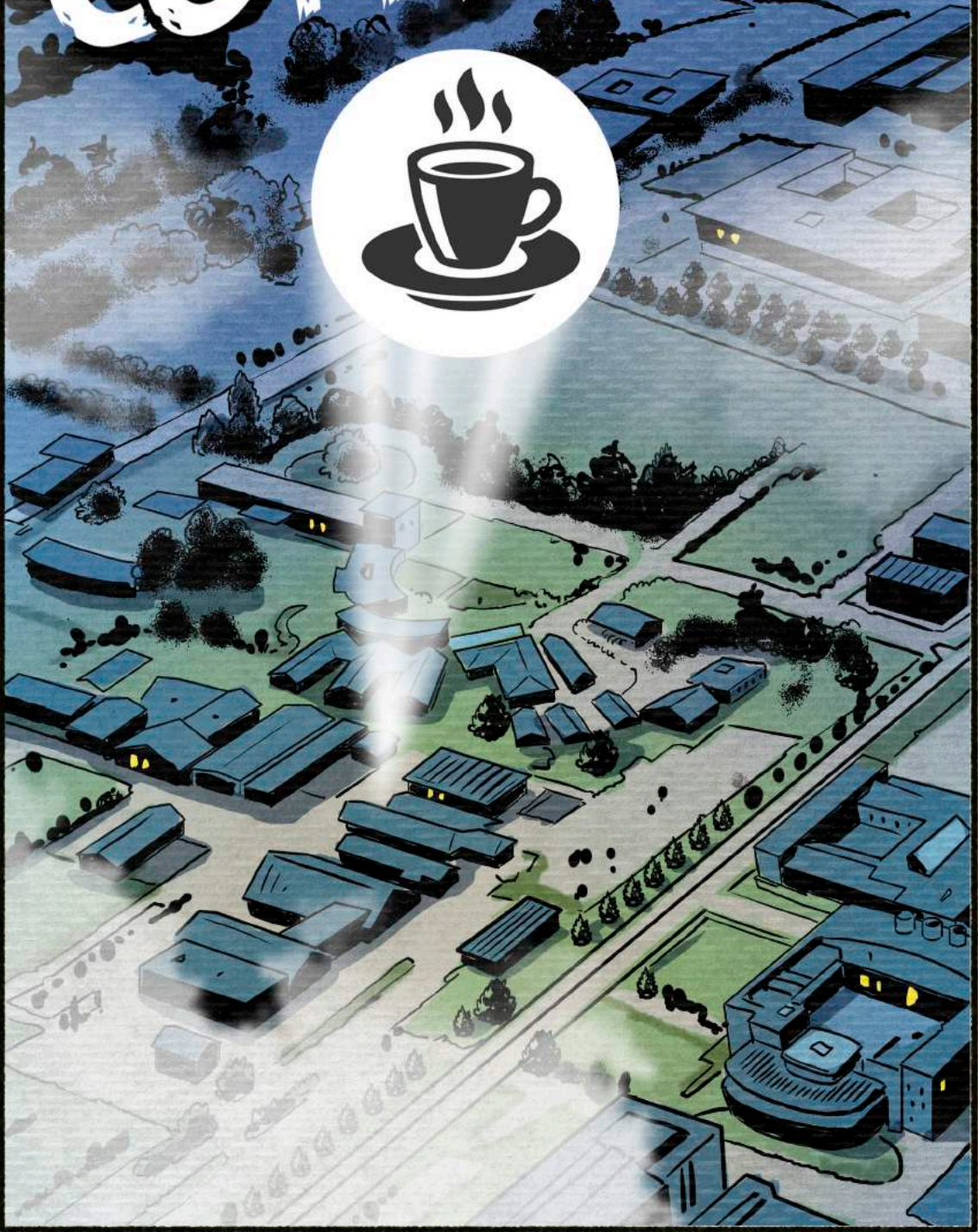
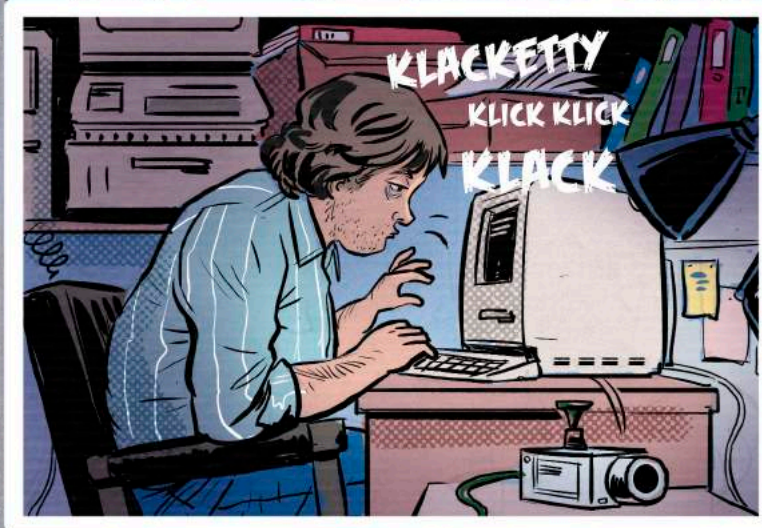


