Quality Management

1. Introduction

Enforcing strict quality standards is essential to the Elevator Failure Prediction Project's success. This section describes the specific quality standards that will control different project aspects, making sure that the final product satisfies or surpasses predetermined standards.

2. Software Development Standards

2.1. Code Quality

2.1.1. Objective: Ensure readability, maintainability, and efficiency of the codebase.

2.1.2. Criteria:

- Adherence to coding standards (e.g., naming conventions, indentation).
- Use of comments for complex sections or logic.
- Minimization of code duplication.

2.2. Testing Standards

2.2.1. Objective: Validate the correctness and reliability of the developed algorithms and software.

2.2.2. Criteria:

- Comprehensive test coverage for all critical functionalities.
- Execution of unit tests, integration tests, and system tests.
- Documentation of test cases and results.

2.3. Documentation Standards

2.3.1. Objective: Facilitate understanding, future maintenance, and knowledge transfer.

2.3.2. Criteria:

- Clear and comprehensive documentation for code, algorithms, and software architecture.
- User manuals and guides for end-users and maintenance teams.

- Regular updates to documentation as the project progresses.

3. Data Management Standards

3.1. Data Quality

3.1.1. Objective: Ensure accuracy, completeness, and reliability of the dataset.

3.1.2. Criteria:

- Regular data validation processes to identify and rectify anomalies.
- Implementation of data integrity checks.
- Documentation of data collection methodologies.

3.2. Privacy and Security

3.2.1. Objective: Protect sensitive information and ensure compliance with data protection regulations.

3.2.2. Criteria:

- Encryption of sensitive data during transmission and storage.
- Access controls and authentication mechanisms.
- Regular security audits and vulnerability assessments.

4. Project Management Standards

4.1. Planning and Monitoring

4.1.1. Objective: Efficiently manage project timelines and resources.

4.1.2. Criteria:

- Adherence to the project schedule outlined in the Gantt chart.
- Regular progress monitoring and adjustments as needed.
- Resource utilization within defined limits.

4.2. Risk Management

4.2.1. Objective: Identify, assess, and mitigate project risks..

4.2.2. Criteria:

- Regular risk assessments and updates to the risk register.
- Implementation of risk mitigation strategies.
- Proactive identification of emerging risks.

5. Reporting Standards

5.1. Progress Reports

5.1.1. Objective: Provide transparent and informative updates on project progress.

5.1.2. Criteria:

- Regular generation of progress reports according to the predefined schedule.
- Inclusion of key performance indicators (KPIs) and milestone achievements.
- Clear communication of challenges and proposed solutions.

5.2. Quality Assurance Audits

5.2.1. Objective: Ensure compliance with established quality standards.

5.2.2. Criteria:

- Regular internal quality assurance audits.
- External audits by independent assessors, if applicable.
- Timely implementation of corrective actions.