

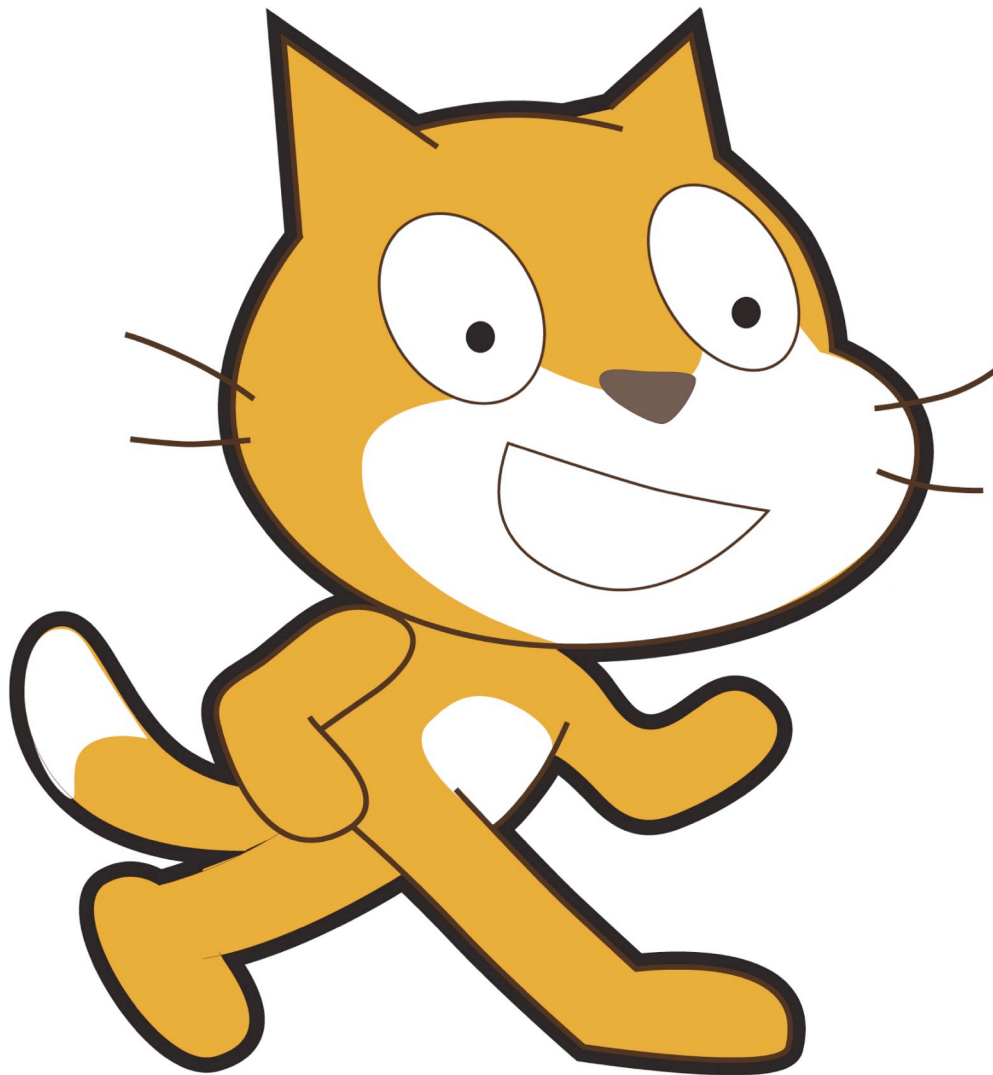
technocamps

Inspiring | Creative | Fun

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Scratch Workshop Session Plan



Workshop Schedule

“By failing to prepare, you are preparing to fail.”

