SOP: Error Detection and Correction Workflow

This SOP defines the **error detection and correction workflow**, detailing a structured process for identifying, reporting, analyzing, and resolving errors in data or system operations. It includes methods for automated and manual error detection, classification of error types, prioritization for correction, implementation of corrective actions, validation of fixes, and documentation of error resolution steps. The goal is to ensure data integrity, system reliability, and continuous improvement through timely and accurate error management.

1. Scope

This SOP applies to all data and system operations that require monitoring for errors, including system logs, data entry, data processing, and automated workflows.

2. Roles and Responsibilities

Role	Responsibilities
System/User	Identifies and/or reports errors; initiates error tickets as needed.
Support Team	Responds to error reports, investigates root causes, applies fixes, and communicates status.
QA/Validation	Validates the effectiveness of corrections; ensures no new issues are introduced.
Documentation Team	Maintains records of error reports, resolutions, and root cause analyses for auditing and continuous improvement.

3. Workflow Steps

1. **Error Detection**
   - Automated detection (system monitoring, alerts, automated tests, validation scripts)
   - Manual detection (user reports, manual reviews, QA checks)

2. **Error Logging/Reporting**
   - Log all detected errors with timestamp, location/context, and description.
   - Open an error ticket in tracking system (e.g., JIRA, ServiceNow).

3. **Classification and Prioritization**
   - Classify error by type (e.g., data error, system error, user error, integration error).
   - Assign priority level (e.g., Critical, High, Medium, Low) based on impact and urgency.

4. **Analysis and Root Cause Identification**
   - Investigate error logs and system behavior to identify the root cause.
   - Engage relevant teams if cross-functional analysis is needed.

5. **Correction/Resolution**
   - Implement the necessary corrective action(s) (code fix, data correction, system configuration).
   - Document steps taken for correction.

6. **Validation/Verification**
   - Test and validate that the correction resolves the error and does not cause regressions.
   - Seek user confirmation for issue resolution (if applicable).

7. **Closure and Documentation**
   - Close the error ticket after successful resolution and verification.
   - Update error logs and maintain documentation for future reference and audits.
   - Identify trends or recurring issues for continuous improvement efforts.

4. Error Types Example

Error Type	Description
Data Error	Incorrect, incomplete, duplicate, or missing data elements.

System Error	Software or hardware faults, exceptions, or breakdowns.
User Error	Incorrect user input, unauthorized actions, or misconfigurations.
Integration Error	Issues during communication between systems, APIs, or databases.

5. Continuous Improvement

- Conduct periodic reviews of errors and resolutions to identify trends and areas for preventive action.
- Update SOP and workflows based on lessons learned and process improvements.

6. Related Documents

- Error Tracking and Reporting Guidelines
- Root Cause Analysis Template
- Change Management SOP

Note: This is a template. Adapt the specific roles, tools, and steps to match your organization's policies and technical environment.