**PROJECT QUALITY PLAN**

**Project: AI Customer Analyzer**

**Group: 19**

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| **PRINCE2** | | | |  |
| Author: Delaxsan Raj Sathiyanesan (Quality Manager) | | |  | |
| Owner: Dr. Yasas Jayaweera (Project Executive) | | | |  |
| Client: DreamSpace (Private) Limited  Project Manager: Gunarakulan Gunaretnam (2208408)  Startup Manager: Sangeetha Thangavadivel (2135801)  Risk Manager: Haritha Thavarajah (2211320)  Schedule Manager: Mathumitha Arasakulasoorian (2211336)  Quality Manager: Delaxsan Raj Sathiyanesan (2211294) | | | |  |
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# 1 Project Quality Plan History

## Document Location

The source of the document will be found on the project’s PC in location.

## Revision History

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| Revision Date | Previous revision date | Summary of changes | Changes Marked |
| 15/02/2023 |  | First issue |  |

## Approvals

This document requires the following approvals.

Signed approval forms are filled in the Management section of the project files.

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| --- | --- | --- | --- |
| **Name** | **Signature** | **Title** | **Date of issue** |
| Dr. Yasas Jayaweera |  | Project Executive |  |
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## Distribution

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| Gunarakulan Gunaretnam (2208408) | Project Manager | 17-02-2023 | 1.0.0 |
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| Haritha Thavarajah (2211320) | Risk Manager | 17-02-2023 | 1.0.0 |
| Mathumitha Arasakulasoorian (2211336) | Schedule Manager | 17-02-2023 | 1.0.0 |
| Delaxsan Raj Sathiyanesan (2211294) | Quality Manager | 17-02-2023 | 1.0.0 |

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**Project Quality Plan**

## 2. Purpose

A project quality plan aims to establish the framework for how a project will be executed and how quality will be managed throughout the project lifecycle. The plan outlines the strategies, methods, and procedures that will be used to ensure that project deliverables meet the required quality standards and customer expectations.

The purpose of this document is to provide an example of a thorough description that covers the essential features and functions of the product. requirements, limitations of the system, quality control, and interaction with other systems; this document will provide a brief explanation of the implementation process and the system development team's plan for ensuring the product meets the client's expectations for product quality and functional requirements—information about the practices connected to the processes and deliverables of the project. Employees who are responsible can manage properly and understand all the procedures.

## 4 Customer’s Quality Expectations

Discussions with the customer are used to collect expectations, subsequently refined for the Project Product Description. The customer needs the system to meet the following standards of quality.

* The system should have an accuracy rate of at least 65% in counting the number of visitors entering.
* The system should be able to count multiple visitors simultaneously.
* The system should accurately predict the age range of visitors within a range of +/= 3.
* The system should accurately predict the gender of visitors with an accuracy rate of at least 70%.
* The system should accurately predict the mood of visitors with an accuracy rate of at least 75%.
* The system should not collect or store any data related to visitors race or ethnicity.
* The system should remind visitors to wear a mask, if necessary, when they enter the premises.
* The reminder should be triggered when the system detects a visitor without a mask.
* The interface should include clear and concise instructions on how to interact with the system.

## 5 Acceptance Criteria

The customer's expectations are recorded during conversations with them and then polished for the Project Product Description. The customer needs the system to meet the quality standards listed below.

* Accuracy: The system should have a high level of accuracy in identifying and tracking customers in the store and accurately analyzing their behavior and demographics.
* Speed and efficiency: The system should be able to process and analyze large amounts of data in real-time, allowing for quick insights and decision-making.
* Reliability and robustness: The system should be reliable and robust, with a low error rate and the ability to handle unexpected situations, such as changes in lighting or the presence of obstructions in the camera's view.
* Privacy and security: The system should be designed with appropriate privacy and security measures to protect the personal information of customers and prevent any unauthorized access to the data.
* Scalability: The system should be designed to be scalable and adaptable to different store environments and customer profiles.
* User-friendliness: The system should be easy to use and understand for both technical and non-technical users, with clear visualizations and actionable insights.

## 6 Quality Responsibilities

1. Accuracy and effectiveness: The system should be designed to accurately analyze and interpret customer data, including demographics and behavior, to provide actionable insights for the business. The project team should ensure that the system is regularly tested and validated to maintain high levels of accuracy and effectiveness.
2. Security and privacy: The project team must guarantee that the system is built with the proper security and privacy measures to safeguard customer personal information and prevent any unauthorized access to the data.
3. Scalability and adaptability: The system should be created with the capacity to grow and change to accommodate various consumer and shop contexts. The system should be upgraded frequently to keep up with evolving business requirements and technical developments, according to the project team.
4. User-friendliness: With clear visuals and useful insights, the system should be simple to use and comprehend for both technical and non-technical users. To make sure the system is user-friendly and satisfies the needs of the business, the project team should hold user testing and feedback sessions.
5. Ethical considerations: The project team should consider ethical implications and potential biases associated with the system and take appropriate measures to address them. This includes ensuring that the system does not discriminate against any specific demographic groups or violate any privacy laws.

## 7 Applicable standards

Quality assurance standards, including ISO/IEC 27001: This standard provides a framework for information security management systems (ISMS) and can be used to ensure that the system is designed with appropriate security and privacy measures to protect customer data. ISO/IEC 27001: This standard provides a framework for information security management systems (ISMS) and can be used to ensure that the system is designed with appropriate security and privacy measures to protect customer data. PRINCE 2 will be used to achieve and document all processors.