Event Set Up	30 minutes
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Introduction

Welcome/Pre-day Forms	5 minutes
Introduction	10 minutes

(Slides 1)

(Slides 3 & 4)

Workshop Content

Introduction

45 minutes

(Slides 3 & 14)

Game Development

Game Development

120 minutes

Q&A/Post-day Forms	5 minutes
Event Clean Up	30 minutes

Total: 3 hours 15 minutes for attendees

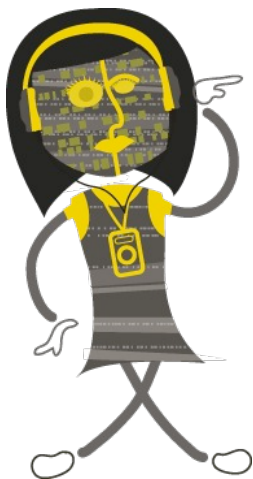
Total: 4 hours 15 minutes for staff

Hardware and Software Requirements

1. Pc/Laptop per participant
2. Projector and powerpoint
3. Scratch software
4. Pen and paper on each table



Attendee Prerequisites



1. No programming experience required
2. No experience on Mac's OS necessary
3. Completed Consent forms.

Learning Outcomes

1. Improved knowledge of Computer Science.
2. Basic understanding of programming.
3. General understanding of Games Development.
4. Re-engagement possibilities.



Event Set Up and Clean Up

Event Set Up

1. Prepare any pre and post-day questionnaire forms as required. Remember spare pens / pencils.
2. Ensure tables and chairs are arranged to naturally encourage people to sit in groups; ensure no one is sitting with their back to the podium.
3. Test display equipment (e.g. projector) and ensure that presentation and internet connection are working and ready for use.
4. Ensure each laptop has Scratch available.
5. Paper and pens on each table.
6. Workbooks provided if necessary.



Event Clean Up

1. Ensure all pre-day and post-day questionnaire form have been collected if required.
2. Ensure all work throughout the day is saved appropriately.
3. Safely and securely locking away all hardware, ready for overnight charging.
4. Clear up litter and refuse. Remember to recycle where facilities exist. Remember to switch off lights, computers, and projectors!



Introduction

Welcome and Pre-day Forms

The first 5 minutes is very much about welcoming and encouraging people to complete any pre-day forms before the workshop begins. Also ensure you read through the pre-day forms with the participants to confirm they have been filled in correctly.

Ensure that you welcome the attendees as they enter the room; this helps to create a positive connection.

Introduction

The introduction gives you time to introduce everyone involved with hosting the workshop.

The main aim is to have everyone settled, focused, and filling required forms, e.g. pre- and post-day questionnaires.

Example Introduction

(Slide 1: Technocamps Title)

“Good XXX, I’m XXX and I work for an pan-Wales organisation called Technocamps.

Has anybody heard of Technocamps before or been to one of our workshops?

We are a £6 million government funded organisation getting young adults and children aged between 11 and 19 to become excited about Computer Science and what it has to offer, in both their education and future careers.”

Make sure participants complete the pre-day questionnaires before beginning the workshop.

(Slides 1 & 2: Introduction Title)

Begin by introducing Games Design and what you will be doing throughout the workshop (don’t forget to mention the aimed for outcome).

Important to briefly explain any Fire Alarms and any drills being conducted..

