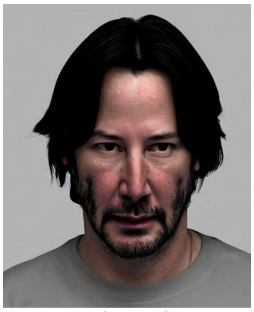
micro:bit

BETTER SECURITY BETTER LIVES

BACKGROUND

It is now the year 2025. Two years after the EngHealth data breach, the British government consolidated all cybersecurity matters under the newly established Cyber Security Command (CyberCommand). Given them broad power to remotely take over and shut down any computerised system suspected to have been infiltrated by hackers, CyberCommand has successfully eliminated any threats to the UK's cyber security since its formation, but CyberCommand's vast power is also its greatest weakness.

John Wick's parents moved to the UK a year after the cold war ended, and he was born a year later. After graduating top of his class, he worked at Google and CISCO before joining CyberCommand as a security researcher. Unknown to his superiors and colleagues, he had installed a backdoor into the innermost depths of CyberCommand's systems, allowing him to take-over the system and lock all others out. Yesterday, John was arrested while attempting to escape the UK by boat. Investigators believed that he was recruited by foreign government agents and had triggered a "Self-Destruct" script within CyberCommand before attempting his escape. With all access to CyberCommand locked out, we only have 45 mins before the self-destruct script activates. Upon activation, the script will utilise CyberCommand's infrastructure to take over and corrupt all government and private servers located in the UK.



John Wick
(Photo taken after his arrest)

MISSION OBJECTIVE

- Stop the self-destruct script

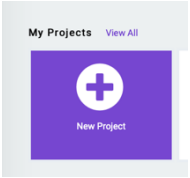
MISSION BRIEF

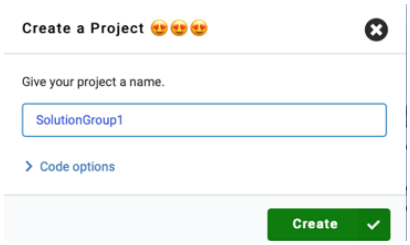
John is a man of focus, commitment, and sheer will. We believe he has hidden the key to the script somewhere. He has so far refused to cooperate, but we have managed to retrieve a few clues:

- An electronic token (a micro:bit).
- A piece of paper with the URL "https://nadineab.github.io/TasterDayCS/c9428".

Our investigators believe that to de-active the self-destruct script, you need to use the clues that are hidden within the token. Your job is to analyse the clues, communicate with the token, and to stop the self-destruct script.

- To start, you need to go to https://makecode.microbit.org/.
- Create new project (see the screenshot).
- Name your project "SolutionGroup" and append your group number (see screenshot below).

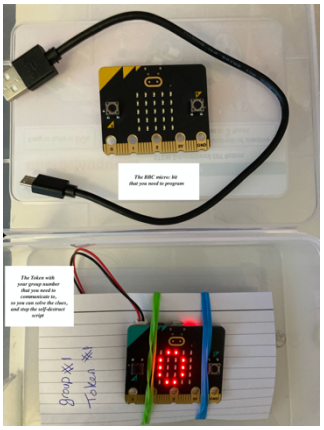




Workshop #1 Support Sheet

micro:bit

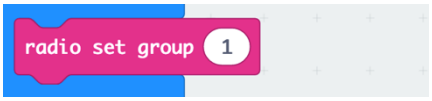
You have a box containing a micro:bit, a cable, and a token (see the screenshot below). The micro:bit is the pocket-size computer that you need to use to program. The token is another micro:bit with your group number on it. You will need to program your micro:bit to communicate with the token to solve the clues and stop the self-destruct script. Below are some hints to help you throughout the workshop.



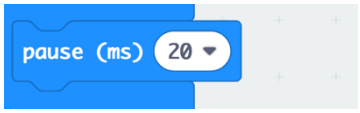
If you have any questions, please call the mentor who is responsible for your group to help you.

Hint 1: Some of the tasks will involve sending radio messages to the token. Use the "radio send number" block.

Hint 2: Every token will use a different radio group (written on the device). You **MUST SET THE CORRECT GROUP** on your own micro:bit to communicate successfully.



Hint 3: When sending multiple messages in a row, **ADD A 20ms PAUSE** in-between each message.



Hint 4: Upon successfully solving each stage of the challenge, a smiley face will appear on screen, followed by four numbers. **NOTE DOWN THE FOUR NUMBERS IN THE SPACES BELOW**.

Hint 5: After noting down the numbers, press button "A" to move on to the next task. The task number will be displayed on screen.

Task 0:
https://nadineab.github.io/TasterDayCS/c_____

Task 1:
https://nadineab.github.io/TasterDayCS/c_____

Task 2:
https://nadineab.github.io/TasterDayCS/c_____

Task 3:
https://nadineab.github.io/TasterDayCS/c_____

Task 4:
https://nadineab.github.io/TasterDayCS/c_____