

tinyML[®] for Good

Tiny technology for the world's biggest challenges

Empowering the next generation of TinyML problem solvers

Lessons from students around the world tackling the Global Goals
with the BBC micro:bit

Jonny Austin - Micro:bit Educational Foundation



www.tinyML.org

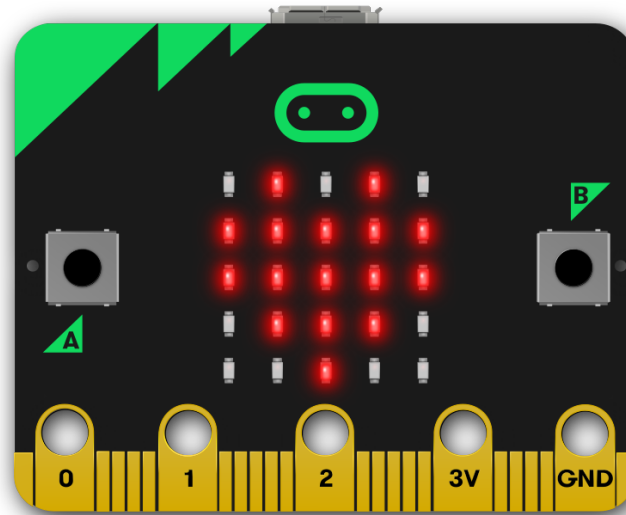
BBC micro:bit



Versatile, programmable
IoT device that is
**designed for use in the
classroom**

Available in 70 countries
for ~£10 in volume

More than 5 million
devices distributed



Low floor, high ceiling

***micro:bit V2 released Nov 2020
with speaker, microphone, Cortex-
M4F with 64kB RAM, 512kB Flash***

Easy to program, no
installation or drivers

Simple wireless
communication

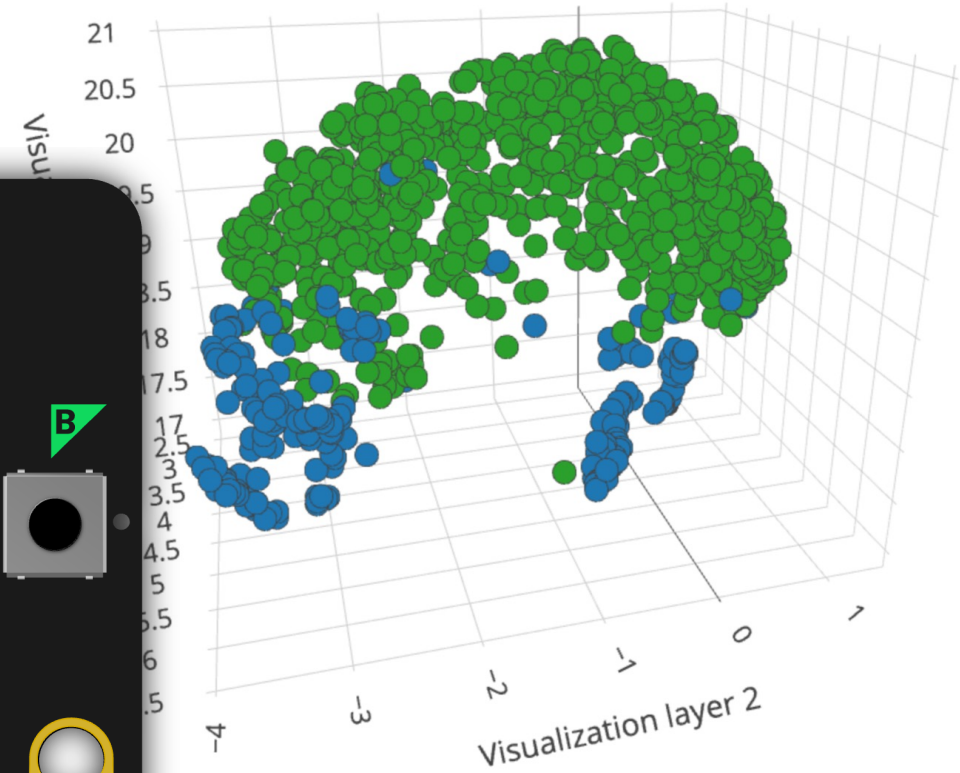
Battery powered

Built-in motion sensors,
instantly interactive

Hundreds of sensors and
accessories



- microbit
- noise
- unknown



PROJECT

CRO:BIT MACHINE

LEARNING DANCE MOVE

DETECTOR

a dance detecting micro:bit

4000302
1401
000068
2028



Inspire every child to create their best
digital future



Authentic problems

+

Accessible and effective technology

+

Students who don't know what should be impossible

=

Incredible solutions

do your :bit challenge

Test your imagination and combine creativity and technology to come up with solutions for the Global Goals by tackling the issues we're facing today.