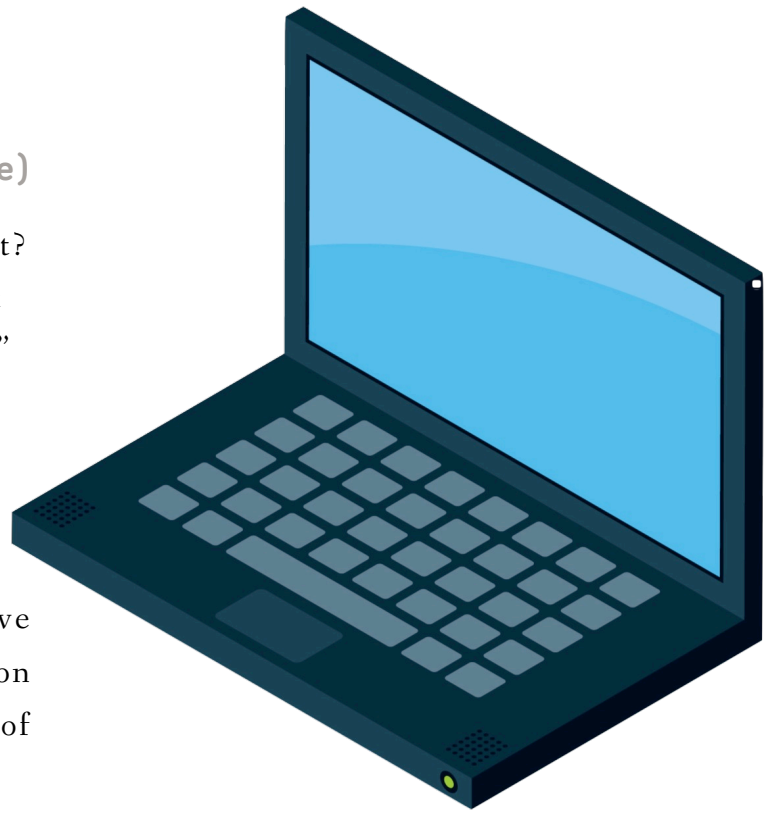
Scratch

(Slide 3: Introducing Computer Science)

Discussion of Computer Science: What is it? Employment? Education? This is important as their knowledge of “What is computing?” is questioned in the provided Pre/Post day Questionnaires.

(Slides 4: Programming)

Note: Some students may already have programming experience, so begin discussion on who has experience, the variation of languages and the uses of programming.



It will also be a good opportunity to introduce Scratch and how it works in comparison to “normal” programming techniques.

(Slides 5 & 6: “Computers are SILLY!”)

It is always easier to lead by example, a good one is breaking down how you would get a robot to make you a cup of tea in comparison to asking a human.

“Get milk”
“What is milk?”

A computer doesn’t know where milk is, or even where to get it from”

The aim of this slide is to talk amongst the group reasons behind this statement: getting the attendees to consider why this would be in relation to programming.

Emphasising the importance of providing clear instructions, containing all the information a computer may need to complete a task.

“ Remember: Computers
DON’T ask questions”

(Slides 7: The Task)

Providing the attendees with a hands-on activity will break down the slides better.

The task consists of the deliverer providing the group with a list of instructions to re-draw the image they have already drawn and hidden from the group. The idea being that the instructions are very vague and unclear, so the range of results vary greatly.

Scratch

It is also a good opportunity to include volunteers allowing group participation.

(Slide 8: What do we need our program to do?)

Even though the software we are using is drag-and-drop, it is of a benefit to the attendees to have an overall understanding of programming and what goes on “behind the scenes”. Try not to go into too much detail, especially if the attendees are of a younger age.



(Slide 10: ‘Compiling’ the program)

This is a good way to introduce Binary, and the role it plays. It is also a chance to re-cap the way that we humans communicate in comparison to computers.

This isn’t a concern, but does emphasise why exactly we use the clear, concise instructions and “user-friendly” programming languages.

(Slide 9: ‘Writing’ the program)

Self-explanatory, but briefly discuss the actual coding side and some example code, syntax etc.

Emphasise the use of “drag-and-drop” in this particular workshop, as the Java code example to a young, non-programmer may look quite intimidating.



(Slide 11: ‘Running’ the program)

Briefly explaining to the attendees that you coding may be write and not contain any errors, but that doesn’t necessarily mean your program reacts how you wanted it to etc.

(Slide 12: ‘Debugging’ the program)

This slide is a good way to explain that it is normal for errors to occur (even for the professionals). A “fun fact” has been included on the slide also, regarding the origin of the term “bug” in regards to programming and Computer Science.

Additional Information

(Slide 13 & 14: Let's get started on our game)

Good point in the slides to get the group to open up Scratch on their laptops, as may take some time ensuring everyone logs onto correct account.