CAMBRIDGE DIGITAL TWINS COFFEE TIME



Cambridge, 1991.....

KLACKETTY
KLACKETTY
KLACKETTY



COMPUTER LAB



LEVEL 12

LEVEL 8

LEVEL 5

G LEVEL

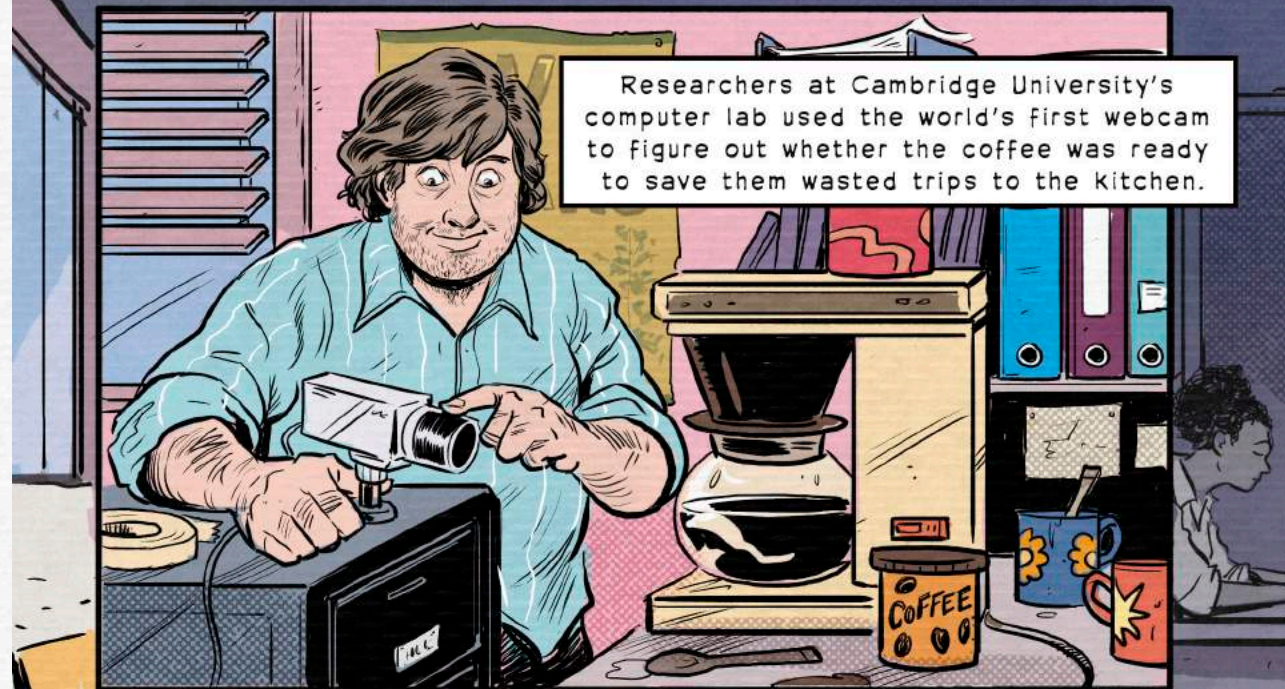
NOOOOOO!!!



