ERRORLOG
MODULE REPORT V1.0

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Abstract

This document outlines the software architecture, features of the Error Log module, and the test cases conducted during testing.

1.Introduction

The error logging system acquires, stores, and analyses error data from various components. It uses a queue-based architecture to manage the flow of error information. This document outlines the key functionalities and operations of the system.

2.Software Architecture

This module is implemented using state machine architecture. It provides an overview of the various sub VIs developed to log errors in text files. The module is designed to log errors acquired through all modules.

3.Requirements

Error Acquisition:

- The module shall acquire error data from all components of the system.
- The module shall capture error data in real-time to ensure no loss of information.

Error Logging:

- The module shall log all acquired error data into text files.
- The log files shall be stored in a designated directory on the system.
- The module shall append new error entries to the existing log files without overwriting previous data.

Error Data Format:

- Each error entry shall include a timestamp indicating when the error occurred.
- The error log shall contain details such as error type, error code, and a brief description of the error.
- The error log entries shall be formatted in a human-readable manner.

Queue-Based Architecture:

- The module shall utilise a queue-based architecture to manage the flow of error information.
- The queue shall ensure that error data is processed and logged in the order it is received.

Error Analysis:

- The module shall provide functionalities to analyse the logged error data.
- It shall support filtering and searching of error logs based on error type, timestamp, or other criteria.

4.Error Log File Format

Error data is stored in a structured format for easy analysis and troubleshooting. Each entry includes:

- ❖ Timestamp
- ❖ Error code
- ❖ Error description
- ❖ Source component

5. Operability Checks

Initialization and Setup

- Verify that the error logging module initialises correctly and sets up necessary resources.
- Ensure that configuration parameters for logging, such as file paths and alert levels, are correctly loaded.

Error Detection and Logging

- Simulate various errors from different components and check that they are detected and logged accurately.
- Verify that error entries in the log file include correct timestamps, error codes, descriptions, and source components.

Queue Management

- Test the queue-based architecture to ensure that errors are managed and logged in the order they are received.
- Check that the queue handles high volumes of error data without losing or misordering entries.

Storage and File Management

- Verify that error logs are stored persistently on the disk and that new log files are created daily.
- Ensure that the module correctly handles log file rotation and old log file management.

Error Log Test Case

S.NO	Test Case Type	Description	Test Setup	Expected Result	Status	Test By
FUNCTIONALITY						
1.	File creation	Logging Folder and file is created	1.Give the queue reference of your vi.After running the code with error log module in it check whether the folder and file is created with the time	The file should create with the time	Pass	Saravana kumar
2.	Logging	The error data should be logged in the file	Try to generate a error and make sure that the error logging stores the exact error data	The error created should be logged	Pass	Saravana kumar
3.	proper Data	The error data should contain the time and all the errors which error occurred	Check the error log for error and the time of error occurrence	The error should be logged with the error that occured in that	Pass	Saravana kumar

6.Conclusion

The objective of the requirements has been met and needs to be verified.