



CoderDojo



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Accessibility Guide

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Introduction

CoderDojo is an inclusive movement, and welcomes people of all ages, backgrounds, and abilities into the community, both as participants and as organisers. Accessibility is a founding principle of the CoderDojo movement: our vision is that all young people should have the opportunity to learn about technology and be creative in a safe and social environment.

This guide is aimed towards anyone who is involved in running a Dojo, in particular champions, mentors, and other organisers. At your Dojo, you will have lots of different participants, including participants with disabilities and/or additional needs. We will discuss how you can make your Dojo more accessible through listening to your participants, making reasonable adjustments, and deciding what works best, so that they can have the best possible CoderDojo experience.

The purpose of this guide is to share best practice with regards to accessibility, and to support Dojos to become as accessible for people with disabilities as they reasonably can be. CoderDojo is a worldwide movement with an ever-growing community; the suggestions outlined in this document are intended as guidelines only, and it is important for Dojo organisers to check the relevant legislation and support services in their region.



Inclusive language

The use of inclusive language is essential when communicating about disabilities. While many people will have different views on what is considered appropriate, everyone will agree that it is important to use language that is positive and free from discrimination and stereotyping, and that reflects how a group or individual chooses to describe themselves. Use language that acknowledges people with disabilities as individuals with control over their own lives, rather than as being defined by their disability. For example, say “**a boy with epilepsy**”, not “**an epileptic boy**”.

At your Dojo, ask the person what terms they are most comfortable with you using in relation to their disability. Avoid using terms that may be considered offensive, or any language that may exclude or isolate the person from the other members of the Dojo. It is important that the other members of your Dojo use inclusive language too: if they do not, the person may feel excluded and unable to enjoy the club sessions. One of our favourite CoderDojo mottos is “**One rule, be cool**”, meaning that everyone at the Dojo behaves kindly and respectfully towards one another. Using inclusive language is definitely part of that ethos!

Tip: The UK government website has useful guidance notes on inclusive language, available at:

<https://bit.ly/1Y1o6FH>

Managing disclosures

If an individual at your Dojo tells you that they have a disability, or that their child has a disability, it is important to treat and handle the information with sensitivity and with whatever level of confidentiality the person has clearly indicated to you. It is the person's choice whether or not to tell a champion about their disability, but it is useful for the champion to know, so that they can best support the person.

Guidelines for champions:

- Actively listen to the person who is speaking to you. At a busy Dojo session, it is easy to get distracted; give your full attention to the person who is sharing the information with you. They may be nervous sharing personal information with a new person, so it is important to be respectful and attentive.
- Discuss with the person whether they would like to share the nature of their disability with other members of the Dojo, including the Ninjas. This should be entirely the decision of the person themselves.



- Talk about any reasonable adjustments that could be made at the Dojo to accommodate the person, and how best to accommodate any assistive technologies or aids that they would like to bring along.
- Depending on the nature of the disability or condition, they may wish to share the details of a contact person who you can call in the event of an emergency.



Guidelines for making your Dojo more accessible

Make sure your Dojo is easy to contact!

It is very important that your Dojo is easy to contact, so that you can address queries regarding accessibility. If someone cannot get in touch with you, then they may miss out on the opportunity to become involved, or they may arrive at the Dojo, only to discover that it does not address their needs.

Your Dojo email address:

- Ensure that this is clearly available on your Dojo profile page and is up-to-date. The CoderDojo Foundation can create an @coderdojo.com email account for you on request.
- Check your Dojo's inbox regularly. You could set up weekly reminders to check if you forget easily.



- Share login credentials with a co-champion or another trusted volunteer. Having more than one person managing the account means less work for the champion – and quicker replies!
- Set up a Twitter or Facebook account for your Dojo as an alternative way for people to get in touch.



The Dojo environment

When choosing a Dojo venue, accessibility should be a priority for you. Many purpose-built public venues, e.g. libraries, may already have a good standard of accessibility, whereas other venues, e.g. certain offices, may not. Dojos do not typically receive funding, and therefore organisers cannot be expected to make structural adjustments to the building in which Dojos are held. However, they can make the venue more accessible through **good communication** and **reasonable adjustments**.

Good communication

Your online Dojo information:

- Include detailed accessibility information on your Dojo page and website (if you have one). Ensure that the venue is clearly described and that your Dojo map shows the correct location. Be as specific as possible, bearing in mind that the venue building may be accessible, but the room in which you host your Dojo may not be. Remember to also describe the street access, where applicable.



- If your Dojo venue is not accessible, **be honest about this** and discuss how you can work towards amending this. It is better to explain how your Dojo is not accessible (stairs, narrow doorways, etc.) than to have someone arrive at your Dojo and find that they cannot access the space.
- State whether there are accessible toilet facilities available.
- If your Dojo has a website or a social media page, you could add photos of the venue from the outside and from the inside. If possible, add a photo of the champion. These are very useful to create social stories, and to minimise attendees' anxiety by showing them how things will look.

