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Predicting and Managing Waste Levels in Smart Buildings and Cities

<u>An opportunity for improvement:</u>

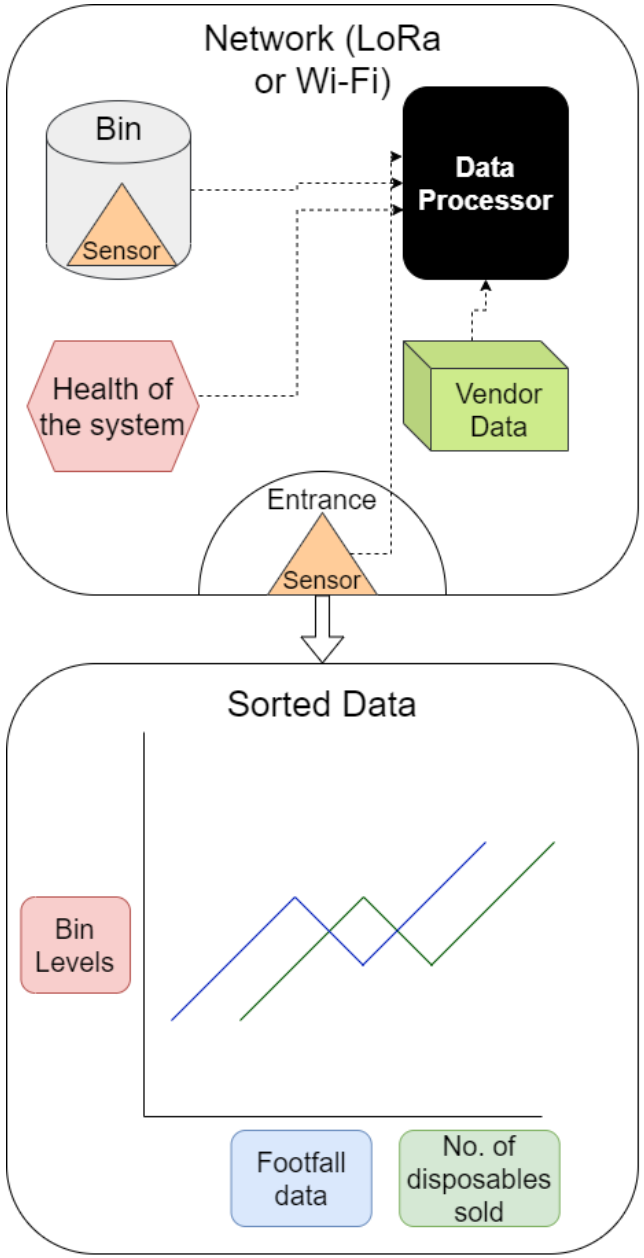
- A critical mass of particular data can yield useful insights for the optimisation of waste management
  - Sensor data i.e. **bin level, footfall**
  - Reported data i.e. **disposable items used, frequency of collection**

<u>So far I have:</u>

- Made a simple sensor network
  - Communication protocol: Wi-Fi (viable for smart buildings)
  - Nodes: ESP microcontrollers connected to simple sensors
  - Host server: Raspberry Pi
  - Database: Influx

<u>Next Steps:</u>

- Sending data over LoRa (necessary for outdoor spaces)
- Analysing and generating more data



Benefits from analytics

- The power to predict the waste management demands of the day
- The ability to dynamically manage waste, in response to incoming data
- Excessive wastage in smart buildings may be prevented
- Optimisation of rubbish collection routes leading to cleaner cities using less labour