**Green Pace Developer: Security Policy Guide Template**



# Green Pace Secure Development Policy

## Contents

[Overview 2](#_Toc52464053)

[Purpose 2](#_Toc52464054)

[Scope 2](#_Toc52464055)

[Module Three Milestone 2](#_Toc52464056)

[Ten Core Security Principles 2](#_Toc52464057)

[C/C++ Ten Coding Standards 3](#_Toc52464058)

[Coding Standard 1 4](#_Toc52464059)

[Coding Standard 2 5](#_Toc52464060)

[Coding Standard 3 6](#_Toc52464061)

[Coding Standard 4 7](#_Toc52464062)

[Coding Standard 5 8](#_Toc52464063)

[Coding Standard 6 9](#_Toc52464064)

[Coding Standard 7 10](#_Toc52464065)

[Coding Standard 8 11](#_Toc52464066)

[Coding Standard 9 13](#_Toc52464067)

[Coding Standard 10 14](#_Toc52464068)

[Defense-in-Depth Illustration 15](#_Toc52464069)

[Project One 15](#_Toc52464070)

[1. Revise the C/C++ Standards 15](#_Toc52464071)

[2. Risk Assessment 15](#_Toc52464072)

[3. Automated Detection 15](#_Toc52464073)

[4. Automation 15](#_Toc52464074)

[5. Summary of Risk Assessments 16](#_Toc52464075)

[6. Create Policies for Encryption and Triple A 16](#_Toc52464076)

[7. Map the Principles 17](#_Toc52464077)

[Audit Controls and Management 18](#_Toc52464078)

[Enforcement 18](#_Toc52464079)

[Exceptions Process 18](#_Toc52464080)

[Distribution 19](#_Toc52464081)

[Policy Change Control 19](#_Toc52464082)

[Policy Version History 19](#_Toc52464083)

[Appendix A Lookups 19](#_Toc52464084)

[Approved C/C++ Language Acronyms 19](#_Toc52464085)

## Overview

Software development at Green Pace requires consistent implementation of secure principles to all developed applications. Consistent approaches and methodologies must be maintained through all policies that are uniformly defined, implemented, governed, and maintained over time.

## Purpose

This policy defines the core security principles; C/C++ coding standards; authorization, authentication, and auditing standards; and data encryption standards. This article explains the differences between policy, standards, principles, and practices (guidelines and procedure): [Understanding the Hierarchy of Principles, Policies, Standards, Procedures, and Guidelines](https://www.linkedin.com/pulse/understanding-hierarchy-principles-policies-standards-wally-beddoe/).

## Scope

This document applies to all staff that create, deploy, or support custom software at Green Pace.

## Module Three Milestone

### Ten Core Security Principles

| **Principles** | Write a short paragraph explaining each of the 10 principles of security. |
| --- | --- |
| 1. ValidateInput Data | All input data must be validated when coming from untrusted sources before processing. These efforts are to prevent malicious data from causing intended behavior, including, but not limited to injection attacks & buffer overflows. This ensures data & application security & integrity. |
| 1. Heed Compiler Warnings | The compiler warnings indicate potential issues in the code that can lead to security vulnerabilities. The Developer should look at the warnings as errors & quickly work to resolve them to prevent undefined behaviors from reaching published code. |
| 1. Architect and Design for Security Policies | Address security during the architecture and design phases, not after. By planning for it from the start, you can build stronger systems that are less vulnerable to attacks from the very beginning. |
| 1. Keep It Simple | Favor simple code and system designs over complex ones. They are less prone to errors, easier to audit for security gaps, and more robust against exploitation. |
| 1. Default Deny | Implement the principle of least privilege by default. Deny all access initially and grant permissions explicitly based on strict need-to-know criteria. This approach minimizes exposure and reduces the potential impact of a security breach. |
| 1. Adhere to the Principle of Least Privilege | Enforce the principle of least privilege. By granting only the minimum access necessary for a specific task, you minimize the potential damage from both accidental errors and malicious attacks, thereby strengthening security. |
| 1. Sanitize Data Sent to Other Systems | [Implement rigorous output encoding and data sanitization for all inter-system communications. This practice ensures the data is inert and safe to process, neutralizing injection-based threats before they can reach downstream systems. |
| 1. Practice Defense in Depth | Adopt a layered security architecture. By employing redundant and diverse defensive measures at each system level, you create a series of barriers that contain breaches and provide fail-safe protection against single points of failure. |
| 1. Use Effective Quality Assurance Techniques | Proactively hunt for vulnerabilities by mandating code reviews, implementing automated static and dynamic testing tools, and conducting thorough QA tests. Catching defects in development prevents them from becoming security incidents in production. |
| 1. Adopt a Secure Coding Standard | Follow established & pre-set coding standards to ensure consistency & apply best practices. This will cutdown the chances of introducing new security flaws due to coding errors, mistypes, & block misunderstandings. |

### C/C++ Ten Coding Standards

Complete the coding standards portion of the template according to the Module Three milestone requirements. In Project One, follow the instructions to add a layer of security to the existing coding standards. Please start each standard on a new page, as they may take up more than one page. The first seven coding standards are labeled by category. The last three are blank so you may choose three additional standards. Be sure to label them by category and give them a sequential number for that category. Add compliant and noncompliant sections as needed to each coding standard.