Go out when cloudy

Healthy Microbit

<https://microbit.org/projects/do-your-bit/winners/2021/>



The healthy microbit tracks how long you've been inside and when the timer on the microbit hits 90 minutes it says to go outside and do an activity.

...and helps remind to relax.



PROBLEM STATEMENT
Asthma is a long term lung disease that is curable. Asthmatic patients in India Colaba are air study and we have discovered that they suffer chest pain among other asthmatic attacks during cloudy seasons.

TEAM THERAJI

SOLUTION
Developing a temperature sensor that has an alert system to notify students when the temperature is dropping so that they can move into warmer clothes.

CONCLUSION
The results of this project are:
Reduction in the number of asthmatic attacks during cloudy seasons.

METHOD OF IMPLEMENTATION
- Code Micro bit
- Decode the hexcode into the



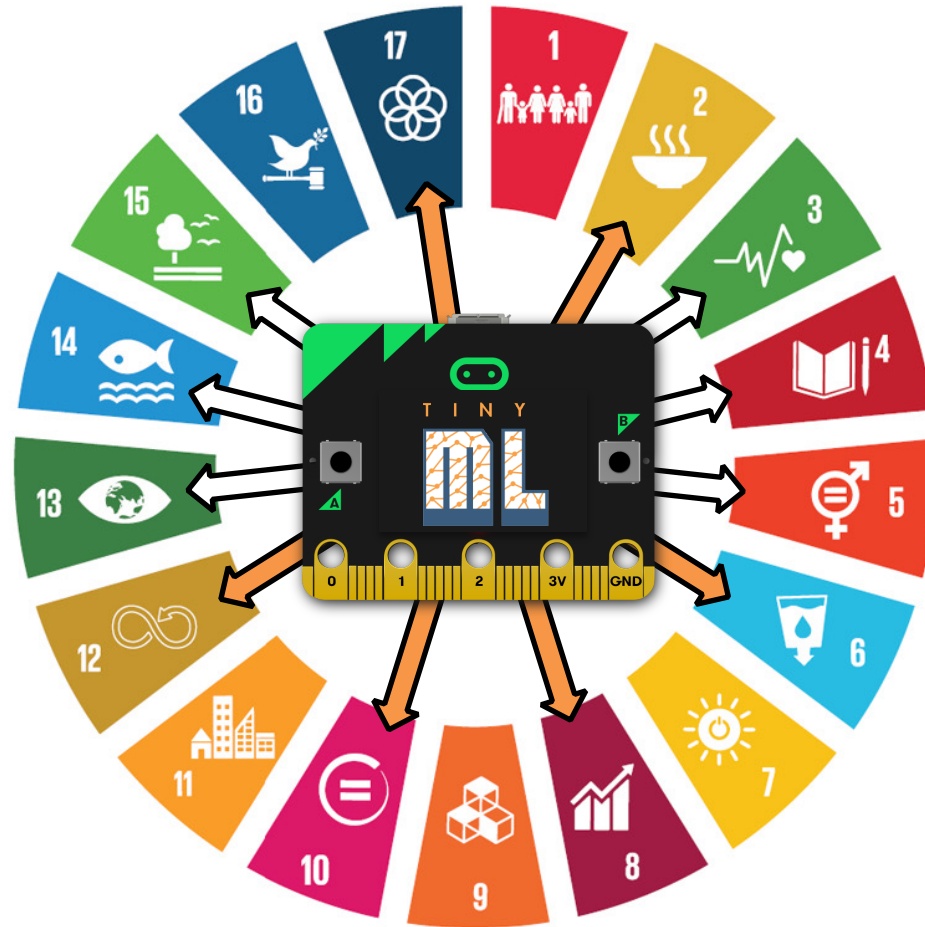
Essential to the effectiveness of micro:bit is
ease of use

