Global Challenge
A bag for Julienne
Lesson 3
A bag for Juliane

- Design a bag for Juliane to use to help her feel safer when walking to and from school in the dark.
Requests from Juliane’s school

- Please include at least:
  - a light device created with micro:bit to help Juliane ‘Be safe, be seen’
  - some reflective materials
  - some features that will make Juliane feel calm if she is feeling anxious
Learning objectives:

- To follow an algorithm accurately to code a prototype using micro:bit
- to use iteration, selection, variables and effective coding techniques to create efficient code
- to present a prototype effectively
- to evaluate a prototype and the design approach taken
Paired programming

● 2 programmers working together to code
  ○ One types the code (driver)
  ○ One watched the driver, checks the code, makes suggestions (navigator)
  ○ work collaboratively, talking through problems

● Why might this be helpful?
  ○ more accurate code written in shorter time
  ○ can collaboratively work through problems
Testing and debugging

● bugs are a normal part of programming, especially in complex code
● it is important to test regularly to remove the bugs as you go
● testing as you go helps to ensure code is accurate and saves time
● when you find a problem, think logically about where the bug is & look at that part of the code
● help each other
Sample algorithm (flashing light)

INPUT when ON button pressed
  INPUT ‘on’ sound
Start
INPUT Sense IF dark
  IF dark then
    INPUT Sense IF moving
      If moving then
        OUTPUT light 1 second
        Pause 1 second
        Repeat until STOP button pressed
      ELSE, do nothing
  ELSE, do nothing
When STOP button pressed
  OUTPUT ‘off’ sound
STOP
Sample code for flashing light
Presenting your prototypes

- present your prototype ideas to Juliane’s school
- 2 minutes only
- 3 slides maximum (or use alternative to slides)
- be concise and clear
- make effective use of images
- focus on how your bag will help Juliane
Evaluation

Name: ____________________________

Evaluating your prototype
How do you think your bag will help Juliane?

What are you most pleased with?

What would you like to improve?

What problems did you encounter when creating your prototypes and how did you deal with them?

Evaluating your presentation
How pleased were you with your presentation and why?
micro:bit global challenge competition

- Design and create an original innovation using micro:bit to help to improve safety for children.
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