**Code Review Checklists of Croc Application**

**Static Code Analysis**

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| Checklist Item | Category | Notes |
| Check static code analyzer report for the classes added/modified | Manual Code Analysis | There must be automated Code Analysis for the project we are working on, do not forget to check the report for the modified/added classes  If no automated Code Analysis is setup for your project, we do not use automatic analysis |

**Clean Code**

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| --- | --- |
| Checklist Item | Category |
| Classes should be small | Classes |
| Functions should be small | Functions |
| Avoid duplication functions | Functions |
| Documentation properly | Comments |
| Use exceptions rather than return code | Exceptions |
| Don’t return null | Exceptions |
| Use intention-revealing names | Meaningful names |
| No spelling error | Meaningful names |

**Security**

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| --- | --- |
| Checklist Item | Category |
| Make class final if not being used | Fundamentals |
| Avoid repeat code | Fundamentals |
| Restrict privilege: application to run with least privilege mode required for functioning | Fundamentals |
| Document security related information | Fundamentals |
| Input into a system ought to be checked for valid data size and range | Denial of services |
| Clean sensitive information from exceptions (exposing file path, internals of the system, configuration) | Confidential information |
| Consider purging highly sensitive information from memory after use | Confidential information |
| Validate inputs (data size and range) | Input validation |
| Only use trusted interface when necessary | Access Control |

**Performance**

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| --- | --- |
| Checklist Item | Category |
| Avoid creating unnecessary process or threads | Creating and Destroying threads |

**General**

|  |  |
| --- | --- |
| Checklist Item | Category |
| Don’t ignore exceptions | Exceptions |
| Check parameters for validity | Methods |
| Return empty arrays or collections, not nulls | Methods |
| Prefer to use standard exception | Exceptions |
| Minimize the scope of local variables | General programming |
| Always overwrite string to a desired value while it has been used | General programming |
| Document thread safety | Concurrency |
| Carefully access to shared mutable data | Concurrency |