“One quick tip is to encourage all Dojos to use this simple accessibility feature for Twitter images when they post about events or how to sign up! Go to ‘Settings’, ‘Accessibility’, and ‘Compose Image Descriptions’ so that screen readers can read descriptions of images you share. Using capital letters in hashtags is important too!”

– David, accessibility advocate Ireland



Reasonable adjustments

Reasonable adjustments are changes that are made, where possible, to enable people with disabilities to participate in an activity or to access a service.

Any changes suggested should be realistic and proportionate to the type of service. As Dojos are free, not-for-profit clubs, many aspects of their physical environment will be outside the control of the Dojo organisers. Speak to the staff at your venue about any reasonable adjustments they can make. There are likely lots of achievable steps that can be taken to greatly improve an individual's experience.

Examples of reasonable adjustments:

- Using posters to signpost the room where your Dojo is held
- Rearranging tables and chairs to create a more inclusive and accessible space
- Designating a 'quiet corner'

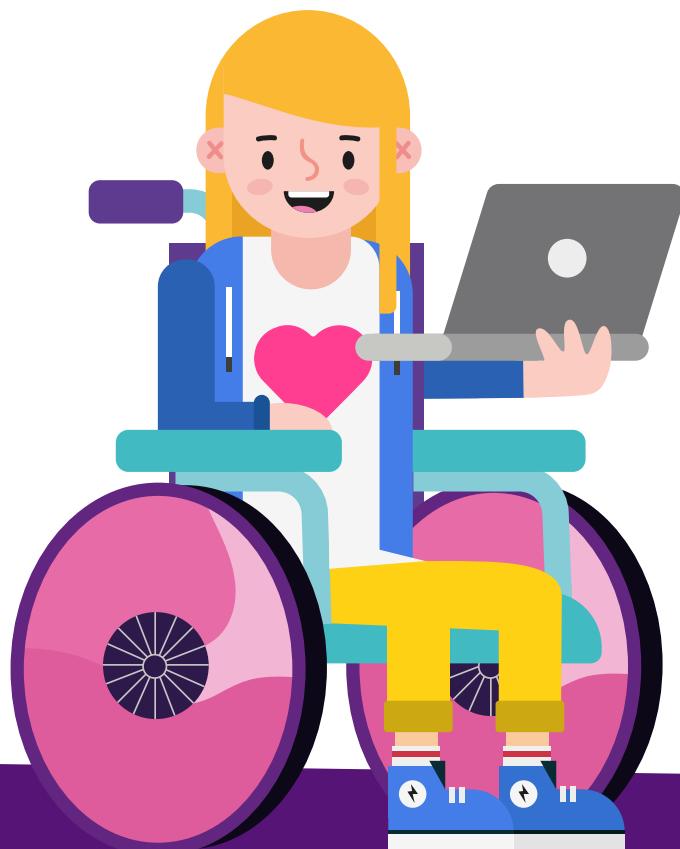


- Providing a written or visual schedule of the session at the beginning
- Providing a number of larger monitors for persons with visual impairments
- Printing project instructions using a large and easy-to-read font, such as Arial
- Introducing inclusive activities that the Ninjas can all work on and enjoy, e.g. using HTML to make a website about their own special interest
- Asking mentors to communicate slowly and clearly when explaining something
- Perhaps introducing the young person to a mentor who is there regularly, so that they know at least one adult by name and have a friendly face to look out for
- Allowing “movement breaks”— some young people need extra movement and can find it challenging to sit for long periods, even if they find the activity engaging

If there are many young people at the Dojo who have a disability, consider appointing one volunteer as an accessibility officer who can oversee reasonable adjustments.

Suggestions for supporting participation at your Dojo

The suggestions below are intended as loose guidelines and are not exhaustive. Remember that **everyone's** needs and abilities will be different, and this goes for all members of your Dojo – not just those with a disability. The best approach is to keep channels of communication open, actively listen to members of your Dojo, and discuss together how you can best support their participation.



Supporting people with Autism Spectrum Disorder (ASD) at your Dojo

- **Establish a routine:** Many people with ASD like routine, and a change in an established routine may cause unease. As most Dojos follow a set routine at each session, a simple yet effective action is to share this routine in advance with new members. Again, this information will likely be useful to anyone who is new to your Dojo; a person may feel nervous attending the Dojo for the first time, and knowledge of the routine may help alleviate anxiety. A simple email with bullet points outlining the sequence of events, or a visual schedule showing step-by-step photos from a typical session, can work well. Ensure that any significant change to the routine is also communicated in advance to existing Dojo members.
- **Communicate clearly and allow time for processing:** At a Dojo, Ninjas learn at their own pace and should never feel under pressure. New volunteers also need time to learn and adjust. Remember to use people's names when you begin speaking to them, don't ask too many questions at once, and keep instructions friendly, simple, and clear.
- **Consider the Dojo environment:** Dojos can be busy and often noisy places! If an individual is sensitive to noise, they may need to take breaks or wear noise-cancelling headphones. Take a look around the space and see if there are any immediate adjustments you can make, e.g. turning off loud music.

