How to Draw Electrical Block Diagrams

The Good, the Bad and the Ugly!

What Information is Conveyed in Electrical Block Diagrams?

- Not a full detailed schematic wiring diagram, but an overall functional picture
- Someone who has no idea what you're building should be able to look at your block diagram and determine:
  - What each segment of the device accomplishes
  - Where signals come from, where they go to
  - Where each segment gets its power from
- Each block should be clearly labeled. What component is it?
- It should be neat and organized, easily read and methodical. This could also mean grouping similar blocks (like multiple motor controllers).

Make Use of Graphical Properties

Use a computer drafting tool to prepare your block diagram. Some possible examples or ideas for associating a graphical property with an functional property:

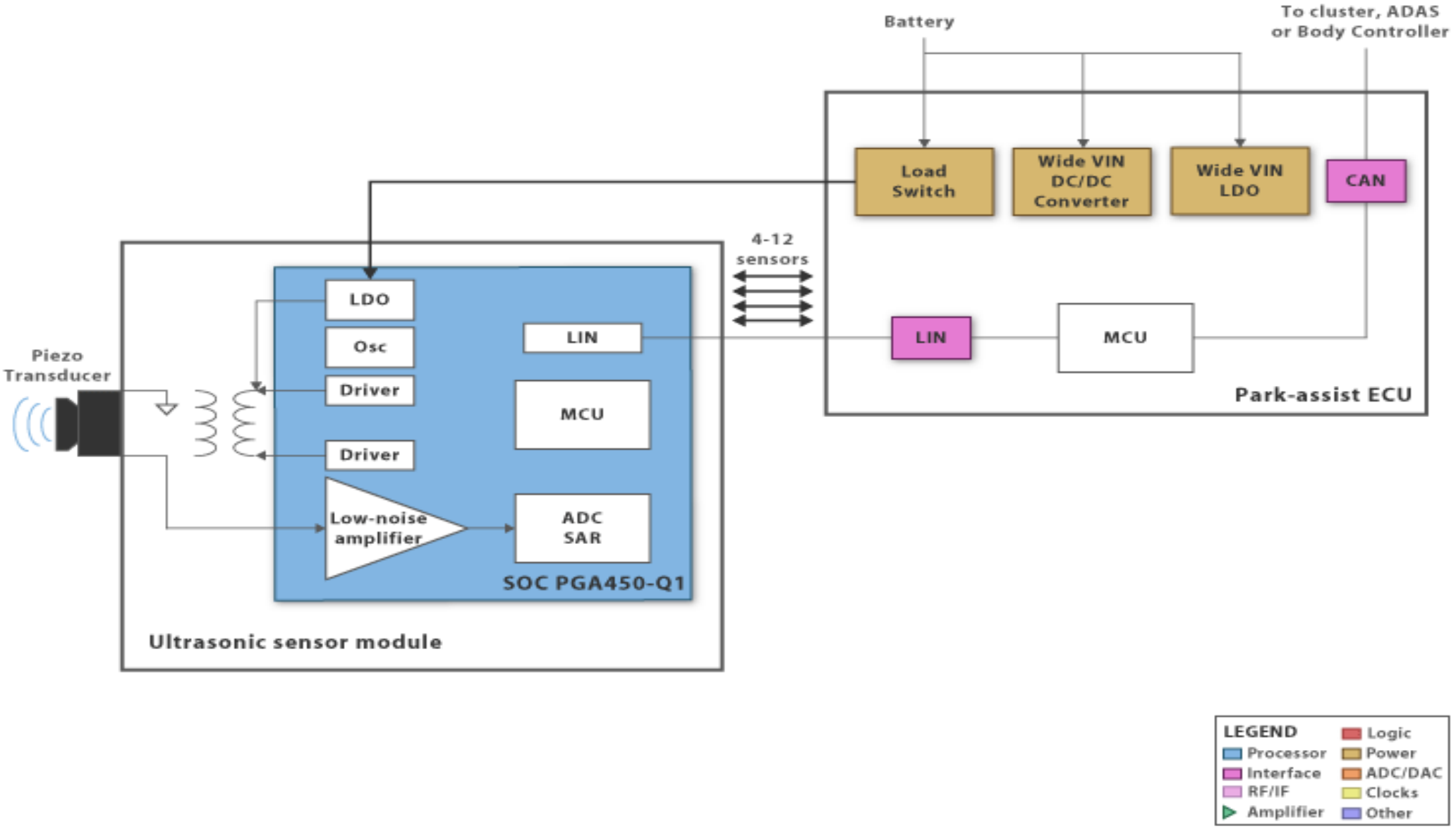
- Make use of colors or shading or different boundary shapes for different types of blocks (processors, motors, sensors, ...)
- Make use of colors or shading to visualize how blocks that naturally are grouped together in function.
- Make use of line types (solid, dashed, dotted, …) or colors to distinguish types of wired or virtual connections (power, signal, ...)

