



Accessibility guide

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Introduction

Code Club is an inclusive movement, and welcomes people of all ages, backgrounds, and abilities into the community, both as participants and as mentors. Being open to everyone is a core principle of Code Club.

This guide is aimed at anyone involved in running a Code Club, in particular club leaders and mentors. At your club, you will have lots of different participants, including participants with disabilities and/or additional needs. We will discuss how you can make your Code Club more accessible by listening to your participants, making reasonable adjustments, and deciding what works best, so that they can have the best possible Code Club experience.

The purpose of this guide is to share best practices regarding accessibility, and to support Code Clubs in becoming as accessible for people with disabilities as they reasonably can be.

Code Club 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 club leaders and mentors 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 club, 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 club. It is important that the other members of your club use inclusive language too: if they do not, the person may feel excluded and unable to enjoy the club sessions.

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 club 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 club leader about their disability, or their child's disability, but it is useful for the club leader to know, so that they can best support the person, or their child.

Guidelines for club leaders:

- Actively listen to the person who is speaking to you. At a busy club 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 club, including the creators. This should be entirely the decision of the person themselves.
- Talk about any reasonable adjustments that could be made at the club 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.
- Focus on what is needed rather than any diagnosis.



Guidelines for making your club more accessible

Make sure your club is easy to contact

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

Things to consider:

- Ensure that your club email address is clearly available on your club's profile page and is up-to-date.
- Check your club's inbox regularly. If you think you'll forget, you could set up weekly reminders to do it.
- Share login credentials with a deputy club leader or another trusted volunteer. Having more than one person managing the account means less work for the club leader — and quicker replies!
- Set up a social media account or page for your club as an alternative way for people to get in touch.

The Code Club environment

When choosing a club 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. Code Clubs do not typically receive funding, and therefore organisers cannot be expected to make structural adjustments to the building in which clubs are held.

However, they can make the venue more accessible through **good communication** and **reasonable adjustments**.



Good communication

Information to include online about your club:

- Include detailed accessibility information on your club's profile page and website (if you have one). Ensure that the venue is clearly described and that the map on your club's profile page 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 club may not be. Remember to also describe the street access, where applicable.
- Include the format of your sessions. Are creators working in groups, working independently on their own projects with support from mentors, or being led from the front and guided through each step at the same time?
- If your club venue is not accessible, be honest about this and discuss how you can work towards amending this. It is better to explain how your club is not accessible (stairs, narrow doorways, etc.) than to have someone arrive at your club and find that they cannot access the space.
- State whether there are wheelchair accessible or Changing Places toilet facilities available. You should also include any adjustments you have already made to make the space more accessible.
- If your club 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 club leader. Photos are very useful for creating social stories, and to minimise attendees' anxiety by showing them how things will look.

“One quick tip is to encourage clubs to add alt text to images they share on social media or use on their club's website. This brief description of images and graphics is read by screen readers or other assistive technology, making it more accessible.”

— Zoe, Community Engagement Manager



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 clubs are free and not-for-profit, many aspects of their physical environment will be outside the control of the club organisers. Speak to the staff at your venue about any reasonable adjustments they can make.

There are likely to be lots of achievable steps that can be taken to greatly improve an individual's experience. By discussing their needs, you might find a solution previously not considered.

Examples of reasonable adjustments:

- Using posters to signpost the room where your club is held, including from the stairs and lifts
- 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 creators can all work on and enjoy, e.g. using HTML to make a website about their own special interests
- Asking mentors to communicate slowly and clearly when explaining something
- Introducing each young person with disabilities 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 club who have a disability, consider appointing one volunteer as an accessibility officer who can oversee reasonable adjustments.

Suggestions for supporting participation at your Code Club

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 club – not just those with a disability. The best approach is to keep channels of communication open, actively listen to members of your club, and discuss together how you can best support their participation.

