FreeRTOS Architecture Part 1

Name

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Why good practices?

Why good practices?

- **1. Maintainability**
  - This is crucial for long-term projects where multiple developers might be working on the same codebase over time.
- **2. Readability**
  - Clear and consistent coding standards make it easier for developers to read and understand each other's code.
- **3. Reusability**
  - This means that code can be reused in different parts of a project or even in different projects, saving time and effort.
- **4. Bug Reduction**
  - Identifying and fixing bugs early in the development process.
- **5. Performance**
  - This is particularly important in applications where performance is critical, such as real-time systems or high-traffic web services.

Why Good Practices?

- **6. Scalability**
  - Be easily extended with new features without significant rework.
- **7. Security**
  - Secure data handling are crucial in preventing security breaches.
- **8. Documentation**
  - For future maintenance, debugging, and onboarding new developers.
- **9. Consistency**
  - It allows developers to switch between different parts of the codebase without needing to adjust to different coding styles.
- **10. Professionalism**
  - It can enhance the reputation of a development team or company and build trust with clients and stakeholders.

10 commandments,

1. **Thou shalt prioritize Maintainability**
2. **Thou shalt value Readability**
3. **Thou shalt strive for Reusability**
4. **Thou shalt reduce Bugs early**
5. **Thou shalt optimize Performance**
6. **Thou shalt ensure Scalability**
7. **Thou shalt secure thy code**
8. **Thou shalt document thoroughly**
9. **Thou shalt maintain Consistency**
10. **Thou shalt uphold Professionalism**

Use other programming languages

You shouldn't be opposed to learning programming languages.

UML

Unified Modeling Language with PlantUML (UML)

Requirements

Requirements

SDD

Software Detailed Document (SDD)

SDG

Software Development Guide (SDG)

TPD

Test plan document (TPD)

Testing

Black box vs Whitebox testing