- **Special interests:** Many people with ASD have a special interest – a topic they are highly interested in and informed about – which may be both a source of happiness and a coping mechanism. Getting a Ninja to incorporate their special interest into a project they are working on is a great way to keep them engaged. For example, they may not be interested in getting the cat in Scratch to move, but might feel more personally engaged and excited if the sprite is their favourite video game character.

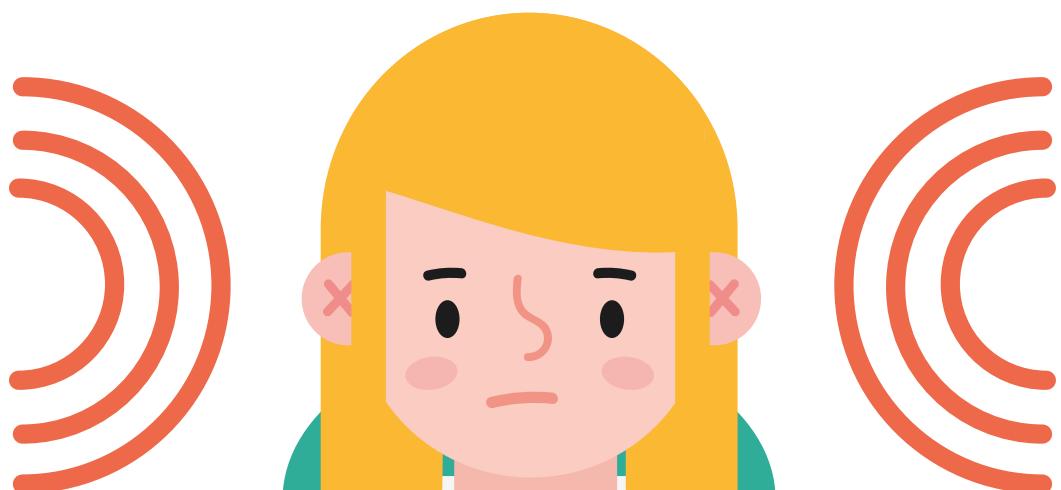


Supporting D/deaf and hard of hearing people at your Dojo

● **Communication:**

- Ask the person what method of communication they would be most comfortable using at the Dojo. Some D/deaf people can hear and speak with the help of assistive technologies, and others may use sign language. In this case, you can emphasise that they are welcome to bring a friend or family member who can interpret to the Dojo. Note: legislation and expectations around interpreter provision can vary from country to country – check the relevant legislation in your region and how it applies to your Dojo situation.
- Fully face the person when speaking with them, allowing them to interpret your gestures and lip-read if this is within their communication practice. Be aware of the lighting in the room, and make sure you are not standing in front of a window, as this can make lip-reading more difficult.
- When supporting a D/deaf or hard of hearing Ninja with their project work, have writing materials to hand so that you can make notes/draw.

- **Hearing loop:** If your Dojo is in a large space, such as a lecture hall or public amenity building, look into whether the space has a hearing loop system (a type of sound system that greatly reduces background noise, used by people with hearing aids). If it does, make sure that this information is stated on your Dojo's profile page.
- **Consider the auditory environment of your Dojo:** Be mindful of loud music playing or any temporary interruptions planned, e.g. maintenance work. Consider any reasonable adjustments that can be made to avoid or minimise the noise.
- **Inclusive activities:** For group activities, such as icebreakers, arrange the seating in a circle or semicircle, so that everyone can see each other. If someone is presenting a project or lesson, ensure that only one person is speaking at a time. You may wish to provide a microphone for presentations, and handouts or clear written instructions to accompany activities.



Supporting people with a visual impairment at your Dojo

- **Introduce the environment** to the person when they start at your Dojo. Describe where different things are in the space and make use of landmarks, so that they can become comfortable with moving through the environment.
- **Consider the lighting at your Dojo venue.** Are any lights excessively bright and could be dimmed, or are there any flickering lights that could be fixed?
- Discuss with the person what types of **tools** they would like to use at the sessions. They may already have preferred tools – such as certain screen readers – that they are familiar with. If they are using a Dojo-owned laptop, then make sure that their preferred tools are installed in advance of the session.
 - **Tip:** Parham Doustdar, who describes himself as “a completely blind back-end programmer”, has written a blog post named *The Tools of a Blind Programmer*, which details screen readers, programming languages, IDEs, and more.¹

- The Raspberry Pi community have made advancements in accessibility, including the launch of a Raspberry-vi ('vi' stands for 'visually impaired') mailing list. You can find more information in this blog post:

