computers is great or Ninjas can bring their own devices. Dojos are currently hosted in schools, universities, libraries, community resource centres, halls and businesses. Corporates are starting their own Dojos to engage their staff and share their skills with the community.

## ***ANYTIME***

Dojos are hosted outside of school hours (afternoon or weekends).





# ***IMPACT***

## **Enthusiasm for the CoderDojo program is clear.**

There are over 100 CoderDojos in Western Australia (with this number growing weekly) which are supported by over 200 Mentors. Over 2,000 young Western Australians aged 7-17 regularly attend these Dojo sessions.

By fostering a community of coders amongst Ninjas, Mentors, Champions, parents and professionals, CoderDojo WA is providing the opportunity for development and innovation in a field of almost unlimited potential, equipping our youth with skills for the future.

The Fogarty Foundation is continually looking at ways in which we can create greater impact by helping more Dojos establish, growing a sustainable community of Mentors, connecting digital literacy initiatives and attracting cross-sector support.

# SNAPSHOT OF EXPERIENCES



**NINJA:**  
**ALEXANDRA TRUONG**  
**AGE: 14**

## **Why do you like coming to CoderDojo WA?**

I like coming to CoderDojo because I find coding is a great hobby to chill out with and you end up meeting a lot of really cool people who are pros.

## **What are some of the programs you like using when you're at CoderDojo?**

For actual coding, I love anything to do with HTML/CSS/Javascript. One of the mentors showed me a program called Ren'Py, which is brilliant! I also use Adobe Photoshop and Illustrator for graphics design.

## **What are some of the projects you've created?**

I've created a few webpages, several Scratch projects, little trinkets using Python, (part of) a visual novel and plenty of digital art pieces.

## **How do the Mentors help you to learn at the Dojo?**

Whenever I have a problem or if I want to try something new, the Mentors would always be there to help or toss around ideas with me.

## **Do you learn from your friends at Dojos?**

I learn quite a lot from my peers at Mount Lawley ECU and Shenton College (shout out to you guys – you rock!). At the end of the sessions, we always have “Show Me the Code”, which is where Ninjas show off their projects and the coding behind them. We kind of just trade ideas and skills during the session.

## **Would you tell your other friends to come along to Coderdojo?**

Yes, I definitely would! Coding is a great skill to have and CoderDojo has helped me realise this.



**MORE THAN ANYTHING ELSE,  
IT HAS TAUGHT THEM THE  
RULES OF LOGIC ESSENTIAL  
TO ALL COMPUTER  
PROGRAMMING.**



## **PARENT OF A NINJA: OWEN CARTER**

### **What does your child like the most about coming to CoderDojo WA?**

Given that both my children (and I) love computer games, the kids value the opportunity to start making their own.

### **What has your child learnt about coding from the CoderDojo WA experience?**

More than anything else, it has taught them the rules of logic essential to all computer programming.

### **Does your child continue to work on CoderDojo related activities after you leave the Dojo and go home?**

Yes. The kids often start projects at CoderDojo and beg to continue working on them as soon as we get home.

### **Would you recommend taking your children to a CoderDojo to other parents?**

Absolutely. Computer programming will only become more important in the future and CoderDojo is great way to introduce kids to it. Best of all, it's free!





## **BANKWEST CORPORATE DOJO - MENTOR**

**MELISSA ETTINGER**

IT SPECIALIST (Software Developer)

### **Is having coding skills useful in your workplace?**

I use my coding skills every day in my job. I currently work in a team that deals with the application systems for online banking. Every web page you visit and technology system you use has someone with coding skills behind it - the people who create it, update it and keep it running properly.

### **What do you enjoy about having a CoderDojo in your workplace?**

I enjoy being able to share my passions with young people and see their excitement as they learn and create. Having CoderDojo at Bankwest allows people like me, who are working in the field every day, to show the next generation how coding skills can be used and applied in real world situations.