**Coding Standard 1**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **Data Type** | STD-001-CPP | Avoid implicit type conversions.  - Implicit type conversions can lead to unexpected behavior, data loss, or security vulnerabilities. By avoiding implicit conversions, we ensure data integrity and prevent subtle bugs. |

| **Noncompliant Code** |
| --- |
| **Implicit conversion from a larger type to a smaller type can cause data loss.** |
| unsigned long largeValue = 5000000000;  unsigned int smallValue = largeValue; // Implicit conversion may truncate data |

| **Compliant Code** |
| --- |
| **Explicitly handle type conversion to ensure data integrity.** |
| unsigned long largeValue = 5000000000;  if (largeValue <= UINT\_MAX) {  unsigned int smallValue = static\_cast<unsigned int>(largeValue);  // Proceed with smallValue  } else {  // Handle the error condition  } |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Coding Standard 2**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **Data Value** | STD-002-CPP | Check the return values of functions.  - Ignoring return values of functions, especially those that report errors, can lead to unexpected behavior and security vulnerabilities. Always check return values to handle errors appropriately. |

| **Noncompliant Code** |
| --- |
| **Fails to check the return value of fgets, which may result in using uninitialized data.** |
| char buffer[256];  fgets(buffer, sizeof(buffer), stdin);  // Assumes buffer contains valid data  processInput(buffer); |

| **Compliant Code** |
| --- |
| **Checks the return value of fgets before using the data.** |
| char buffer[256];  if (fgets(buffer, sizeof(buffer), stdin) != NULL) {  processInput(buffer);  } else {  // Handle error condition  } |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Coding Standard 3**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **String Correctness** | [STD-003-CPP | Properly null-terminate strings.  - Failure to null-terminate strings can result in buffer overflows and security vulnerabilities. Ensure all strings are properly null-terminated to prevent reading or writing beyond the intended memory. |

| **Noncompliant Code** |
| --- |
| **Uses strncpy without ensuring null termination, which may result in non-null-terminated strings.** |
| char dest[10];  strncpy(dest, src, sizeof(dest));  // dest may not be null-terminated |

| **Compliant Code** |
| --- |
| **Ensures the destination string is null-terminated.** |
| char dest[10];  strncpy(dest, src, sizeof(dest) - 1);  dest[sizeof(dest) - 1] = '\0'; |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| Principles(s): [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Coding Standard 4**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **SQL Injection** | STD-004-CPP | Use prepared statements for database queries.  - Using prepared statements with parameterized queries helps prevent SQL injection attacks by separating SQL code from data. |

| **Noncompliant Code** |
| --- |
| **Concatenates user input directly into SQL query, making it vulnerable to SQL injection.** |
| std::string query = "SELECT \* FROM users WHERE username = '" + username + "'";  executeQuery(query); |

| **Compliant Code** |
| --- |
| **Uses a prepared statement to safely include user input.** |
| std::string query = "SELECT \* FROM users WHERE username = ?";  PreparedStatement\* stmt = conn->prepareStatement(query);  stmt->setString(1, username);  ResultSet\* rs = stmt->executeQuery(); |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Coding Standard 5**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **Memory Protection** | STD-005-CPP | Free up available dynamic memory.  - Failing to release dynamically allocated memory leads to memory leaks, which can exhaust system resources and lead to application failure or denial of service. |

| **Noncompliant Code** |
| --- |
| **Allocates memory but never releases it.** |
| int\* data = new int[100];  // ... use data  // Memory is not freed |

| **Compliant Code** |
| --- |
| **Releases allocated memory when it is no longer needed.** |
| int\* data = new int[100];  // ... use data  delete[] data;  data = nullptr; |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Coding Standard 6**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **Assertions** | STD-006-CPP | Do not use assertions for the handling of errors.  - Assertions are meant for detecting programming errors during development, not for handling runtime errors in production code. Using assertions for error handling may cause unexpected termination. |