Neurodivergence

'Neurodivergent' is a non-medical term that describes people whose brains develop or work differently. A neurodivergent person has different strengths and challenges compared to people whose brains develop or work more typically (neurotypical). Some people who are neurodivergent have medical conditions such as autism, ADHD, dyslexia, dyscalculia, or dyspraxia. However, people can be neurodivergent where a medical condition or diagnosis hasn't been identified. People use the terms 'neurodivergent' and 'neurotypical' instead of terms like 'normal' and 'abnormal'. This is important as there is no single definition of 'normal' for how brains work. ([Cleveland Clinic, 2022](#)).

"A quiet area or corner can be helpful for children or adults, regardless of whether they are neurodivergent or neurotypical. Clubs can be noisy and the space should be seen as useful for anyone who wants a break."

— Tamasin, mentor



Supporting people with autism spectrum disorder (ASD) at your club

- **Establish a routine:** Many people with ASD like routine, and a change in an established routine may cause unease. As most clubs follow a set routine at each session, a simple yet effective action is to share this routine in advance with new members. This information will likely be useful to anyone who is new to your club; a person may feel nervous attending the club 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 club members.
- **Communicate clearly and allow time for processing:** At a Code Club, creators 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 club environment:** Clubs 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 creator 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.



“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 club has (autism), 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 club 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 creators. So, family members really are your first port of call.”

- Natasha, club leader

Supporting people with attention-deficit hyperactivity disorder (ADHD) at your club

- **Consider the club environment:** Clubs can be busy and distracting places! Many people with ADHD find it difficult to block out distractions, making it challenging for them to concentrate on a task. Take a look around the space and see if there are any immediate adjustments you can make, e.g. turning off loud music.
- **Concentration aids:** Some children may find it helpful to listen to music on headphones while coding. This can help block external noises, helping the child to concentrate on their work. In order to avoid stigmatising the child with ADHD, it may be necessary to allow other children to use headphones too.
- **Communicate clearly:** Ask questions one at a time, and keep instructions friendly, simple, and clear.
- **Visual reminders:** Communicate in multiple ways and provide regular, positive reminders. Consider using post-it notes, giving written instructions alongside verbal instructions, and sending clear bullet-point email reminders to mentors.



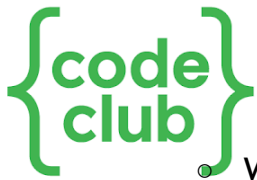
- **Stress and fidget toys:** If a creator uses one, mentors should support this — such toys can help with concentration. For example, a creator might use a fidget toy to help them focus when listening to verbal instructions.

“As a mentor, I’ve seen how one-to-one support can really help children with ASD and ADHD be more focused. It gives them more freedom to learn at their own pace, but it can be challenging to devote the time to one individual in a busy club. If parents and guardians are around, they can also provide support during the sessions, which can make things easier.”

— Richard, club leader and mentor

Supporting D/deaf and hard-of-hearing people at your club

- **Communication:**
 - Ask the person what method of communication they would be most comfortable using at the club. Some D/deaf people can hear and speak with the help of assistive technologies, and others may use sign language. If they use sign language, you can emphasise that they are welcome to bring a friend or family member who can interpret to the club. 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 club 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 creator with their project work, have writing materials to hand so that you can make notes and draw.
- **Hearing loop:** If your club 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 club's profile page.
- **Consider the auditory environment of your club:** 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 club

- **Introduce the environment** to the person when they start at your club. 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 club venue.** Are there any lights that are 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 club-owned laptop, make sure that their preferred tools are installed in advance of the session.

**Online resources:**

- The Raspberry Pi community has launched a Raspberry-vi ('vi' stands for 'visually impaired') website: www.raspberrypi.org/pages/
- The Interactive Telecommunications Program at New York University shares accessibility tools for physical computing: <https://itp.nyu.edu/physcomp/resources/accessibility-tools-for-physical-computing/>
- Accessibility at GitHub is a playlist of videos highlighting how developers, regardless of their physical or cognitive abilities, are contributing to the future of software development: <https://www.youtube.com/playlist?list=PL0lo9MOBetEGvxp03Kh3eIFvIvfE21KF>

“I am very short-sighted, so I always make sure all printouts and projections have a large font.” — Zita, club leader

Supporting people with a physical disability at your club

- 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, parent, or guardian with them.
- Some people use different tools to control their computer. For example, they may find it difficult to use a mouse, and rely on keyboard shortcuts instead. They may use a joystick, switches, or eye gaze devices to access their applications. If they have brought along their own technology to help them participate, help them connect it up to the device they are using. These devices may run using the standard driver, but sometimes, you will have to install drivers. Be as helpful and supportive in setting up as possible.



