



Plusnet x Scouts:

Preparing for the Future is a partnership with Scouts to enable young people to find solutions to issues they face using technology.



At the digital camp to launch the partnership, we invited Scouts from across the UK to take part in a hackathon and tackle six issues that young people told us were important to them:

- **Protecting the environment (with WWF)**
- **Ending homelessness (with Crisis)**
- **Supporting refugees and displaced children (with Save the Children)**
- **Better mental health for all (with Mind)**
- **Understanding disability (with National Autistic Society)**
- **Kindness in every community (with British Red Cross)**

At the event, Scouts used code (computer programming) to come up with solutions to these problems, but there are plenty of ways you can use the internet to find solutions of your own too.

In this Hack at Home pack, you'll learn how the internet can help you work towards a solution of your own. Inspired by our Scouts digital camp hackathon, you'll learn how to work on a project step-by-step and see how you can use your skills and the internet for positive change. This is a really good way to learn organisational skills and a way to turn your passions into something that can be used to help people in real life.

There are so many different types of challenges you could look to solve, for example, you could:

- **DEAF AWARENESS:** Create a pack of digital flashcards to help young people learn sign language
- **CHILD REFUGEES:** Find a way to connect child refugees with a pen pal online so they feel welcome
- **ANIMALS:** Create a special traffic light system so people can see when hedgehogs are crossing the road at night
- **ENVIRONMENT:** Design a robot that can pick up litter in the park

What is a Hackathon?

A hackathon is where individuals or groups acknowledge a problem and work on building and creating a solution for the problem. This is usually done through computer coding, but can be done in other ways too – like art, writing or designing.

How long does a Hackathon take?

Hackathons can take place across a few hours, days or even weeks – the important thing is to have fun and develop new skills!

What do I need?

If you have access to a computer, coding software and a programmable computer like a Micro:bit then you have all the tools. You can check out really quick lessons on coding using resources like Code.org who have short tutorials that can teach you different types of coding. Alternatively, you can be more creative and 'hack' with arts and crafts or by writing an article about your ideas or make a YouTube video explaining your solution!

Are you working solo or in a team?

If you're working solo then you're ready to get going!

If you're in a team, assign specific roles so everyone knows what they are responsible for. This helps everyone to focus on their tasks but make sure you are all still talking to each other and looking at the bigger picture.

Step 1

Identify an issue you want to solve, or something you want to create

Be realistic

- Set a clear goal that is achievable within the timeframe you have. Keep it simple!

Who is this for?

- Think about who your audience is.
Are they likely to be able to use your idea without much guidance?

What problem are you solving?

- Be clear about the problem you are going to solve and how you are going to do it.
If you find something you are passionate about you will likely be able to think of better ideas!
- Be clear on how the technology will work and the things you will need to achieve it.

Where will your idea be used?

- Is there a particular place your solution will work? Is it outside or inside?
Is it in the city or in the countryside?
- Thinking about places will help you realise exactly what you need to make your solution the best it can be.

When will it work?

- Think about whether your solution is for a particular day or time.
- Or maybe it is relevant all year around?

Why is your idea great?

- Try to think about existing ideas that people have had to solve problems and work out where your solution fits in.
- If you can explain why your idea is great then you'll have a much easier time with planning and actions!

Tip:

Take a look online at different charity's websites to get an idea of the real-world problems that they are trying to fix – you can find lots of inspiration on the internet!

You can see videos from the charities that Scouts work with here:

- Supporting refugees and displaced children - Save the Children
- Kindess in every community - British Red Cross
- Better mental health for all - Mind
- Protecting the environment -WWF
- Ending homelessness - Crisis
- Understanding disability - National Autistic Society

Example:

You decide you want to find a way for there to be less litter in your local park. You want to design a robot which can pick up litter and recycle what it finds. Think about what kind of technology you would need to make this happen.

What type of people will use your robot?

What type of people will see the robot in action?

Step 2

Create a plan of action

Use post it notes

- Write down everything you want your idea to be able to do on post it notes or separate pieces of paper.

Separate them by 'to do' and 'done'

- Place all these post it notes on one side so you can see the different things you need to do to make your idea happen.
- Once you have completed a task you can move the post it note to another spot so you can see how much you have achieved!

Tip:

Colour code your post it notes for different types of tasks – this will help you see what kind of jobs you have left to do and what kind of jobs you have completed

Example:

This is the part where you can separate out your coding tasks or your 'crafting tasks'. For the example of a litter picking robot, if you are not coding then think about all of the different smaller tasks you need to complete the hack – you'll could show how the robot works through a drawing but you'll need to think about what things you need in the drawing like the robot, the types of litter it will collect, the types of obstacles it may encounter etc.

Step 3

Timings

Time

- Before you start anything make sure you are really clear about what you can get done with your time. Remember that some tasks may take much longer than others. You can set a timer on your computer to remind you!

The right order

- There will be some tasks that need to be completed before others. For example, you can't code a Micro:bit without having first got the right software on your computer/device and you can't build a prototype of a robot if you don't have the right arts and crafts materials

Use the internet!