| **Noncompliant Code** |
| --- |
| **Uses assert to check for runtime errors, which can be disabled and may not handle errors appropriately.** |
| int result = doSomething();  assert(result != -1);  // Proceed assuming success |

| **Compliant Code** |
| --- |
| **Checks for errors and handles them appropriately.** |
| int result = doSomething();  if (result == -1) {  // Handle error  } else {  // Proceed with result  } |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Coding Standard 7**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **Exceptions** | STD-007-CPP | Label catch exceptions by reference.  - Catching exceptions by value can lead to slicing and inefficient copies. Catching by reference ensures that the complete exception object is caught and handled. |

| **Noncompliant Code** |
| --- |
| **Catches exceptions by value, which may result in object slicing.** |
| try {  // Code that may throw  } catch (MyException e) {  // Handle exception  } |

| **Compliant Code** |
| --- |
| **Catches exceptions by const reference to avoid slicing.** |
| try {  // Code that may throw  } catch (const MyException& e) {  // Handle exception  } |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Coding Standard 8**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **Resource Management** | STD-008-CPP | Release resources in all available paths.  - Failing to release resources like file handles or network connections can lead to resource exhaustion. Ensure that resources are released in all execution paths, including exceptions. |

| **Noncompliant Code** |
| --- |
| Does not release file handle if an exception is thrown. |
| std::ifstream file("data.txt");  // Perform operations that may throw exceptions  processFile(file);  // File is not closed if an exception occurs |

| **Compliant Code** |
| --- |
| **Uses RAII (Resource Acquisition Is Initialization) to ensure the file is closed even if an exception is thrown.** |
| void processFile(const std::string& filename) {  std::ifstream file(filename);  if (!file) {  // Handle error  }  // File will be closed automatically when going out of scope  process(file);  } |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Coding Standard 9**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **Error Handling** | STD-009-CPP | Do not ignore any exceptions.  - Ignoring exceptions can lead to undefined behavior and security vulnerabilities. All exceptions should be appropriately handled to maintain application stability. |

| **Noncompliant Code** |
| --- |
| **Catches exceptions but does nothing, hiding errors.** |
| try {  performCriticalOperation();  } catch (const std::exception&) {  // Silently ignore the exception  } |

| **Compliant Code** |
| --- |
| **Handles the exception or rethrows it after logging.** |
| try {  performCriticalOperation();  } catch (const std::exception& e) {  // Handle exception appropriately  logError(e.what());  throw; // Rethrow exception if it cannot be handled here  } |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Coding Standard 10**

| **Coding Standard** | **Label** | **Name of Standard** |
| --- | --- | --- |
| **Concurrency** | STD-010-CPP | Avoid racing data in multi-threaded codes.  - Data races occur when multiple threads access shared data without proper synchronization, leading to undefined behavior. Use synchronization mechanisms to prevent data races. |

| **Noncompliant Code** |
| --- |
| Accesses shared data without synchronization. |
| int sharedCounter = 0;  void incrementCounter() {  for (int i = 0; i < 1000; ++i) {  ++sharedCounter; // Data race  }  } |

| **Compliant Code** |
| --- |
| Uses mutexes to synchronize access to shared data. |
| #include <mutex>  int sharedCounter = 0;  std::mutex counterMutex;  void incrementCounter() {  for (int i = 0; i < 1000; ++i) {  std::lock\_guard<std::mutex> lock(counterMutex);  ++sharedCounter; // Safe access  }  } |

**Note: Stop here for the milestone. Complete this section for Project One in Module Six.**

| **Principles(s):** [Name the principle and explain how it maps to this standard.] |
| --- |

**Threat Level**

| **Severity** | **Likelihood** | **Remediation Cost** | **Priority** | **Level** |
| --- | --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

**Automation**

| **Tool** | **Version** | **Checker** | **Description Tool** |
| --- | --- | --- | --- |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

### Defense-in-Depth Illustration

This illustration provides a visual representation of the defense-in-depth best practice of layered security.



## Project One

There are seven steps outlined below that align with the elements you will be graded on in the accompanying rubric. When you complete these steps, you will have finished the security policy.

### Revise the C/C++ Standards

You completed one of these tables for each of your standards in the Module Three milestone. In Project One, add revisions to improve the explanation and examples as needed. Add rows to accommodate additional examples of compliant and noncompliant code. Coding standards begin on the security policy.

### Risk Assessment

Complete this section on the coding standards tables. Enter high, medium, or low for each of the headers, then rate it overall using a scale from 1 to 5, 5 being the greatest threat. You will address each of the seven policy standards. Fill in the columns of severity, likelihood, remediation cost, priority, and level using the values provided in the appendix.