- It may be helpful to find example projects that are known to be accessible with the person's assistive technology, to help them get started. Other individuals will be confident and prefer to do what everyone else is doing.
- Be considerate of personal space. Do not lean on or move any mobility aids they are using.

“We ensure that any location we host our club at has elevators and accessible parking, and desks that easily accommodate wheelchairs.” — Ian, club leader

Supporting people with learning disabilities or learning difficulties at your club

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 to look at what reasonable adjustments can be made.

Supporting people with dyslexia at your club

Dyslexia 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. People with dyslexia are often visual learners and out-of-the-box problem-solvers.

- 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 them find the misspelled code. There are also generally more options to customise appearance to make reading code easier. JetBrains offers a free IDE for Java with these features: www.jetbrains.com
- If you print materials at your club, you can use cream paper rather than white. Some young people with dyslexia may also have their own coloured overlays that they use for printed materials (there are overlays with many different colours, and every person has to find the one that is right for them). Use an easy-to-read font, such as Arial, and no less than a 12pt font size.

“When mentoring young people with different learning abilities, avoid comparing the projects creators are doing by saying one is more advanced than the other or exactly how much time it should take. Focus on how fun the projects are and strengths different creators have, like being visual learners and creative problem-solvers.” — Hannah, accessibility advocate

Project ideas for creators

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 projects site: projects.raspberrypi.org

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 your club

A member of your club may bring their assistance dog to the session. Ideally you should know where they can get water for the dog and where the nearest patch of grass is that the dog can use. There are certain rules for how to act around assistance dogs that are important to follow. It is essential that all the creators at your club 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 creators at the club 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 and is having a seizure.

Tip: Why not encourage your creators to make a project about assistance dogs? They could use HTML to build a webpage all about what assistance dogs do! Get started here: rpf.io/buildawebpage



Augmentative and alternative communication (AAC)

People may need AAC due to a variety of reasons to assist communication. AAC can range from picture boards to computerised speaking devices. To help communicate with someone who uses an AAC device:

- Reduce background noise.
- Ensure that the person using AAC can see you when you are talking to them. This ensures that they can see the non-verbal cues we use to communicate, such as facial expressions, body language, gaze, and gestures.
- Be patient. Conversations will take more time compared to those that do not use AAC. Don't try to finish their sentences — this causes frustration and increases misunderstandings.
- Be clear. Introduce one topic at a time so that conversations do not get confused. Let them know when you do or don't understand them. This will help the AAC user to keep the conversation on track and to understand you.

“If I were going to a Code Club now, the most important thing would be to have a 1-to-1 session with the leaders beforehand to work out my access needs. That way, we're not trying to sort it all out on the day. It helps if organisers are open-minded and ask how I use my setup, rather than assuming. It would also be useful, if not necessary, for the organisers to have access to expert AT (assistive technology) help, as they are unlikely to know everything for someone like me.

I like coding because I love designing things and making software that helps people like me — that's a big motivation for me.”

— Becky, a young adult who codes with eye gaze and uses AAC to communicate



Allergies

If you provide snacks at your club, it is a good idea to inform parents and 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 and 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

Further information

You may wish to do further research by seeing what information and support are available in your country or region. Below, we have listed some organisations in countries that have a high number of clubs. These organisations are not affiliated with Code Club, but you may find useful information to help you support club 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/

NCBI: www.ncbi.ie



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

The Irish Wheelchair Association: www.iwa.ie

Down Syndrome Ireland: www.downsyndrome.ie

ADHD Ireland: www.adhdireland.ie/

United Kingdom

UK government:

<https://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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