HANG ABOUT



Hmm...



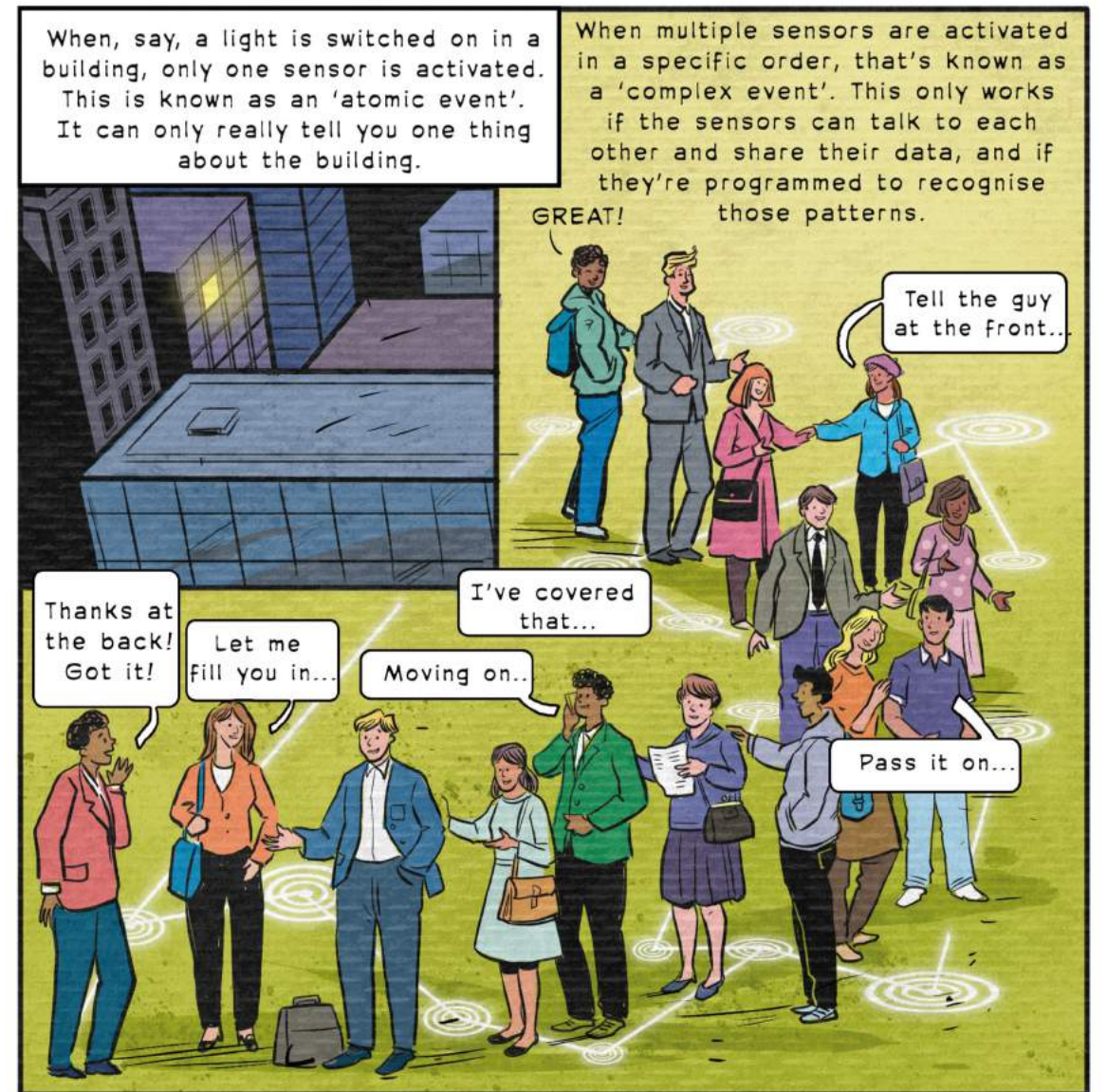
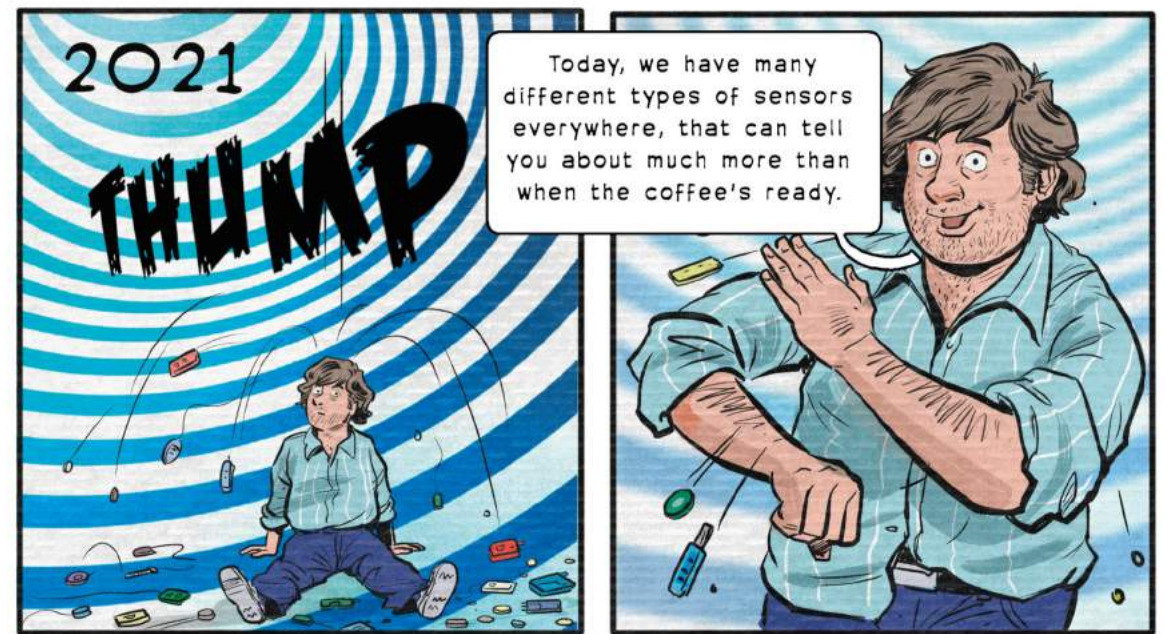
Researchers at Cambridge University's computer lab used the world's first webcam to figure out whether the coffee was ready to save them wasted trips to the kitchen.