<https://bit.ly/2Hj2MO7>

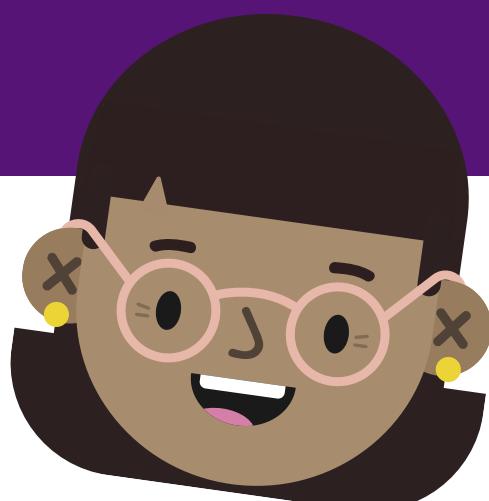
- The platform Eye Can Code supports children with visual impairments with learning to code:

eyecancode.wixsite.com/eyecancode

¹ Doustdar, P. (2016). The Tools of a Blind Programmer. [Blog] Parham Doustdar's Blog. Available at: <https://www.parhamdoustdar.com/2016/04/03/tools-of-blind-programmer/> [Accessed 15 February 2019].

"I am very short-sighted, so I always make sure all printouts and projections have a large font."