Or use other associations that you think is more effective

Include a legend to make your associations clear!

Pay attention to legible font sizes!

Some Professional Examples...



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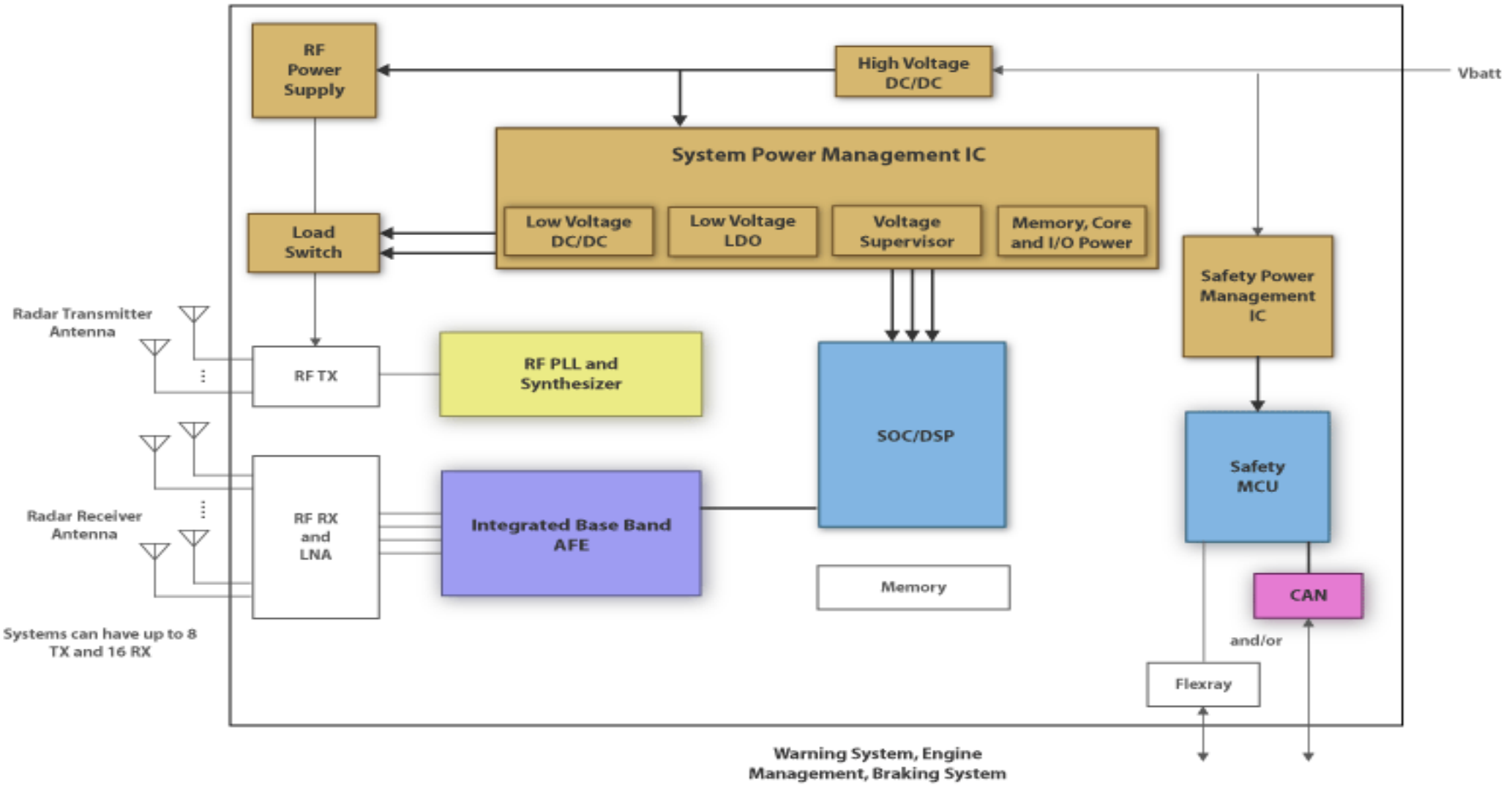