### **Does hosting a CoderDojo change the energy or atmosphere in your workplace?**

Hosting a CoderDojo at Bankwest brings excitement and positive energy to our workplace. My colleagues often comment that they enjoy seeing the kids coming to and from our CoderDojo. Colleagues who have stopped in to see what we are doing, or observed the showcases, are always impressed by what the kids have created. It's a great way for our Mentors to apply our coding skills while helping the community.

### **What have you learnt from the children attending your Dojo?**

I am always amazed by what the kids create, they have creative, imaginative minds and are not afraid to think outside the box. They are always showing me different ways to approach problems and are consistently showing me that they know more about the tools we use than I do. They have taught me how to look at things with a different perspective and how to take something simple and make it into something amazing. We have Mentors who do not have a coding background and who are learning and creating alongside the kids, making animated scenes and programming robots.

### **Is volunteering your time as part of CoderDojo WA a rewarding experience?**

It is great to see the kids get excited when they fix a problem and understand how it works together. I have witnessed the kids improving and building on their skills over the sessions and sharing their knowledge with those around them. As time goes on, more and more are willing to come up and share what they have created and seeing their pride and development is a very rewarding experience!

### **Would you recommend hosting a CoderDojo to other corporates?**

Definitely! CoderDojo helps break up the standard work day and allows colleagues to contribute their skills to the community and the next generation.

THEY HAVE CREATIVE, IMAGINATIVE  
MINDS AND ARE NOT AFRAID TO THINK  
OUTSIDE THE BOX.



UNIVERSITY DOJO -  
CHAMPION  
JASMINE QUEK

**What are you studying at university?**

I studied a Bachelor of Science majoring in Software Engineering at Curtin University.

**What led you to get involved in Coderdojo WA?**

I was Vice President of ComSSA (Computer Science Students Association) at the time and our club was approached by the Engineering Outreach Department who asked if we would be interested in partnering to start a Dojo at our university.

**What have you learnt from the children attending your Dojo?**

I have had so many valuable experiences and learnt so many things from the Ninjas at our Dojo. It always astonishes me how quickly they can learn and apply ideas on another level. I have learnt how to engage children in coding and communicate with them better. I'm even starting to figure out what's cool again!



**Has volunteering as part of CoderDojo WA helped you meet people with similar interests?**

Yes definitely! Volunteering with CoderDojo WA allowed me to meet new people and network in a friendly environment (yay SciTech and free pizza!). I have made lots of new friends through volunteering and strengthened existing friendships.

**What other skills has being a Champion equipped you with?**

Too many come to mind. I have improved my leadership, teamwork, public speaking, presentation and communication skills, to name a few. As a Champion, I have fine-tuned my team work skills and learnt how to ensure everyone remains happy and has their needs met - this includes Mentors, Ninjas, parents and people like university security and the computing department.

**Would you recommend getting involved in a CoderDojo to other university students and staff?**

Of course! It's a very rewarding experience for just investing a few hours each weekend to inspiring and helping kids have the opportunity to learn code.



## SCHOOL DOJO - EDUCATION ASSISTANT AT YULE BROOKE COLLEGE TRACEY SHEIKH

CODERDOJO IS A GREAT WAY FOR OUR  
STUDENTS TO DEVELOP AN INTEREST  
IN DIGITAL LITERACY

### **What do you enjoy about hosting a Dojo in your school?**

It makes me very happy to be able to facilitate a place for students to meet in order to share interests in a field they regard as very important to them, outside of school hours, restrictions and authority (within reason of course). This environment is close to students and a place they can take pride in.

### **How do students feel about coming to your Dojo?**

The Dojo is a familiar and comfortable place for students. They have discovered that age is not a factor when it comes to enjoying likeminded activities or sharing their knowledge.

### **What changes have you noticed in the students who attend your Dojo?**

Students are more confident and at ease with one another, knowing no one will put them down for what they like and do.