- Zita, CoderDojo Wexford

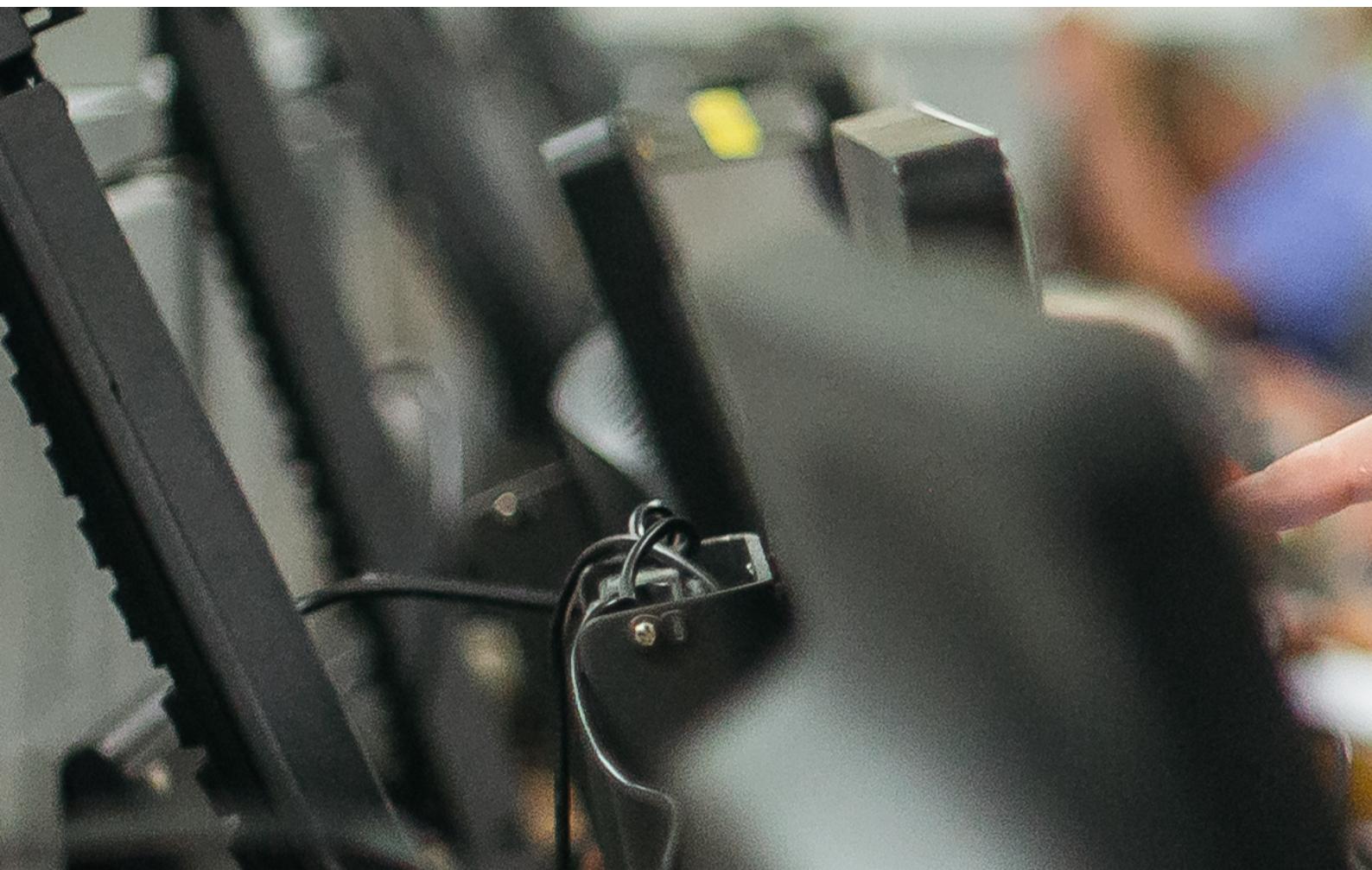


Note: In summer 2016, CoderDojo London ran a series of Accessibility Dojos for young people with sensory, and in particular, visual impairments. They used an ‘Experimental Braille Communication device’, powered by the BBC micro:bit. During this project, the kids worked together to solve a puzzle using basic electronics, programming, and logic. The exercise was based around a Braille cell and a BBC micro:bit with a buzzer, USB cable, battery pack, and alligator clips. They also tried out ‘Spot the Difference’, a web accessibility puzzle by Recite Me. Children worked together to identify and fix accessibility issues on websites, while learning about screen readers and web accessibility standards.



Supporting people with a physical disability at your Dojo

- **Ensure that any reasonable adjustments have been made** to enable the person to fully participate in the session. A simple adjustment is moving tables around to include the person.
- **Speak to the person at eye level.** Talk to the person, and not to the carer or parent with them.
- If they have brought along their own **technology** to support them participating, such as a specialised joystick, help them connect it up to the device they are using. Sometimes, these devices



run using the standard driver, but sometimes, you will have to install drivers. Be as helpful and supportive in setting up as possible.

- **Be considerate of personal space.** Do not lean on or move any mobility aids they are using.

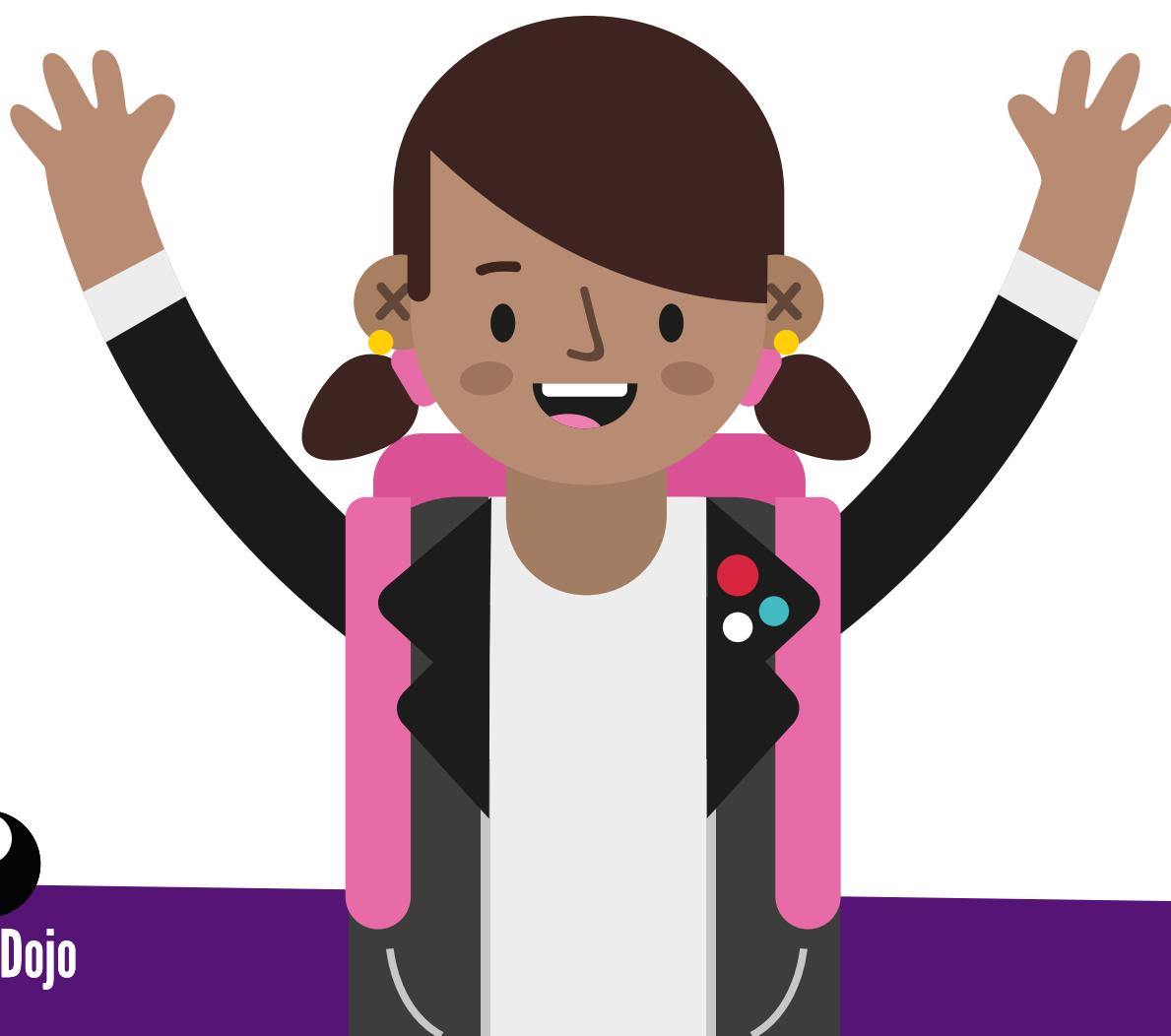
“We ensure that any location we reserve for a CoderDojo session has elevators and accessible parking, and desks which easily accommodate wheelchairs.”

