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LabVIEW Center of Excellence – Self Assessment

# Audit Summary

[Note: After going through the detailed items, fill out this high level summary and update over time]

|  |  |  |
| --- | --- | --- |
| **Engineer Good Software** | **Engage in Community Learning** | **Ensure Technical Leadership** |
| Requirements Gathering & Tracking | Organizational Proficiency Plan | Designated Technical Lead |
| Design & Code Reviews | Internal Onboarding | Development Environment & Core Concepts |
| Standard Libraries & Templates | Internal User Group | CLD Mastery |
| Code Management | Learning & Development Plan | Architecture Mastery |
| Software Testing & Release | External & Global Community | Software Deployment & Distribution |

Summary:

[Summarize high level goals here]

The recommendations include:

[Call out specific team recommendations]

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# Engineer Good Software

## Requirements Gathering and Tracking

|  |  |  |
| --- | --- | --- |
| Status: Complete | Required | **Team has a process for gathering requirements for a project** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: In process | Required | **Team has a process for tracking and updating requirements** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: Incomplete | Required | **Team has a process for managing changes in requirements** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Optional | **Team documents the cost (time and money) to integrate the change** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Optional | **Team has a process for signing off on the change** |
| Notes: | | |
| Resources: | | |

## Design Reviews

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Team conducts iterative design reviews for all projects** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Team has a process for capturing and resolving issues found during design reviews** |
| Notes: | | |
| Resources: | | |

## Code Reviews

|  |  |  |
| --- | --- | --- |
| Status: | Required | **A style guide is used by the team** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Optional | **The team style guide includes company-specific recommendations** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Team uses VI Analyzer as part of the code review process** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Optional | **Team has added unique tests to VI Analyzer** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Team has a code review process** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Team has a process for capturing and resolving issues found during the code review** |
| Notes: | | |
| Resources: | | |

## Standard (Reuse) Libraries and Templates

|  |  |  |
| --- | --- | --- |
| Status: | Required | **For each project, the team identifies opportunity for reuse** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **The team should maintain a base of reuse code that is relevant and contributes to improved code quality.** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **A style guideline is followed for the creation of libraries and templates and any code that supports the team's framework** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Optional | **The style guide includes a section that details how the team will document code and deliverables.** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Team has a process for maintaining and updating libraries as needed** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Technical lead can define tasks that should be automated and executes on automating those tasks** |
| Notes: | | |
| Resources: | | |

## Code Management - Source Code Control

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| --- | --- | --- |
| Status: | Required | **Team has selected a SCC solution** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: Complete | Required | **Team has determined what will and will not be kept under SCC** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: Complete | Required | **Team has determined how to organize the repository** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: Complete | Required | **Team has determined commit / push cadence** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: Complete | Required | **Team has designs code and procedures to minimize the potential for merge conflicts (directory or binary)** |
| Notes: | | |
| Resources: | | |

## Software Testing and Release

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Team has a test plan and demonstrates that it has been implemented.** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Required | **The team uses automated testing where it is feasible.** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Optional | **Reuse code is unit tested** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Optional | **Project code is unit tested** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Optional | **Team leverages Desktop Execution Trace Toolkit to test for memory leaks.** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Optional | **Team leverages Desktop Execution Trace Toolkit for additional testing** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Optional | **Team has a process for integration testing as needed** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Optional | **Team has a process for customer acceptance test as needed** |
| Notes: | | |
| Resources: | | |

# Engage in Continuous Community Learning

## Organizational Proficiency Plan

|  |  |  |
| --- | --- | --- |
| Status: | Optional | **Team conducts yearly skills assessment** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Team drafts and executes yearly proficiency plan** |
| Notes: | | |
| Resources: | | |

## Internal Onboarding

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Internal training bridges the gap between NI training and being productive on the company LabVIEW team.** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Processes under "Engineer Good Software" have been clearly documented.** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Optional | **A process exists to confirm that the new individual is ready to effectively contribute to the code base** |
| Notes: | | |
| Resources: | | |

## Internal User Group (for smaller teams, mentoring may suffice)

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| --- | --- | --- |
| Status: In work | Required | **Meetings are conducted at least 6 times per year.** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **A designated individual(s) drives a focused agenda**. |
| Notes: | | |
| Resources: | | |

## Learning & Development Plan

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Team has a training and certification plan for designated individuals (see section on Ensure Technical Knowledge).** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: Incomplete | Required | **Teams demonstrate execution of the training and certification plan** |
| Notes: | | |
| Resources: | | |

## External and Global Community

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Designated individuals attend regional user groups if available.** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Designated individuals attend Developer Days, NI Days, NIWeek if available.** |
| Notes: | | |
| Resources: | | |

|  |  |  |
| --- | --- | --- |
| Status: | Optional | **Designated individuals engage in the forums or monitor relevant discussions.** |
| Notes: | | |
| Resources: | | |

# Ensure Technical Knowledge

## Designated Technical Lead

|  |  |  |
| --- | --- | --- |
| Status: | Required | **A technical lead has been designated** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Attaining CLA is part of the employee's yearly review** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **An individual who will drive software process standards has been designated. (could be the same as above)** |
| Notes: | | |
| Resources: | | |

## Development Environment and Core Concepts

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Specific roles/team members who only need Core 1 (and potentially Core 2) understanding have been identified.** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Process for proving understanding has been established (could be CLAD certification)** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Team members have proven understanding**. |
| Notes: | | |
| Resources: | | |

## CLD Mastery

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| --- | --- | --- |
| Status: Complete | Required | **Two individuals have attained CLD certification** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Team has determined who needs a CLD skill set** |
| Notes: | | |
| Resources: | | |

## Architecture Mastery

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Designated technical lead has attained CLA** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Existing code base been reviewed by a designated NI Coach or Alliance Partner** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **The team is using the best solution for the application(s)** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **The team has the skills to refactor to the best solution when the refactoring timing is appropriate** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **The team has documented other architecture challenges** |
| Notes: | | |
| Resources: | | |

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| Status: | Required | **The team has the ability to tackle these challenges** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **The team has defined key drivers for the architecture (ease-of-use, rapid prototype, modularity, scalability)** |
| Notes: | | |
| Resources: | | |

## Software Deployment and Distribution

|  |  |  |
| --- | --- | --- |
| Status: | Required | **Team has a process for distributing source code and libraries to the team (VIPM or SCC/DVCS export)** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Technical lead is able to craft an effective deployment strategy.** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **Team has a process for designating pre-release and released code** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Required | **The team has defined a cadence for regular builds** |
| Notes: | | |
| Resources: | | |

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| --- | --- | --- |
| Status: | Optional | **The team has automated the build Process** |
| Notes: | | |
| Resources: | | |