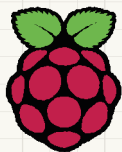


SOCIAL ACTION HACKATHON

TEAM LEADER GUIDE



Raspberry Pi



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INTRODUCTION

You're about to help facilitate a Social Action Hackathon, an activity the Raspberry Pi Foundation team developed to give young people a broad, hands-on introduction to digital making using the Raspberry Pi computer, Agile development methodology, and beginner Python programming. You'll support teams of young people through the ideation, design, and creation of an invention which will help beneficiaries of UK charities.

Thanks for taking the time to help young people learn valuable digital skills for social action!

Your tasks as a Team Leader

At times, you will support your teams by leading them through discussions that allow them to coalesce their ideas into a project. At other times, you will act as an assistant, offering your expertise and support to help teams overcome problems and to manage their motivation and behaviour.

The Raspberry Pi facilitators will be able to handle any technical support the young people need if they get stuck while making their product. The facilitators will count on you to make sure your teams stay on track for creating something awesome within the time they have. If you'd like to also help the young people with technical issues you're comfortable addressing, then feel free to do so!

THE PRINCIPLE BEHIND THIS HACKATHON

If you've played cooperative board games such as Forbidden Island or Pandemic, or tabletop role-playing games such as Dungeons and Dragons, you're already on your way to successfully running this Social Action Hackathon: if you treat the activity as a big cooperative game which you are refereeing, then you're on the right track!

At the very beginning, we are going to split your group into small teams of 4 or 5 participants each; during the hackathon, you'll need to move between the teams to help each of them progress with their project. The participants will all be provided with a guide that takes the form of workbook, which you can use to help structure their thoughts and chats during the process. Support them in working through the hackathon using this guide, and you can't go wrong.

Roles for participants

The creation phase of the hackathon will consist of several rounds called Agile development cycles, or 'sprints'. During each sprint, team members will take on one of four roles. In the team meeting that begins each sprint (called a stand-up meeting or stand-up), participants will swap lanyards and take on a different role for the sprint.

Each role comes with a distinct set of tasks and responsibilities. These are detailed in the participants' guides, and they are also listed on the lanyards the participants will wear to indicate which role they're currently playing. The lanyards will be colour-coded by role, so you'll be able to see at a glance what types of things each participant should be doing at any given time.

Coordinator

Manages workflow and resources, as well as communication between the team and the facilitators/Team Leaders; pitches in to support hands-on work where necessary.

In-a-nutshell guidance:

"Make sure everyone has what they need to succeed."

THE PRINCIPLE BEHIND THIS HACKATHON

Fabrication Lead

Creates the product's physical and artistic parts that people will interact with, e.g. the case, stand, controls, colours, and artwork.

In-a-nutshell guidance:

"Make the interesting, colourful, and structural parts of the product that people see, touch, and use."

Technical Lead

Works on the internal functions of the product, including the code and the wiring and testing of electronic components.

In-a-nutshell guidance

"Get the guts of the product working."

Research Lead

Supports Technical and Fabrication Leads to find guidance and troubleshoot problems; provides support with pair programming, testing, and quality assurance; acts as an extra pair of hands when needed.

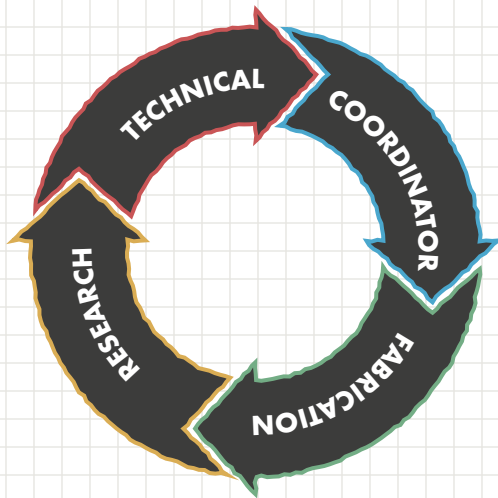
In-a-nutshell guidance

"Identify and troubleshoot technical difficulties, find alternate solutions, and implement these."