– Ian, CoderDojo Denver



Supporting people with learning disabilities or learning difficulties at your Dojo

Learning disabilities and learning difficulties can come in many forms, and generally are conditions that interfere with an individual's ability to process information. Examples include dyslexia, dysgraphia, dyscalculia, and ADHD. While we cannot cover all of these in this short guide, a general rule of thumb is to speak with the individual about what support works best for them, and look at what reasonable adjustments can be made.



“The most important thing we have found is to talk to the parents or guardians. Every child is different, and some have certain things that will help them. One boy in our Dojo has Aspergers, and a grandparent explained that he zones out his hearing when sensory overload kicks in. We now know to place a hand on his shoulder when speaking to him, as this helps him to focus on listening to us. There is another child in our Dojo who finds making choices very difficult when faced with too wide a range. So, we tend to restrict choices where possible. For example, when choosing a colour for something, instead of “What colour is this going to be?”, we would ask “Will we make this red or blue?”.

These are very specific examples for individual kids and will not work for all Ninjas. So, family members really are your first port of call.”

– Natasha, champion of Derry CoderDojo



Dyslexia

This is a very common learning difficulty that can affect a person's ability to learn to read, write, and spell. As many as one in ten people have some form of dyslexia.²

- To help young people progress from a visual- to a text-based programming language, you may like to introduce a tool such as EduBlocks:

edublocks.org

- Chrome extensions are available to improve accessibility for visual processing, e.g. Dyslexia Reader Chrome.
- It may be helpful to use an Integrated Development Environment (IDE) instead of a text editor, as it will alert the young person to a spelling mistake, suggest code, and help with finding the misspelled code. There are also generally more options to customise appearance to make reading code easier. JetBrains offer a free IDE for Java with these features:

