

USING MICRO:BITS TO SUPPORT CHILDREN'S UNDERSTANDING OF PERSONAL HEALTH DATA

What went right, what went wrong and what we would do differently next time.



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What did we do?

Aim: How do children aged 10-11 want to visualise personal health data on smartwatches?

How:

- 4 x 2.5hr co-design workshops
- micro:bit outreach
- teaching practitioners
- personas

Natasha



Favourite Food:
Burritos

Favourite Animal:
Elephant

What condition do you have?
Autism

What do you want to track:
How much I eat and drink in a day.

Why?
So I can show my parents and doctors that I've been eating the right amount.

Noah



Favourite Food:
Soy sauce

Favourite Animal:
Chickens

What condition do you have?
Ehlers Danlos Syndrome

What do you want to track:
My step count and heart rate.

Why?
I need to keep them below certain numbers so I don't feel sick.

Ali



Favourite Food:
Marmite on toast

Favourite Animal:
Dinosaurs

What condition do you have?
Sickle Cell Disease

What do you want to track:
I want to track when I'm tired and when I feel pain.

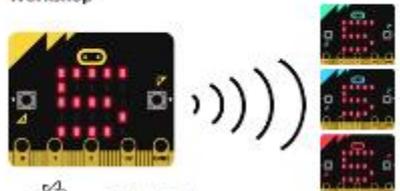
Why?
I'm going to be part of a study that will help predict my pain, and they want that information.

What did we do?

micro:bit activity



Micro:Bit V2 Communication Workshop



By Sydney Charitos



Learning Outcomes:
Diagrams hardware – I/Os, buttons, inputs, outputs, USB-A storage
Computer Programming – loops, variables, if statements, delays
Engineering skills – trial and error, problem solving, usability
Wellbeing and health – health tracking

Inspired by [The British Micro:Bit Virtual 1st Workshop](#)

Ali:
Ali wants to be able to keep track of when they feel pain. When they feel pain, they want to be able to select an image that best matches how they feel in that moment. That selection should be radioed across to a research team that will do some analysis.



Ali has 5 main pain feelings they want to record:



1. When their pain feels really achy.
2. When their pain feels stabbing.
3. When their pain is making them feel sick.
4. A pain which feels like its spreading out from a specific point.
5. When they feel like they've been struck by lightning.

Ali:

Variables
(What things do we change/keep track of?)

Pain type



What do you want the Micro:Bit to do when it turns on?

1. Set pain type to 0 
2. Set my radio group to 231 

What do you want the Micro:Bit to do separately?

1. Use the if block to check if pain type = 0 or 1 or 2 or 3 or 4 or 5. 
2. Based on the pain type number show different LEDs. 

What do you want to happen when button A is pressed?

1. Add 1 to pain type 
2. If pain type ≥ 5 set pain type to 0 

What do you want to happen when button B is pressed?

Radio send number pain type 

What do you want to happen when the Micro:Bit is moved around a lot?
Nothing

What do you want to happen when the logo button is pressed for a long time?
Nothing

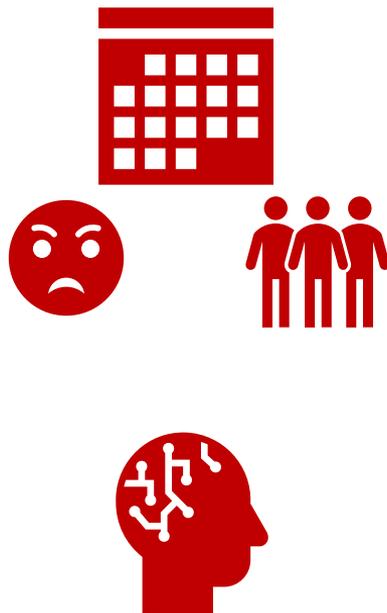


What did we find?

What went well



What didn't go well



Different next time