Participants need to form **teams of four**; if absolutely necessary, teams of five are OK, but teams cannot have less than four or more than five members. If there is a fifth team member, the team will use them as a second Research Lead, so that the Technical and Fabrications Leads each have a Research Lead to support them.

THE PRINCIPLE BEHIND THIS HACKATHON

Roles **MUST** be swapped at the start of each sprint, and there is a set order in which participants move from role to role:



This order allows participants to move between hands-on roles (Technical/Fabrication Lead) and supporting roles (Coordinator, Research Lead), providing a scaffold for them to understand every facet of the product's development.

You'll need to make sure that the participants swap roles each sprint. At first they may be resistant to doing this, but it's a really important part of the experience to act in every role at least once.

THE HACKATHON'S STRUCTURE

The beginning

First, you will be supporting sessions in which the participants think about the lives of the people they are aiming to help. We will ask the participants to watch videos about charity beneficiaries, and then you'll help facilitate a discussion about:

- The relevance of digital making and technology in social action
- Ways in which technology can solve social issues and support the work of charities
- The issues these charities and their beneficiaries face
- Possible solutions the participants could create to address these issues
- The type/style of project that is feasible for teams to build within two days

Next, through discussion, workshops, and a simple game, you will help the young people learn:

- How the Agile development cycle works, and what steps and systems are involved
- How participants will use Agile development practices to create a new product
- How the available technology works and can be used in the context of this hackathon
- What their roles are during the hackathon and how they will change each session

There will be a workshop leading participants through some basic technical concepts related to the Raspberry Pi computers, so they can get comfortable with programming and using electronic components. During this time, your tasks will be to keep the participants focused and to support them to understand the diagrams and scripts they will be working through. It's OK if you don't consider yourself 'techie': the Raspberry Pi facilitators will be there to handle any technical problems. And you can definitely help participants by reminding them of instructions and helping them check that their work matches the worksheets.

THE HACKATHON'S STRUCTURE

Coding and creating

During the main sessions of the hackathon, the participants will work to create something amazing using their new skills.

Every 90-minute working session (sprint) begins with a short meeting (stand-up) in which participants review their progress, decide on their focus for the current session, and assign tasks to each team member. During these sessions, your role will be to support teams as they work on their ideas, and to make sure they are motivated and organised.

Help teams through the process by:

- Making sure the participants are all on task and working towards their goal — no spectating!
- Guiding discussions and helping participants reflect if they need a prompt or some help organising their thoughts
- Lending a hand where needed if the participants ask (you can help out, but don't take on responsibility for doing the work!)
- Checking their work to find errors or mistakes
- Managing your team's motivation and morale through positive reinforcement and encouragement

Wrapping up

The hackathon ends with a pitch session, in which teams explain their process and product to the whole group.

In the final session's stand-up meeting, your role will be to guide teams to:

- Reflect on:
 - Their development process
 - How they worked together
 - How they overcame obstacles or difficulties
- Organise their thoughts about how they want to pitch their work
- Prepare the list of jobs required to create a simple presentation for their pitch

THE HACKATHON'S STRUCTURE

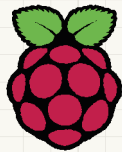
All the points that participants need to discuss in their final stand-up will be listed in their guides, but some important questions you should specifically prompt them with are:

- How did you feel about digital making/coding before we started?
- How do you feel about it now?
- How well do you think you communicated your views?
- How well do you think the team listened to each other's views and opinions?
- How well do you feel you contributed to the team?
- How well do you think the team worked together to find a solution?
- Do you feel your understanding of others has increased?

THANK YOU

Thank you for your invaluable help in making the hackathon a successful learning experience for the participants in your group. We couldn't do this without you!

If you have questions or concerns at any time during the Social Action Hackathon, don't hesitate to speak to one of the Raspberry Pi facilitators.



Raspberry Pi