Project Proposal: Members Record Management System (GotoGro-MRM) for Goto Grocery Inc.

Members:

Enzo Peperkamp - 102895415

I strongly agree with the emphasis on Security in the GotoGro-MRM proposal, particularly the 2-factor authentication, aligning with ISO27001 standards. The Performance Efficiency goals, including 60% resource utilization, seem well-balanced. However, I'd recommend a closer look at the proposed average time for system restoration, as 1 hour may be ambitious.

Nelchael Kenshi Turija - 103057559

This document's coherent structure and unified approach reflects our collaborative efforts, skillfully combining individual tasks to eliminate redundancies. The alignment with both our team's goals and industry standards is commendable. I agree wholeheartedly with the presented framework, confident that it will guide us to successful implementation without compromising on quality or efficiency.

Julian Codespoti - 102997816:

The synergy of our collective input is evident in this proposal. By aligning our individual perspectives, we've produced a comprehensive guideline that ensures both functionality and quality. I am confident this will serve as a solid road map for our project's success.

Alex Kyriacou - 103059830

I believe the below document represents a solid foundation for the 2 following sprints. It consists of a measurable framework for each of our team members to be held to on completion of their assigned sprint tasks. While individually there were gaps within our definition of done and quality model, it was through compilation of our ideas that we have the model seen below.

Marella Morad - 103076428

This document encapsulates our shared vision and commitment to excellence. Drawing from our diverse skill sets, we've created a roadmap that possesses a large deal of both quality and functionality. I am optimistic about the milestones we've set and am confident in our team's ability to execute them seamlessly.

Table of Contents

Definition of Done

The "Definition of Done" for the GotoGro MRM application serves as a critical and comprehensive checklist for conditions that must be met to ensure the successful delivery and release of the product. This definition aligns with both the ISO 25010 standard and specific project objectives, guaranteeing that the application not only meets but exceeds the quality standards necessary to fulfil the project's functional and non-functional (quality) requirements. The definition consists of the following items:

1. Code Standards & Quality:
   - Any code must be checked in.
   - At least one other team member must review code.
   - Any functions and classes within the code must have XML (or equivalent) docstring justifying its reason for existence, arguments, and return types.
   - The project must compile/build without any errors.
   - Any refactoring must be completed.
2. Documentation & User Guides:
   - Any relevant documentation must be updated.
   - The application is thoroughly documented, including user guides and technical documentation as a deliverable.
3. Data Migration & Reporting:
   - All member records are accurately migrated from the paper-based system to the application database.
   - The application can generate reports detailing member and sales records.
   - Records can be exported to CSV format without data loss or formatting issues.
4. Testing & Performance:
   - User acceptance testing is incorporated and completed, and feedback is assimilated for improvements.
   - Performance testing is performed to ensure the application can handle expected usage loads.
5. Deployment & Accessibility:
   - The application is deployable and accessible to all relevant stakeholders.

Quality Model

- Functional Suitability
  - Functional Correctness
    - Number of Critical Defects found in testing
      - 0 Critical Defects
    - Number of Defects per KLOC (Thousand Lines of Code)
      - 10 defects per KLOC
  - Functional Completeness
    - % of functions that are completed
      - 90%
- Performance Efficiency
  - Time Behaviour

        - % of functions returning within the specified response time.
            - <= 90%
    - Resource Utilisation
        - % of system resources utilised (such as CPU and memory)
            - <= 60%
- Security
    - Confidentiality
        - All Personally Identifiable Information (PII) and Sales data will be inaccessible until an authorised user has been authenticated.
            - Data will be encrypted adhering to ISO27001 standards.
    - Authenticity
        - All users will require authentication before being allowed access to the system using a 2-factor authentication method.
            - Google Authenticator / Or Text Message Authentication
    - Integrity
        - Number of vulnerabilities found in the software through security assessment
            - Zero (0)
- Usability
    - Operability
        - Average time taken by users to add new member/sales records or to edit new records
            - Average submission time is less than 2 minutes
    - Learnability
        - Amount of training (hours) required for non-technical stakeholders to be able to learn all aspects of the system.
            - 2 Hours
    - User Protection Error
        - % of user tasks that are completed successfully without errors
            - >= 95%
- Reliability
    - Availability
        - % of uptime the system is required to have
            - 99%
        - The average time taken to restore the system to full functionality after a failure
            - 1-hour

Quality Goals

- After submitting a purchase record, the system will allow the users to begin creating a new purchase record within 2 seconds.
- A confirmation message will be displayed within 3 seconds of creating a new user.
- The home page of the system will display within 3 seconds.

- An exported CSV with a file size of less than 2 megabytes will be downloaded within 5 seconds.
- All reports should be generated within 10 seconds of invocation from the user.
- The system shall support up to 5 users concurrently.
- Upon review, the codebase should not have more than 10 defects per KLOC (Thousand lines of code)
- Under normal load conditions, the system should not utilise more than 60% of its resources to ensure other system functionalities remain unaffected.
- Out of 100 attempts to update member information, at least 95 of them should be completed successfully without any errors.
- If the system encounters any technical glitches (i.e. becomes unresponsive), then the system should be fully restored within 1 hour after the failure is identified.
- Upon conducting a security assessment, no critical vulnerabilities should be found.

Reference

Standards Australia/New Zealand, 2013, *Systems and software engineering - Systems and software quality requirements and evaluation (SQuaRE) - System and software quality models,* AS/NZS ISO/IEC 25010:2013, Sydney/Wellington: Standards Australia/New Zealand, viewed 20 August 2023.