

2.2 Non-Functional Analysis:

Performance and Speed:

- Core Operation Response Time - All tracking operations (e.g. food intake) must be completed within a quick and average load time.
- AI Latency - The chatbot must return responses quickly, ensuring a real-time conversation flow.
- Real-time Synchronisation - Data updates handled by Firebase will display quickly in order to ensure quick community interactions.

Security:

- Data Encryption - All passwords and health information will be encrypted in transit and at rest in Firebase.
- Account Protection - The platform will support multi-factor authentication to prevent unauthorised access.
- Authorised Enforcement - The 'privacy by default' model must be enforced to ensure users can only access, read, write and update their own private data.

Scalability and Reliability:

- System Uptime - The platform must stay up for the majority of the time.
- Concurrency Handling - The performance should not degrade if there is a high intake of users.
- API Resilience - The external APIs must have robust retry logic to handle network failures and prevent interruptions.

Usability and Experience:

- Accessibility - the application must be accessible to all, including things such as colour blindness settings.
- Intuitive Logging - The logging of standard activities should happen in a minimal amount of clicks for a good user experience.

Maintainability and Supportability:

- Code Quality - The code must follow standards and have clear commenting to allow for the fixing bugs and additional features.
- Observability - Monitoring tools must be put in place for detection and diagnostics of errors throughout the code.