...and TinyML is what we are tackling next

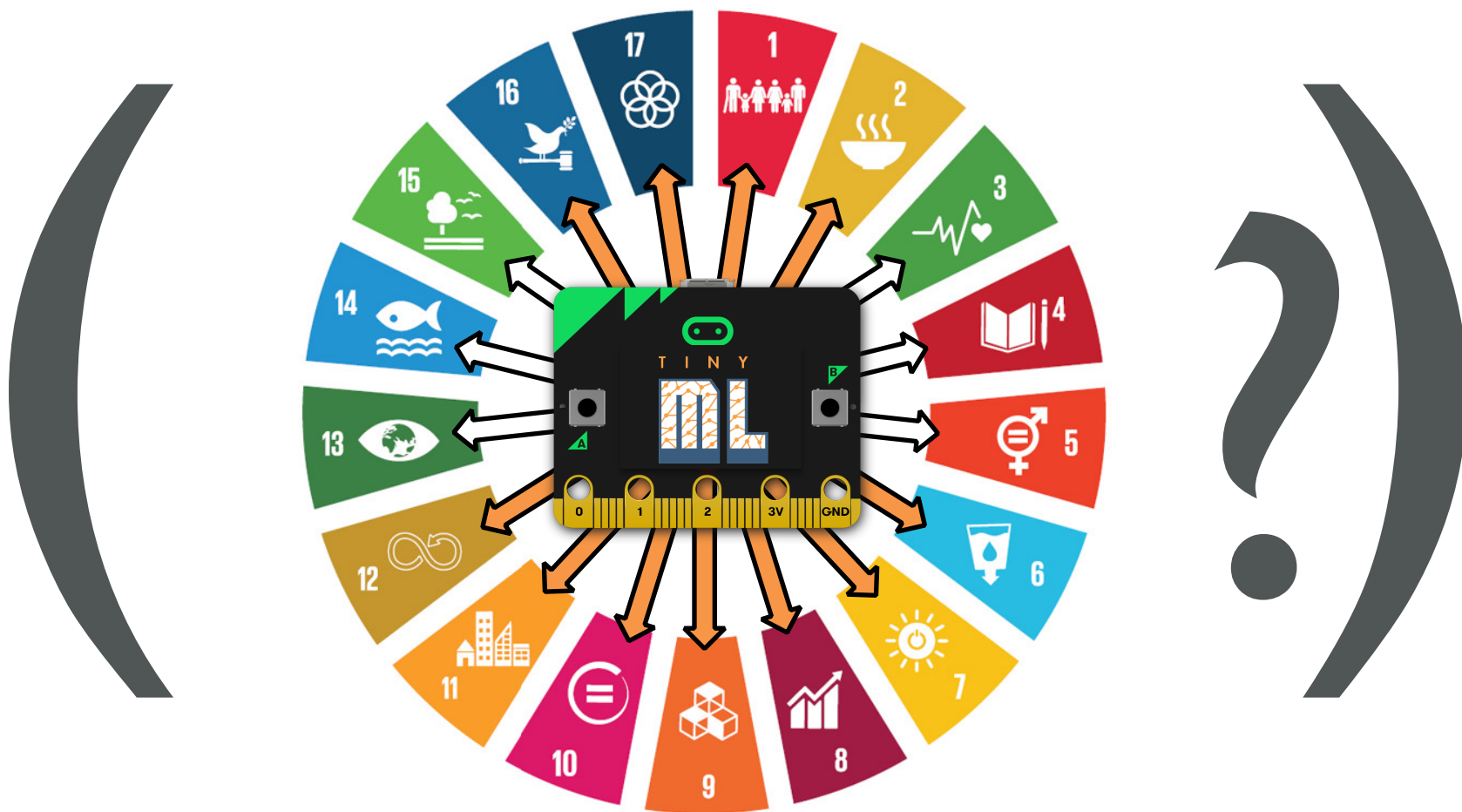
Example: the global goals



Example: the global goals



Example: the global goals



Help us! Jonny@microbit.org



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