### Automated Detection

Complete this section of each table on the coding standards to show the tools that may be used to detect issues. Provide the tool name, version, checker, and description. List one or more tools that can automatically detect this issue and its version number, name of the rule or check (preferably with link), and any relevant comments or description—if any. This table ties to a specific C++ coding standard.

### Automation

Provide a written explanation using the image provided.



Automation will be used for the enforcement of and compliance to the standards defined in this policy. Green Pace already has a well-established DevOps process and infrastructure. Define guidance on where and how to modify the existing DevOps process to automate enforcement of the standards in this policy. Use the DevSecOps diagram and provide an explanation using that diagram as context.

[Insert your written explanations here.]

### Summary of Risk Assessments

Consolidate all risk assessments into one table including both coding and systems standards, ordered by standard number.

| Rule | Severity | Likelihood | Remediation Cost | Priority | Level |
| --- | --- | --- | --- | --- | --- |
| STD-001-CPP | High | Unlikely | Medium | High | 2 |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

### Create Policies for Encryption and Triple A

Include all three types of encryption (in flight, at rest, and in use) and each of the three elements of the Triple-A framework using the tables provided***.***

* 1. Explain each type of encryption, how it is used, and why and when the policy applies.
  2. Explain each type of Triple-A framework strategy, how it is used, and why and when the policy applies.

Write policies for each and explain what it is, how it should be applied in practice, and why it should be used.

| 1. **Encryption** | **Explain what it is and how and why the policy applies.** |
| --- | --- |
| Encryption at rest | [Insert text.] |
| Encryption in flight | [Insert text.] |
| Encryption in use | [Insert text.] |

| 1. **Triple-A Framework\*** | **Explain what it is and how and why the policy applies.** |
| --- | --- |
| Authentication | [Insert text.] |
| Authorization | [Insert text.] |
| Accounting | [Insert text.] |

**\***Use this checklist for the Triple A to be sure you include these elements in your policy:

* User logins
* Changes to the database
* Addition of new users
* User level of access
* Files accessed by users

### Map the Principles

Map the principles to each of the standards, and provide a justification for the connection between the two. In the Module Three milestone, you added definitions for each of the 10 principles provided. Now it’s time to connect the standards to principles to show how they are supported by principles. You may have more than one principle for each standard, and the principles may be used more than once. Principles are numbered 1 through 10. You will list the number or numbers that apply to each standard, then explain how each of these principles supports the standard. This exercise demonstrates that you have based your security policy on widely accepted principles. Linking principles to standards is a best practice.

**NOTE:** Green Pace has already successfully implemented the following:

* Operating system logs
* Firewall logs
* Anti-malware logs

The only item you must complete beyond this point is the Policy Version History table.

## Audit Controls and Management

Every software development effort must be able to provide evidence of compliance for each software deployed into any Green Pace managed environment.

Evidence will include the following:

* Code compliance to standards
* Well-documented access-control strategies, with sampled evidence of compliance
* Well-documented data-control standards defining the expected security posture of data at rest, in flight, and in use
* Historical evidence of sustained practice (emails, logs, audits, meeting notes)

## Enforcement

The office of the chief information security officer (OCISO) will enforce awareness and compliance of this policy, producing reports for the risk management committee (RMC) to review monthly. Every system deployed in any environment operated by Green Pace is expected to be in compliance with this policy at all times.

Staff members, consultants, or employees found in violation of this policy will be subject to disciplinary action, up to and including termination.

## Exceptions Process

Any exception to the standards in this policy must be requested in writing with the following information:

* Business or technical rationale
* Risk impact analysis
* Risk mitigation analysis
* Plan to come into compliance
* Date for when the plan to come into compliance will be completed

Approval for any exception must be granted by chief information officer (CIO) and the chief information security officer (CISO) or their appointed delegates of officer level.

Exceptions will remain on file with the office of the CISO, which will administer and govern compliance.

## Distribution

This policy is to be distributed to all Green Pace IT staff annually. All IT staff will need to certify acceptance and awareness of this policy annually.

## Policy Change Control

This policy will be automatically reviewed annually, no later than 365 days from the last revision date. Further, it will be reviewed in response to regulatory or compliance changes, and on demand as determined by the OCISO.

## Policy Version History

| Version | Date | Description | Edited By | Approved By |
| --- | --- | --- | --- | --- |
| 1.0 | 08/05/2020 | Initial Template | David Buksbaum |  |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |
| [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] | [Insert text.] |

## Appendix A Lookups

### Approved C/C++ Language Acronyms

| Language | Acronym |
| --- | --- |
| C++ | CPP |
| C | CLG |
| Java | JAV |