DRAFT - ICT Project Guidance

Development Principles

Version:

0.1

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## Description

This document describes Guiding Principles specific to the Development of systems that are expected to be followed to improve the deliverables qualities – primarily Security & Maintainability.

## Synopsis

System developers are expected to adhere to these Principles, requiring Governance based Decisions to deviate from them.

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## Introduction

BOSSCARD/ RAID: Background [], Objective, Options, Scope[In/Out], Stakeholders [Users], Constraints, Assumptions, Risks, Dependencies, Decisions, Deliverables.

# Principles

## PRINC-DEV-01: Encrypt Everything

“Use encrypted communication channels before falling back to encrypted messages over unencrypted channels.”

Details

Use HTTPS over HTTP between devices. Use Secure [Encrypted] Connections to databases.

Recommendations

## PRINC-DEV-02: Audit All Activity

“Audit all User operations before optimising for performance.”

### Details

Audit all operations including passive record views, for all Users, including unauthenticated public ones.

### Recommendations

Audit records are expected to be light, to not consume space unnecessarily.

Auditing of records is expected to not impact performance (e.g., by using a fire/forget asynchronous development pattern).

## PRINC-DEV-01: SOLID

Develop Object Oriented (O.O.) code following S.O.L.I.D. principles.

### Details

SOLID is an acronym for the first 5 principles (of 10) best practice principles for Object Oriented (O.O.) development:

* single responsibility principle: in essence, code that has a single purpose is smaller, more predictable, while also reducing refactoring and maintenance as removes the need to be changed, unless the specific purpose changes.
* open-closed principle,
* Liskov substitution principle: in essence reference interfaces.
* interface segregation principle, and
* dependency inversion principle.

### Recommendations

## PRINC-DEV-01: Avoid Class Nesting

### Details

Develop classes based on interfaces and abstract base classes, while avoiding to nest base classes to deeply (1 is ok, 3 is suspect).

Appendices

Appendix A - Document Information

### Versions

0.1 Initial Draft

### Images

[Figure 1: TODO Image 2](#_Toc144995112)

### Tables

[Table 1: TODO Table 3](#_Toc145048484)

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### References

**There are no sources in the current document.**

### Review Distribution

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### Audience

The document is technical in nature, but parts are expected to be read and/or validated by a non-technical audience.

### Structure

Where possible, the document structure is guided by either ISO-\* standards or best practice.

### Diagrams

Diagrams are developed for a wide audience. Unless specifically for a technical audience, where the use of industry standard diagram types (ArchiMate, UML, C4), is appropriate, diagrams are developed as simple “box & line” monochrome diagrams.

### Terms

Refer to the project’s Glossary.

##### IT

: acronym for Information, using Technology to automate and facilitate its management.

##### ICT

: acronym for Information & Communication Technology, the domain of defining Information elements and using technology to automate their communication between entities. IT is a subset of ICT.