As we bid you a fond farewell, we will wish to send you off with some parting thoughts about **best practices**. Here are thoughts about things to remember when designing or building embedded systems, in no particular order of importance:

- Consider debugging when defining, designing, implementing, building and deploying.
- Careful thought during design can save lots of time during implementation and debugging.
- Choose good variable names so the software is easier to understand.
- Divide large projects into modules and test each module separately.
- Separate hardware from software bugs by first testing the software on a simulator.
- When designing modules start with the interfaces, e.g., the header files.
- The second step when designing modules is pseudo code typed in as comments.
- Make the time to service an interrupt short compared to the time between interrupts.
- When developing a modular system, try not to change the header files.
- Use a consistent coding style so all your software is easy to read, change, and debug.
- Most of your time is spent changing or fixing existing code called **maintenance**.
- So, when designing code plan for testing and make it easy to change.
- Writing friendly code makes it easier to combine components into systems.
- Use quality connectors, because faulty connectors can be a difficult flaw to detect.
- It is your responsibility to debug your hardware and software.
- It is also your responsibility to debug other hardware/software you put into your system.
- A simple solution is often more powerful than a complex solution.
- Listen carefully to your customer so you can understand their needs.
- Draw wiring diagrams of electrical circuits before building.
- Double-check all the wiring before turning on the power.
- Double-check all signals in cables, don't assume red is power and black is ground.
- Be courageous enough to show your work to others.
- Be humble enough to allow others to show you how your system could be better.

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