## 8 Quality Control and Audit Processes

1. Setting quality metrics: Establishing the system's quality metrics is the first step in the quality control and audit process. These metrics should take into account key performance indicators (KPIs) including accuracy, reliability, efficiency, and usability and should be in line with the acceptance criteria.
2. Applying quality control measures: To make sure that the system satisfies the specified quality metrics, the project team should put quality control measures in place. Regular system performance testing, validation, and verification could be part of this.
3. The project team should regularly audit the system to make sure it complies with all applicable rules and regulations, particularly those pertaining to data protection and security. The audits should also determine areas for improvement and assess the system's performance in relation to the established quality measures.
4. Reporting and documenting: The project team should report and document the findings of the quality control checks and audits, as well as any issues that were found and the solutions adopted. The appropriate parties, including management and quality assurance staff, should be informed of these findings.
5. Continuous improvement: The project team should continuously monitor and evaluate the system's performance, and implement continuous improvement measures to address any identified issues or areas for improvement.

## 9 Specialist Work Quality Control and Audit Processes

* The quality inspection involves reviewing and comparing the project deliverables against the project requirements. A quality inspection will be carried out on every deliverable to ensure it meets the necessary quality standards. The examination will be performed by a qualified project team member or an independent quality control inspector.
* Quality assurance involves systematically reviewing project processes to ensure they meet the necessary standards. The project manager will carry out quality assurance to ensure that all project processes are followed correctly and that deviations from the standard procedures are dealt with promptly.
* Testing will be carried out on the system to ensure that it meets the necessary functional and non-functional requirements. A qualified project team member or an independent testing agency dory out the testing.
* Auditing systematically reviews project processes, deliverables, and results. An independent audit to ensure the project follows the necessary standards, procedures, and operations.
* All project documentation will be reviewed to ensure they are current and meet the necessary standards. A qualified project team member or an independent reviewer will conduct the review.
* The project manager will monitor its progress to meet the required quality standards. Any deviations from the standard processes will be dealt with promptly to ensure the project meets its objectives.

## 10 Specialist Work Quality Control and Audit Processes

* Selection of third-party suppliers: The project team will ensure that only qualified and experienced third-party suppliers are contracted to deliver specific project tasks. The selection process will involve reviewing the supplier's previous work experience, references, and qualifications.
* Contract review: The project team will review the supplier's contract to ensure that it contains clear and measurable objectives, requirements, and quality standards. The contract will specify the expected outcomes, timelines, and methods of reporting progress.
* Project control: The contracted work will be subjected to project control to ensure that it meets the required quality standards. This will involve regular review meetings between the project team and the supplier to monitor progress, identify and resolve any issues, and ensure that the work is delivered on time and within the project scope.
* Quality assurance: The supplier's work will be subjected to quality assurance to ensure that it meets the required quality standards. This will involve conducting regular quality audits to identify and resolve any issues that may arise during the project's lifecycle.
* Communication lines: The project team and the supplier will establish clear lines of communication to facilitate timely feedback, updates, and reporting. This will involve using project market tools such as email, chat, and video conferencing to ensure effective communication.
* Reporting: The supplier must submit regular progress reports to the project team detailing their progress, challenges, and proposed solutions. The project team will use the progress reports to monitor the supplier's work and provide feedback and support where necessary.

## 10 Change Management Procedures

Change Management Process: Any changes to the project plan, scope, objectives, timelines, or deliverables must be submitted in writing using the change request form. The project manager will assess the request and identify the impact of the change on the project's objectives, timelines, and resources. If the request is deemed necessary, the project manager will review and update the relevant documents, obtain approval from the board, and update the project plan.

Change Authority: The project board is responsible for authorizing and approving any changes to the project. The project manager is responsible for reviewing and assessing the change request and forwarding it to the project board for authorization. If the change request is minor, the project manager can approve the change with the consent of the project board.

Change Control Procedure: All changes must be documented in the change request form and submitted to the project manager for review. The project manager will assess the impact of the change request and decide if it should be approved or rejected. The project manager will then update the plan accordingly and communicate the change to all stakeholders.

Communication: All change requests will be communicated to the project board and relevant stakeholders for review and approval. The project manager will provide regular progress reports to the project board and stakeholders to inform them of the project's progress and any changes.

Compatibility: The Change Management Procedures of this project are fully compatible with the PRINCE2 technique of Change Control. Any existing Change Management Procedures will be reviewed to ensure they align with the project's procedures.

Responsibilities: The project manager is responsible for reviewing and assessing all change requests and forwarding them to the project board for approval. The project board authorizes and approves any changes to the project plan, scope, objectives, timelines, or deliverables. All team members are responsible for reporting potential changes to the project manager and ensuring that all changes are documented and communicated effectively.

## 11 Configuration Management Plan

* The Project Manager will oversee the Configuration Management processes throughout the project.
* The Software Development team will maintain the project code repository and ensure that all code changes are adequately tracked.
* The Documentation team will maintain the project documentation repository, ensuring that all documents are version-controlled and changes are appropriately tracked.
* Interfaces with existing Configuration Management systems:
* The project will use GitHub for version control and to store the codebase.
* Products under Configuration Management Control:
* Software codebase
* Project documentation, including requirements, design, and test plans
* Data models
* Machine learning models

## 12 Quality Tools

* Selenium
* Pytest
* Nagios
* Jenkins