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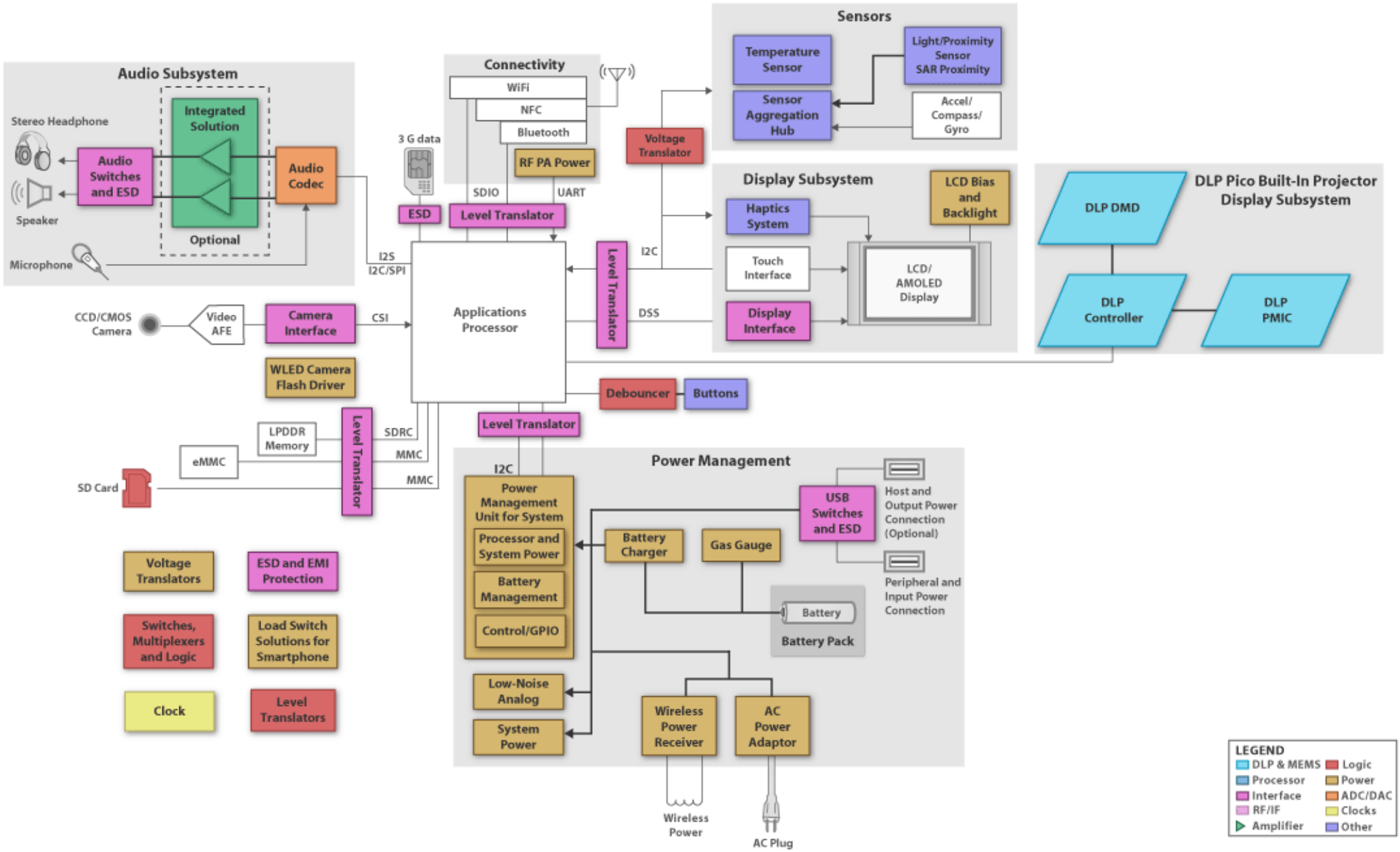
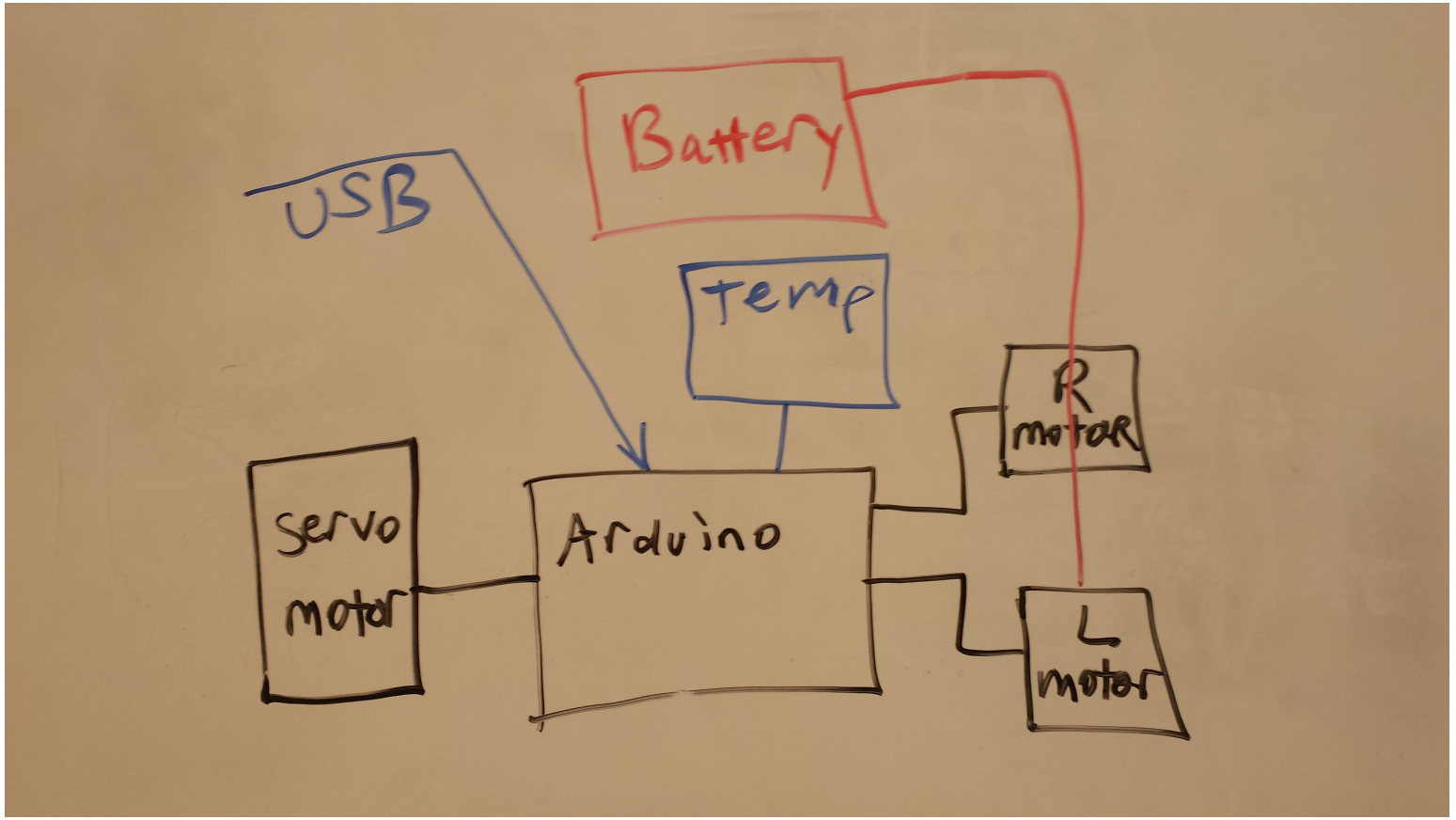


