Sensors

choosing sensors

connecting devices

micro?

further considerations

device power

software:

1. FEATURES
2. SOFTWARE
3. HARDWARE
   1. SENSORS
      1. ACCURACY
      2. COMMUNICATION
      3. HOW IT CONVERT THE DATA
      4. DURABILITY
      5. POWER CONSUMPTION
      6. CONNECTION RANGE
      7. COST
      8. PRECISION
      9. RELIABILITY
   2. ACTUATORS
   3. MICROCONTROLLER
      1. PERIPHERALS AND OUTPUT COMPONENTS

What peripheral sensors and output **components** do you need?

* + 1. DATA COMMUNICATION PROTOCOLS

What **protocol** for **intra-device** communication of data?

* + 1. NETWORKING HARDWARE AND PROTOCOLS

What **networking** hardware required to connect to cloud services?

What **networking protocols** to connect to cloud?

* + 1. PROCESSING

What **processing** is required by the IoT device?

* + 1. DATA STORAGE AND TRANSMISSION

What **collection** and transmission of **data** is needed?

* + 1. SUPPORT

What **support** is available for choices?

* 1. CONNECTIVITY
     1. Coverage
     2. Bandwith
     3. Power consumption
     4. Interoperability
     5. Security
     6. Local storage and processing (security, fog, nodes/ edge?)
  2. DEVICE POWER
     1. Operating mode
     2. Temperature
     3. Self-discharge rate

Alkaline batteries are low-cost, widely available, and potentially viable IoT-power choices in some circumstances. They can deliver the needed voltage rating and energy capacity, but should only be used in well-understood scenarios. This includes applications where replacement is not a problem or inconvenience (due to their high self-discharge rate), where they need to work only for a year or two (their crimped seals may leak), or where they will experience only modest temperature swings (their electrolyte is temperature sensitive, unlike lithium batteries which have a non-aqueous electrolyte and so can tolerate greater temperature swings). For most IoT applications a lithium-based battery, although initially more costly, is the preferred choice compared to an alkaline cell or pack of cells with the same nominal voltage and energy capacity.

features:

software:

web application

Hardware:

processings