- The internet is an amazing resource when you need to do research for projects. Head to Google and see if you can find advice on how best to take on each task.

Tip:

Plan ahead by having everything you need for your tasks. This way you won't need to stop to get more equipment.

Example:

If you're looking into a litter picking robot, then think about how long the design might take you. You could probably finish a drawing in an hour but you may also want to build a prototype out of cardboard which might take longer. In a hackathon, time is limited so attendees always make sure they can achieve what they planned at the start.

Step 4

Review and update

Review

- At the end of a task look at what you have achieved and decide what needs to be worked on in the next task.

Relax

- Don't worry if things have taken longer than you planned. Just use this learning for the next round of tasks.

Almost there

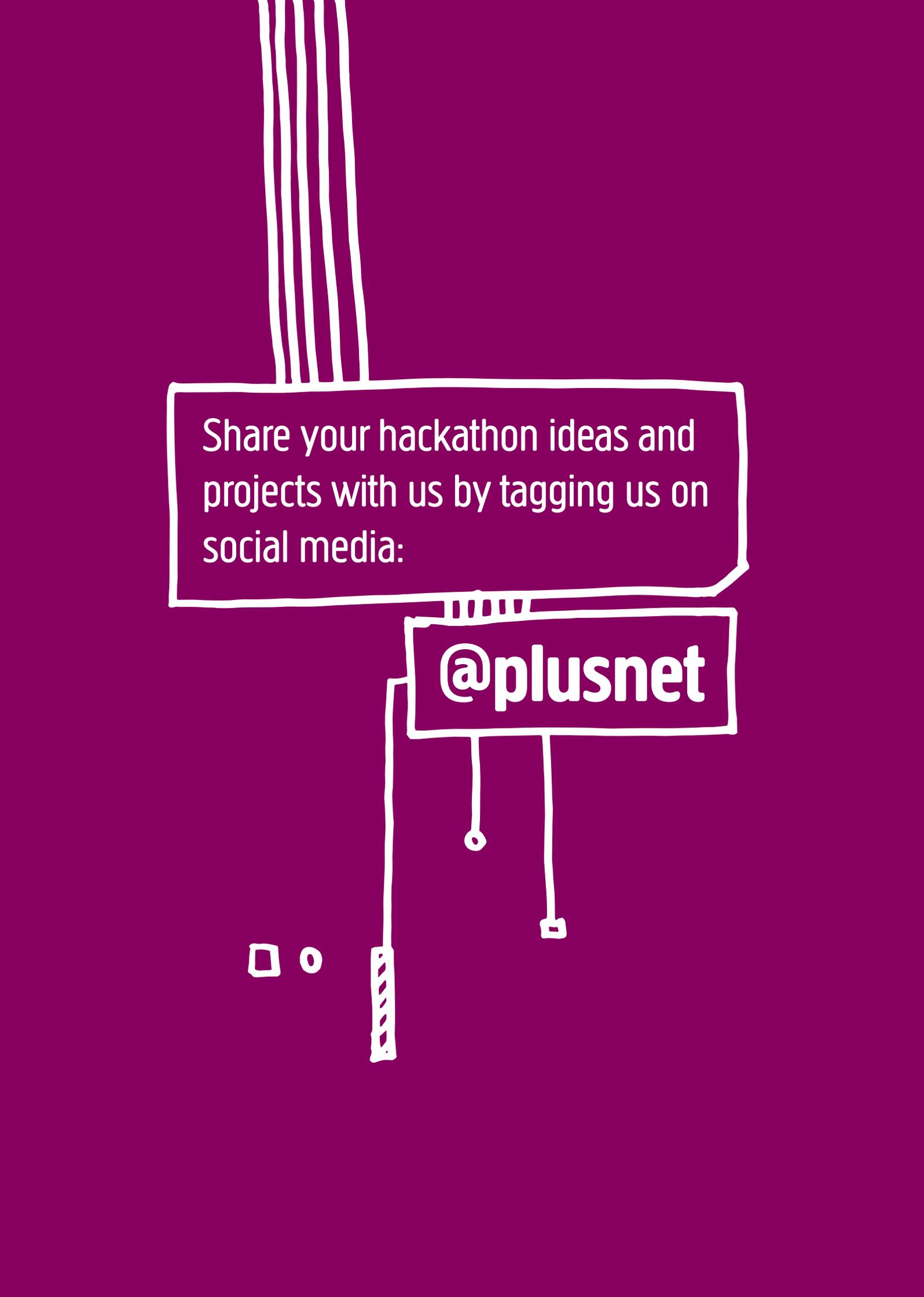
- Are you on track? Were some things simpler or more complicated than expected? Use this time to review and adapt until you are done!

Tip:

Take a break if you're feeling tired, sometimes all it takes is a few moments chilling out for your brain to get going again!

Example:

If you have completed the first drawing of a litter picking robot then think about how long it might take you to draw all of the different types of terrain the robot can cross. Maybe the robot would need to cross pavements or go around fences? You may need to think about what happens when the batteries run out or when the robot gets full up with litter.



Share your hackathon ideas and projects with us by tagging us on social media:

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