

DEVICES

AN OVERVIEW

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Questions to ask

- What is the price point of this device?
- How many devices will we ship?

POWER REQUIREMENTS

Questions to ask

- How long must the device function for?
- How much space is there for batteries?
- What sensors do we need?

Questions to ask

- How much data is stored on chip?
- Can we offload to remote servers?
- How large is the code base?

Questions to ask

- How complex is the code?
- Does it have hard real time constraints?
- Does it need to do more than one thing at a time?

Questions to ask

- Where will the device be used?
- How long must it last?
- Will it be remote (from WiFi etc.)?

Questions to ask

- How big can the device be?
- What weight can it be?

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Develop a Proof of Concept

- What are we trying to show?
- We may need multiple prototypes (iterated development)
- List the constraints in order of importance and show each can be accommodated
- Pay attention to most difficult constraints

Move from breadboard to IC

- Replace general purpose board with custom designed board
- Begin miniturisation of device
- Design housing to hold device (waterproof, shockproof, etc?)
- Custom Board
- PGA - Programmable Gate Array
- Custom IC Fabrication

Repeat all testing on finished device

- Standard Software Testing
- Environmental Testing
- Timing Issues
- Power loss
- and so on...