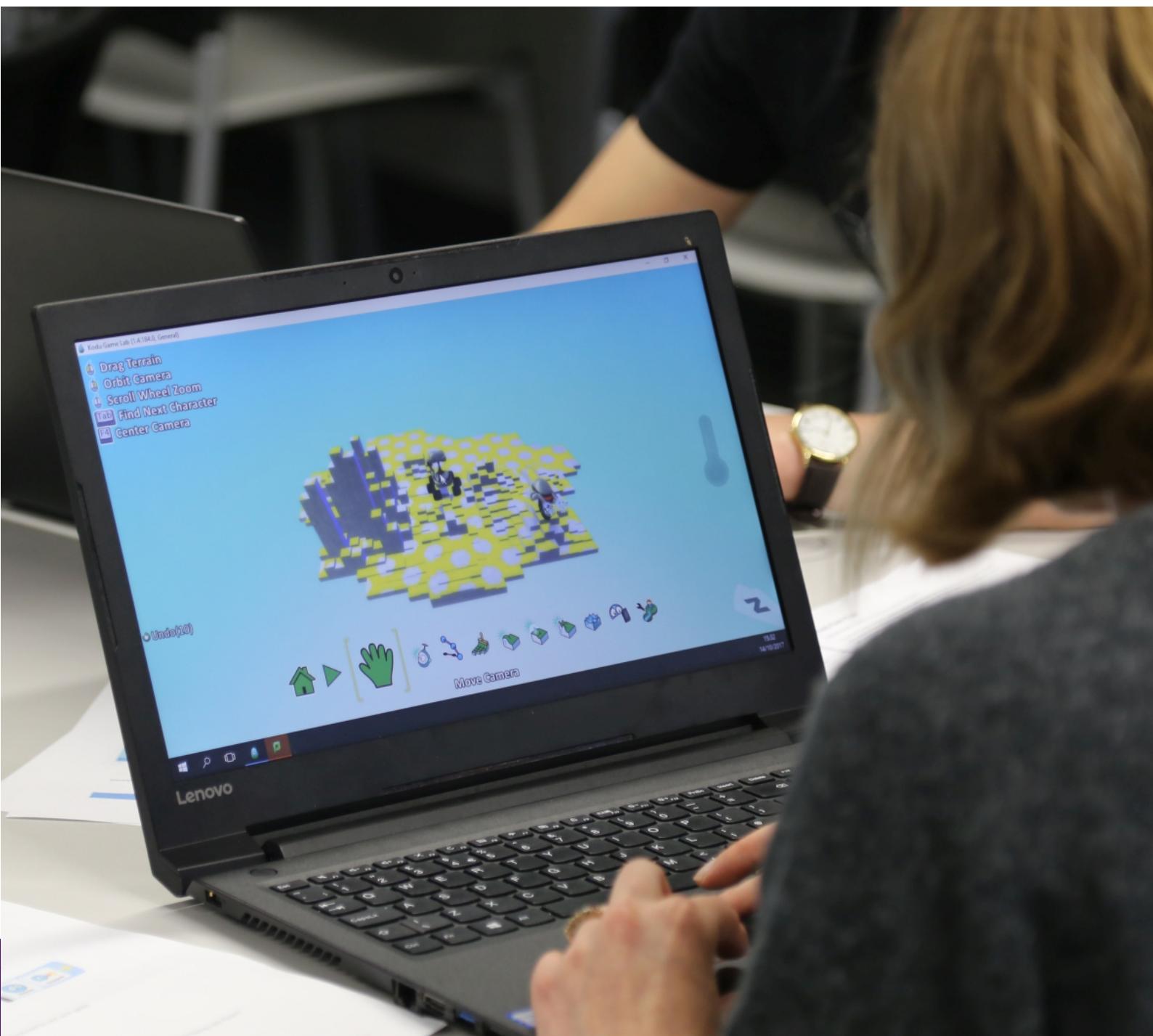
www.jetbrains.com

- If you print materials at your Dojo, you can use cream paper rather than white. Some young people with dyslexia may also have their own coloured overlays which they use for



printed materials (there are overlays with many different colours, and every person has to find the one which is right for them). Use an easy-to-read font, such as Arial, and no less than a 12pt font size.

² Dyslexia Association of Ireland, (n.d). Homepage. [online] Available at: <https://www.dyslexia.ie/> [Accessed 6 March 2019].



Project ideas for Ninjas

The UK Home Office has published a series of Designing for Accessibility posters on GitHub. Use these as a guide for designing awesome and accessible projects!

<https://bit.ly/2H0cOEt>

You can also find a wide range of projects, suitable for all levels of experience, on our project sites:

- projects.raspberrypi.org
- coderdojo.com/resources



Assistance Dogs

Many people who have a disability will use an assistance animal, usually a dog. These dogs are uniquely trained to provide a particular type of service, including but not limited to mobility assistance, visual assistance, and emotional support. In most countries, venues must allow assistance dogs to be present, as refusing to do so would inhibit the rights of the person relying on the dog. The only exception to this rule is if the assistance dog is out of control and the owner is not taking steps to control the dog, but this would be highly unusual with a properly trained assistance dog.

Assistance dogs at the Dojo

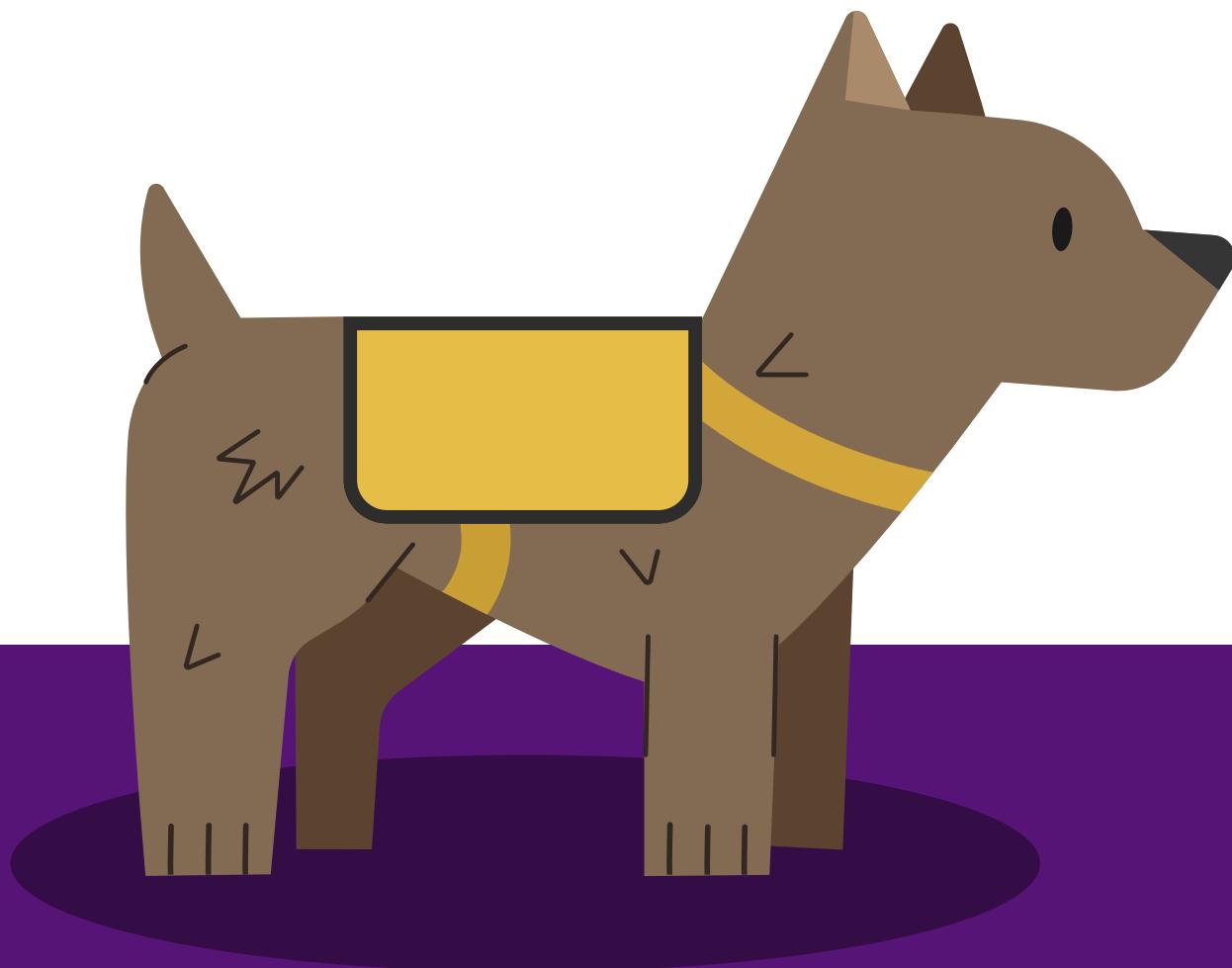
A member of your Dojo may bring their assistance dog to the session. There are certain rules for how to act around assistance dogs that are important to follow. It is essential that all the Ninjas at your Dojo know and follow these rules too!

