Beyond Code Club

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Not intended as a complaint about any Code Club projects - could also be ‘Argument Time’

For those who want to do more, just some extra considerations

e.g. can you extend a Code Club session from one hour doing basic skills (limited by time and knowledge of attendees)?

Thinking cap - 1

A family member, relative, or friend is impressed by the quality of your drawings, and suggests that you might show them in an exhibition.

What would you need to make this happen?

No need for you to use a computer, but you can get involved by sharing your thoughts and opinions

While you are thinking… consider the following

Stages of a project

- Design
  - What? Resources? Skills? Time?
  - Code Club does this for you
- Build
  - Code, hardware
  - Follow the instructions
- Test
  - Run it, check it is typed properly
- Maintain
  - Release, bugs, versions, new functionality
  - Code Club does this for you

A typical Code Club project?

High level model – very general. Lots of variations at a lower level

The thing to note is that Code Club does a lot of the work for you

I will focus mainly on the Design step; to consider the way in which projects can be created or developed further than those from Code Club

Thinking cap - 1

A family member, relative, or friend is impressed by the quality of your drawings, and suggests that you might show them in an exhibition.

What would you need to make this happen?

OK - have you been thinking? Shout out, hands up?

No answers are too silly!

Thinking cap - 1

- Drawings
- Display room, boards, frames?
- Sales? Ordering?
- “Utoob” - online display?
  - check if there is significant interest
  - media: paper and electronic pictures
  - replay video in display room?
  - Is it what people expected?

Answers from that question…

Fundamentally, there is more than one “vision” for what the project is to be

Key points:
- intermediate milestones to check progress
- clear view of what is required
- decide these before you start?

Just what a Code Club project does

What else?

- Design
  - Limits? Project Outline /summary
  - Coordination? Leadership?
  - Phases / releases?
- Build
  - One person or many?
- Test
  - When? What?
  - Does what it should? Doesn't do what it shouldn't?
- Maintenance
  - Finished or continue? Communications?

Extra points to consider in the Stages of a Project…

A big decision in the Design phase is what the project will and won't do

Testing - good or bad? Park football / penalties; is it confrontation or friendly competition?

Thinking cap - 2

You are explaining your Raspberry PI to a family member, relative, or friend. They ask you if it can show the temperature.

What would you need to make this happen?

Now a more detailed project…

Existing solutions not allowed. Commercial or existing project

RPi thermometer

- Existing commercial
- Existing project
- Thermometer device
- Electronic circuit
- Location (& case)
- Where to ‘see’ result
- Which Pi model?
- Code to read a result
- Code to repeat result
- Result text, GUI, HTML
- Saving results, graph
- Access to Pi; e.g. SSH, VNC, RDP
- Security

This list roughly covers the different skills required

Key points:

- intermediate milestones to check progress?
- clear design? how and where is it used?

Thermometer - skills

- Electronics / wiring
- Case build
- Code language(s)
  - GPIO, GUI, HTML, database
- Maths / statistics
- Leadership
- Testing
- Documentation

Clearly there are several different skills; not all require a good ‘coder’

One person needs good communication and coordination skills to be a leader

How do you run a project with multiple people? Necessary if there are different skills, and lots of work in one or more areas

Scratch

Volunteers to help to design a project?

Watch this Scratch Project...

Code Club does a lot of Scratch projects

Who thinks that they can help design a Scratch Project?

Who has done or wants to help with a school play?

Here's a Scratch project (more of a play than a game) - watch...

Compare Scratch with the play - find similarities, then transfer thinking between the two

Demonstration - Scratch

Scene: Park, with pond and birds

actor1 enters from right, looks at pond

actor2 enters from left, also looks at pond

actor2: "Hello"

actor1: "Hello, nice here isn't it?"

actor2: "Hey, what do you call a man with a seagull on his head?"

actor2: "Cliff!"

To design the project, consider this as a play, we need a script

This script covers what we are trying to do, and gives a 'picture' of that. Be careful with the comparisons you make, that you don't take them too far

Demonstration - Scratch

- Making this a project of collaboration for several people
- How many 'parts' make up this 'video' (there is no user interaction in this)?
- What skills are required?

Parts:

- 'Stage'
- Stage image
- First person
- First person image(s) - costumes
- Second person
- Second person image(s) - costumes
- Music
- Director

Skills:

- Coding Scratch
- Artwork / Photography
- Music
- Planning
- Testing

Summary

- Design decided before coding starts (how much detail?)
- What 'parts' are required?
- What skills are required?
- What is the future of the project?
- Use intermediate milestones (in design)?
- Testing? Documentation? Release?
- Planning and communication?

Here is a summary of what we have discussed. Note this is a list of questions, not rules.

How your project, and the 'team', operates is your decision.

Any final questions?