Learning week - Sensors

Location: Bideford

Week: 29/09/2025

Time	Mon	Tue	Wed
09:00:00	Arrival	4. Logic analyser	A. Individual project working
10:00:00		5. Sending data	
11:00:00		A. Individual project working	
12:00:00			
13:00:00	Lunch		
14:00:00	1. Sensors intro	6. Powering sensors	A. Individual project working
15:00:00	2. Reading temperature	A. Individual project working	
16:00:00	3. Inspiration from Martin		

Key
Each person programming their own microcontroller doing the same thing
Presentation or demonstration
Working on individual projects of interest

1. Sensors intro presentation
Tom's presentation giving a technical overview of sensors, including sensors, connections and communication, microcontrollers, power supply and sending data

2. Reading temperature
Each person is given a microcontroller and sensor, using their own laptop, install Arduino IDE and obtain temperature measurements from the sensor using existing libraries

3. Inspiration from Martin
Martin will show a couple of projects he has completed for inspiration of stuff to build, Tom also has a couple of project he can show

4. Logic analyser
Step 2 involved using existing libraries, this logic analyser demonstration shows the bits being transmitted between the microcontroller and sensor to understand what the library is doing

5. Sending data to ThingsBoard
Each person sends the data from their temperature sensor to a ThingsBoard instance that Tom has set up in advance

6. Powering sensors
Tom goes through some details of powering sensors using solar and batteries and the circuits required to control voltage levels

A. Individual project working
Each person has an idea of a sensor they would like to build and works towards this