- **Do not pet, feed, or distract the dog:** Assistance dogs are ‘doing a job’ that is important to their owner’s well-being and safety. Unless their owner has invited you to pet the dog, the animal should be left alone. Explain to the Ninjas at the Dojo that the dog is working. A clear indication that a dog is working is when it is wearing a vest.

- **Respond if the dog tries to get your attention:** Certain assistance dogs are trained to alert people when their owner needs help, for example if their owner has epilepsy.

Tip: Why not encourage your Ninjas to make a project about assistance dogs? They could use HTML to build a website all about what assistance dogs do! Get started here:

dojo.soy/build_a_website



Allergies

If you provide snacks at your Dojo, it is a good idea to inform parents/guardians in advance. Some children may have allergies or intolerances, or may need to be on a strict diet. Refrain from handing out snacks without checking with the parents/guardians first, and organise alternative snacks when needed.

“At the event itself, parents were very thankful for the effort that had been put into the event and appreciated the care and attention to details that make a difference. One parent said they had not expected their child to enjoy an activity for so long and be comfortable and productive – which is a huge positive for us.”

– Tariq, mentor at CoderDojo Cornwall



Further information

You may wish to do further research by seeing what information and support is available in your country or region. Below, we have listed some organisations in countries that have a high number of Dojos. These organisations are not affiliated with the CoderDojo Foundation, but you may find useful information to help you support Dojo members with disabilities.

Ireland

The National Disability Authority: www.nda.ie

The Disability Federation of Ireland:

www.disability-federation.ie

As I Am: asiam.ie

Enable Ireland: www.enableireland.ie

Inclusion Ireland: www.inclusionireland.ie

Ability West: www.abilitywest.ie

Aspire Ireland: www.aspireireland.ie/cmsWP

NCBI: www.ncbi.ie



Chime: www.deafhear.ie/DeafHear/shopHome.html

The Irish Wheelchair Association: www.iwa.ie

Down Syndrome Ireland: www.downsyndrome.ie

HADD Ireland: www.hadd.ie

United Kingdom

UK government:

www.gov.uk/service-manual/helping-people-to-use-your-service/making-your-service-accessible-an-introduction

Disability Rights UK: www.disabilityrightsuk.org/accessibility

Scope: www.scope.org.uk

National Autistic Society: www.autism.org.uk

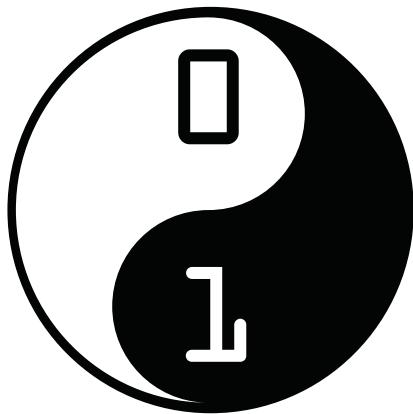
USA

ADA.gov: www.ada.gov/index.html

American Council for the Blind: www.acb.org

National Association for the Deaf: www.nad.org

TASH: tash.org



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