### **Has hosting a Dojo generated increased interest in your school around coding and digital literacy?**

Everyone at our school, from the Principal to the teaching staff and admin workers, has seen the difference in the students who participate in the Dojo. We are a school that encourages public speaking and information sharing. The students spend a lot of their time at home honing their coding and gaming skills, so the Dojo is a great way for them to bring this outside knowledge into the school.

### **Would you recommend starting a CoderDojo at school to other educationalists?**

CoderDojo is a great way for our students to develop an interest in digital literacy - a vitally important skill for the future. It also encourages students to share information, bounce off each other, hone their presentation skills and gain confidence in conversing with people older than them - all skills our students will need for the future workplace.

# ***GLOBAL LEADERS &***

# ***TRENDSETTERS ALL AGREE***

# ***ON THE IMPORTANCE***

# ***OF CODING!***



**Professor Ian Chubb**  
**Former Chief Scientist of Australia**

We've got to make things. We can spend our lives waiting for others to invent things we can pick up and use, or we can invent and produce things and get them onto the market. Invention and innovation is an important part of our economy and we need to ensure people have the talent and skills to do it.

**President Barack Obama**

Don't just buy a new video game — make one. Don't just download the latest app — help design it. Don't just play on your phone — program it.

**Bill Gates - Chairman, Microsoft**

Learning to write programs stretches your mind, and helps you think better, creates a way of thinking about things that I think is helpful in all domains.

**Mark Zuckerberg**  
**Founder, Facebook**

Our policy at Facebook is literally to hire as many talented engineers as we can find. There just aren't enough people who are trained and have these skills today.

**Sheryl Sandberg**  
**Chief Operating Officer, Facebook**

An understanding of computer science is becoming increasingly essential in today's world. Our national competitiveness depends upon our ability to educate our children—and that includes our girls—in this critical field.

**Melanie Perkins**  
**Former Perth high school student and now CEO of her multimillion dollar start-up company, Canva**

Have an idea and want to turn it into a reality? Want to build something that impacts millions of people around the globe? Want a job or to start a business in one of the best paid industries with the best working conditions? Become a software engineer.

It's the hard work and dedication of incredible software engineers that turned my idea into a reality that is now being used by over six million people around the globe.



***WHAT'S  
NEEDED FOR  
A KNOWLEDGE  
NATION?***

There are loads of other educational benefits you get through developing your digital literacy and learning how to code!



## ***SOME OF THESE INCLUDE:***



**Becoming a creator, not just a consumer, of technology**



**Developing your logical thinking and problem solving abilities**



**Experiencing self-directed and peer-to-peer learning**



**Thinking outside of the box through creating and innovating**



**Practising your presentation and pitching skills by communicating your ideas to the group**

The Fogarty Foundation is using CoderDojo WA to explore how technology is changing the future delivery of education and how our society needs to adapt to accommodate these changes.

Open source content, learning at your own pace and self-directed learning are just a few of the catalysts that are prompting us to explore future frontiers in education, through our EDfutures framework.



**Fogarty** EDfutures



In the future, the Fogarty Foundation would like all young Australians to be able to access fun and inspiring learning opportunities that help them improve their digital literacy skills.

**WE NEED YOU TO HELP US  
ACHIEVE THIS VISION!**

***Contact us today to get involved:***

✉ CoderDojo WA Program Manager, Karen Wellington  
[CoderDojoWA@fogartyfoundation.org.au](mailto:CoderDojoWA@fogartyfoundation.org.au)

🌐 [www.coderdojowa.org.au](http://www.coderdojowa.org.au)

🐦 CoderDojo WA [@CoderDojoWA](https://twitter.com/CoderDojoWA) #digitalliteracy

📘 CoderDojo WA Community

📘 CoderDojo WA



**CoderDojoWA**

Creating coding communities



**Fogarty Foundation**

Creating opportunity, realising potential

with thanks to our partners