A Good Online Graphical Tool

Many on-line and off-line graphical tools are available for preparing electrical block diagrams and activity diagrams.

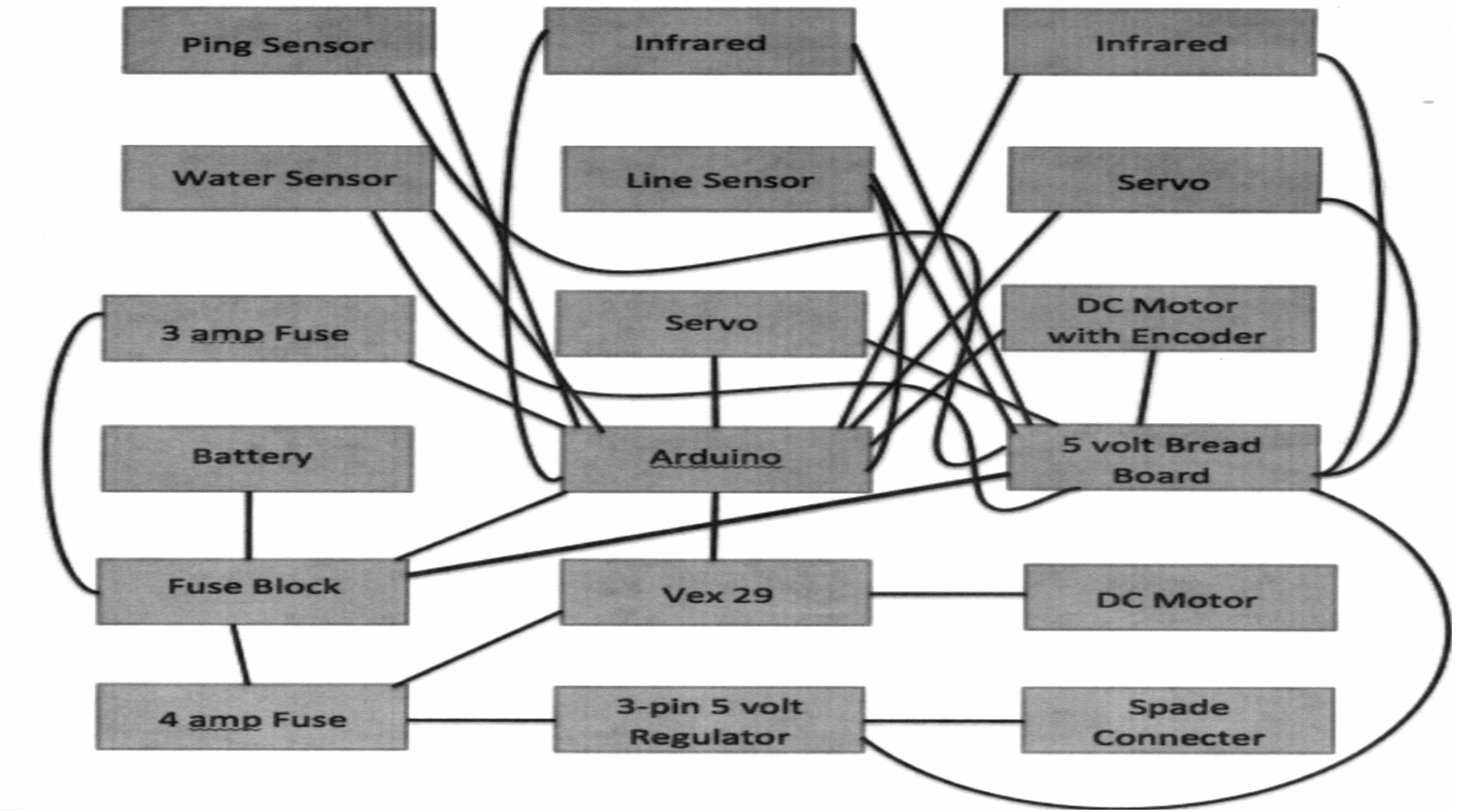
Consider using: https://www.draw.io/

What Not to Do!!!



Hand drawn on a whiteboard and photographed with a cell phone - completely unprofessional
(Yes, we have actually seen diagrams like this in KNW2300 presentations.)

What Not to Do!!!



A rat's nest with a maze of wires that cannot be followed - completely unprofessional
(Yes, this is an actual diagram from a previous KNW2300 presentation.)