Getting started with your project

Software Project 2014
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Get started

Follow these general steps:

1. Get documentation
2. Understand what you have to do!
3. Plan your steps, milestones and results
4. Design your architecture
5. Implement and test
Plan your project

Define at least these items:
- The goal you want to reach
- 2-3 Milestones on the way
- Design a coarse timeframe around it
- Plan your resources (who does what)

Important: How will you validate/verify your results?
Network/Application layer projects

1. Sketch your problem space, how to proceed with
   - Static typing, dynamic memory allocation
   - Constrained memory
   - Interfaces to the underlying system
2. Find reference implementations (e.g. in Java/JS/python...)
   - Do not re-invent the wheel
   - Useful for testing V&V
3. Create some reproducible test-cases
4. Create an architecture (e.g. some UML or similar diagrams...)
5. Hack it!
6. Test against
   - Predefined test cases reference implementation
System level projects

1. Sketch your problem space, how to proceed with
   - Compile code for the target platform (cross-compiler)
   - Memories (which to use), MMU
   - Program and debug the target device
   - Interact with MCU peripherals
2. Write a very simple (but observable) program (e.g. blinky)
2. Flash your code and see its running
5. Hack RIOT
   - Start with I/O (uart, leds)
   - Then focus on task-switching
   - Leave the timer for last
Conclusions

- Understand your project
- Don't start with 'some' implementing
- Be clear about your objectives beforehand
- Try to anticipate your problem space
- Have fun!

And don't hesitate to ask for help!