If Scratch is unavailable on the “Dock”, you will locate it through “Finder”.

Additional Information

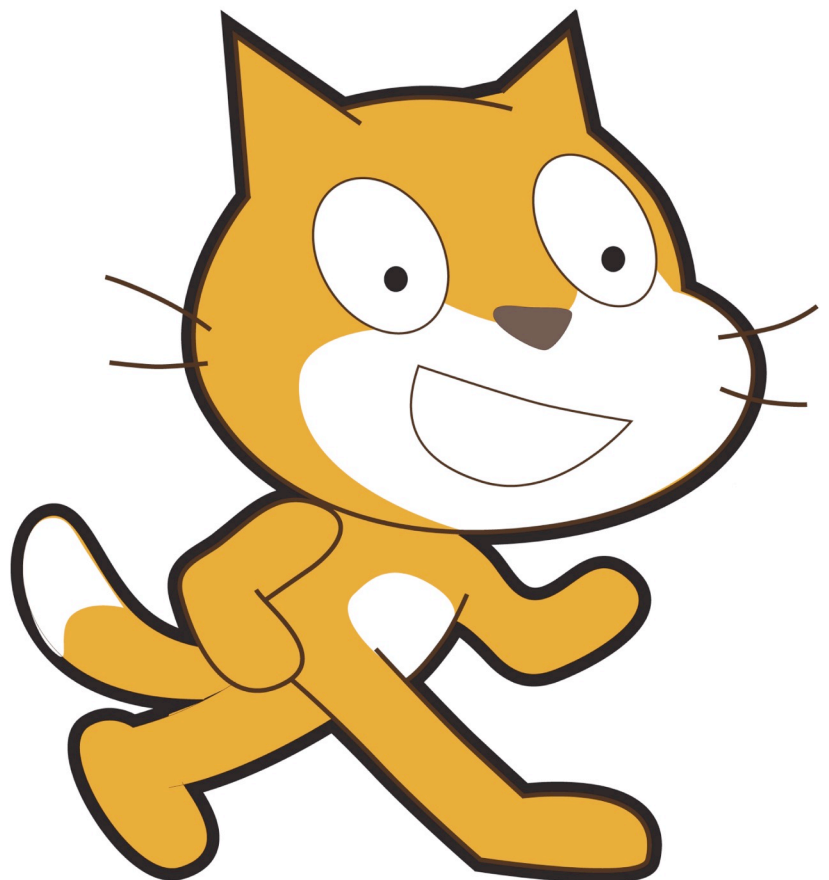
Best way to approach the implementation is to show the group how to achieve a certain feature of their game, and then allow them to complete that stage. Once whole group has done that, then you can move onto the next. Some groups can be mixed ability, so keeping the attendees working at the same pace will be encouraging and supportive.

Break down the actual game development into more manageable chunks:

- Main Character (Sprite)
- Background (Stage)
- Sprite Movement
- Collectables
- Score
- Enemies
- Game Over Screen
- Well Done Screen

Advanced Scratch could also be applied, encouraging the use of Broadcasting and further, more advanced features of scratch. Such as, use of Picoboard etc.

Continue emphasising computational thinking, this will aid the workshop attendees greatly and will ensure they fully understand how their own games work, or even how they could improve on this.



Q&A Session & Closure

(Take several questions from the attendees)

(If no questions are asked by attendees, begin summarising topics covered)

Once an appropriate number of questions has been taken, you can then begin to close the workshop. Be sure to have any post-day questionnaire forms filled in by attendees as required. Some audiences may require more prompting to fill in such forms.

Closure and Post-day Forms

The last 5 minutes of closure must be used to, if required, ensure that post-day questionnaires are filled in by the attendees and talk them through the information they have filled in. Ensure that you collect all of the post-day form in before attendees depart, and be sure to thank each person for taking the time to fill in the forms.



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