PLIP PLOP

Since the coffee pot was clear sided, they could easily see from their desks when a fresh one had brewed!

Which marked the beginning of...



30 years later, the computer lab has an opaque coffee pot, so the researchers use multiple types of sensors to detect when it's coffee time!



They take advantage of new ways of monitoring things remotely, using different type of sensore that detect different types of events

LIGHT SENSOR

However, this can lead to unforeseen snags..

PRESSURE PAD

SMART PLUG



IF THE GRINDER IS SWITCHED ON...

THEN THE COFFEE POT IS LIFTED OFF ITS BASE,.. THEN SOMEONE IS PROBABLY MAKING COFFEE



NO COFFEE!!

BUT THE GRINDER SENSOR WAS ACTIVATED!

OH CRIKEY! YES, SORRY.. I HAD TO TAKE A CALL!



So what went wrong? Well, there is a vital piece of information missing. We need to know if the pot is filling. If the pot is switched on for a defined amount of time, it will be full.

TIME

LOCATION

This capability comes from smart devices talking to each other, and there are plenty of other complex events that can be modelled and detected based on relatively simple sensors, from fires to burglary risks.



TOP FLOOR THEN!

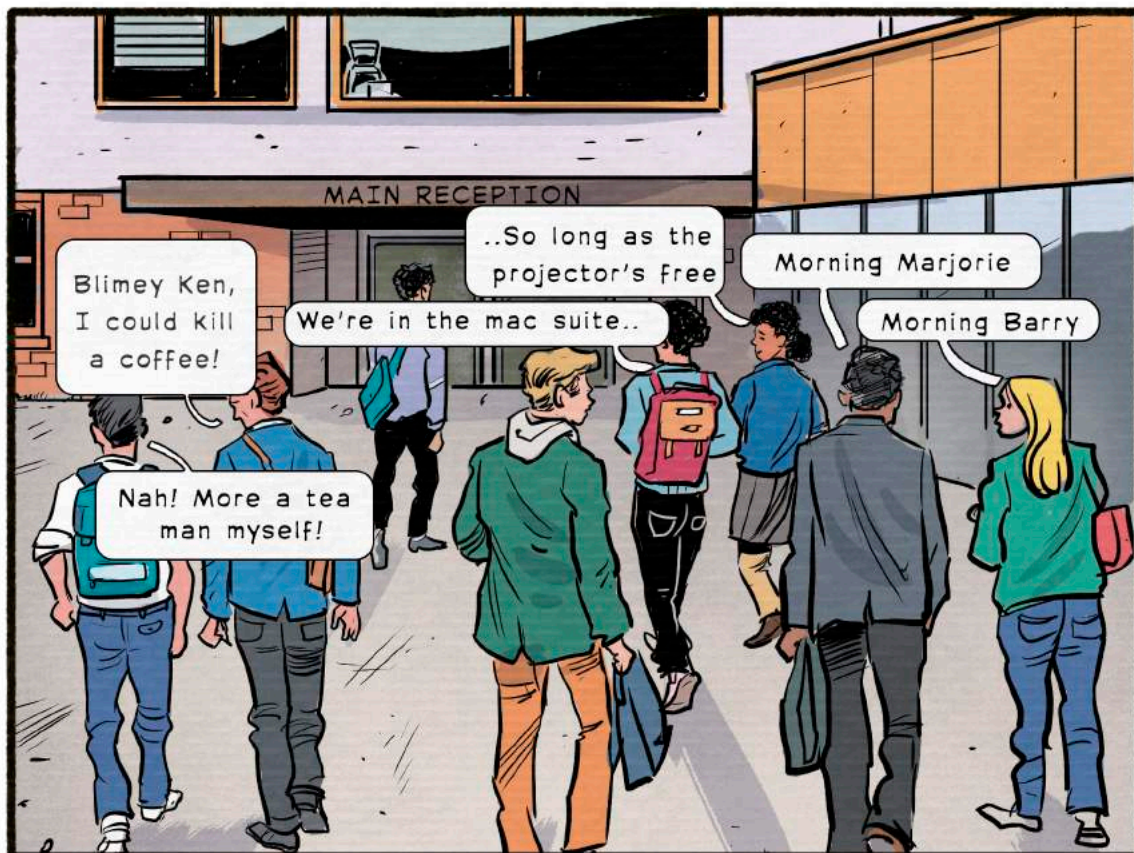
But you need to define your complex events carefully...

WHAAAT!!

BULBS ARE GONE IN EVERY ROOM!

Or your smart devices may misinterpret the problem!





This capability comes from smart devices talking to each other, and knowing how to make inferences. So can a smart building tell you when the coffee is ready? Sure! But we have to decide what information is helpful and what we want it to do with that information.



Detecting complex events is just one stage on the Digital Twin Journey. ...however, a lot can be accomplished once you take that first step. Learn more at <https://www.cdbb.cam.ac.uk/research/digital-twin-journeys/>