



## **Giving objects a digital identity, presented by Lauren Laverne.**

To you or me, this is a record. We give physical objects an identity with words. But computers don't understand words. They use an altogether different language – and barcodes are part of that language.

A barcode names the record using a 13-digit number. Look closely and we can see how it tells the computer what each digit is.

What looks like thick and thin lines is actually a combination of seven vertical bars – some white and some black.

The white bars reflect the light and are recognised as a nought. The black bars don't reflect the light as much and so these are recognised as ones. This is a way of communicating in binary – the alphabet of computers.

These seven black and white bars produce this sequence of 'noughts' and 'ones', which a computer recognises as the digit 'five'. The next set of seven black and white bars is recognised as the digit 'three'.

Once the computer works out all of the digits, it strings them together to make the 13-digit identification number. It then looks this number up in a database to find out what it is.

By giving items like this record a unique digital identity, computers right across the world can communicate with each other.