Software Requirements Specification
Software Engineering

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Table 1: **Revision History**

Date	**Version**	**Notes**
Date 1	1.0	Notes
Date 2	1.1	Notes

This document describes the requirements for .... The template for the Software Requirements Specification (SRS) is a subset of the Volere template (Robertson and Robertson, 2012). If you make further modifications to the template, you should explicitly state what modifications were made.

1 Project Drivers

1.1 The Purpose of the Project

1.2 The Stakeholders

1.2.1 The Client

1.2.2 The Customers

1.2.3 Other Stakeholders

1.3 Mandated Constraints

1.4 Naming Conventions and Terminology

- Platform - The web system/application.
- Heavy traffic - When many users are accessing the platform at one time.

1.5 Relevant Facts and Assumptions

User characteristics should go under assumptions.

2 Functional Requirements

2.1 The Scope of the Work and the Product

2.1.1 The Context of the Work

2.1.2 Work Partitioning

2.1.3 Individual Product Use Cases

2.2 Functional Requirements

3 Non-functional Requirements

3.1 Look and Feel Requirements

3.2 Usability and Humanity Requirements

NFR-1: The application interface shall be intuitive to use to a point where users do not require a tutorial or help from another person.
Rationale: The interface will be used by users with a wide range of technical ability, so making the interface as easy to learn as possible will make the application maximally accessible.
Fit criterion: 95% of users tested should be able to accomplish the main function of the application without need for outside intervention.
Traceability: Traces to functional requirements involving the user interface.

NFR-2: The application interface shall only include the minimum necessary elements for the system to function effectively.
Rationale: The simplicity of the system is important to ensure that the system is easy for all users to interact with.
Fit criterion: Testers should not be able to identify any element of the user interface that does not serve any immediate and apparent use.
Traceability: Traces to functional requirements involving the user interface.

NFR-3: The text and image elements of the user interface should be large enough such that
Rationale: Due to the nature of the system, it can be expected that users

of varying visual aptitude will be interacting with the user interface. Making the interface visually accessible will ensure that users of non-perfect optical perscriptions are not excluded from its use.
Fit criterion: A user with a prescription of less than 4 diopters should be able to effectively use the interface without the use of perscription glasses. Alternatively, a perfectly sighted individual should be able to read the interface 1 meter away from their computer monitor without issue.
Traceability:

3.3 Performance Requirements

NFR-4: The system shall load and display trials to the user in a timely manner.
Rationale: In addition to obvious usability reasons, there is a potential for users (especially clinicians) to rapidly change the criteria for eligibility, meaning the time spent waiting for trials to load can grow very fast if it is slow.
Fit criterion: The system shall not take longer than 2 seconds to load and display a set of trials, during any given search made by a user.
Traceability: **Traces to functional requirements related to searching for trials, displaying trials, getting data from repositories.**

NFR-5: The system shall remain performant during times of heavy traffic.
Rationale: The system will experience varying amounts of traffic, and it should be prepared to handle all cases (heavy traffic being the one to likely cause issues).
Fit criterion: Any system API call shall take less than 1 second to respond for up to 1000 concurrent users, and less than 2 seconds to respond for anything greater (assuming the system will not see $>$ 10000 users).
Traceability: Traces to pretty much all FRs that are mentioned in the other performance requirements

NFR-6: The systems UI elements shall acknowledge all forms of user input in a timely manner.

Rationale: Timely response from the system is necessary for a good user experience. Additionally, things like keyboard shortcuts should be just as performant as using a mouse (and vice-versa).
Fit criterion: The system shall take less than 150ms to acknowledge user input, and make it clear to the user that it has registered the request.
Traceability: Traces to any FR that requires user input of some form

NFR-7: The system shall efficiently store/retrieve user data from the database.
Rationale: For the system to remain performant, it must handle data efficiently, especially as the total number of users increase.
Fit criterion: The system shall take no longer than 500ms when querying the database for user info (includes query execution time + any overhead of executing the query).
Traceability: Traces to any FR that requires user information

NFR-8: The system shall be available to users 99% of the time.
Rationale: Since users will likely make infrequent visits to the platform, it is necessary that the platform will be available at those times (i.e., if the system is frequently unavailable, it increases the chances that users will never use the platform).
Fit criterion: The system shall experience no more than 15 hours of downtime throughout the year.
Traceability: N/A

3.4 Operational and Environmental Requirements

3.5 Maintainability and Support Requirements

NFR-9: The system shall be easy to fix in the event it experiences unexpected downtime.
Rationale: While it may not happen often, an unexpected system failure is definitely possible. As the time it takes to fix the issue increases, so does the number of users negatively affected.
Fit criterion: On average, it should take less than 1 hour to restore the system in the event of a failure.
Traceability: N/A

NFR-10: The system shall be adaptable to new requirements.
Rationale: It is likely new requirements will be discovered once users begin to use the platform, and there will be a need/desire to implement these quickly and effectively.
Fit criterion: The system must satisfy all of its existing requirements after the implementation of a new requirement/feature.
Traceability: N/A

3.6 Security Requirements

NFR-11:

3.7 Cultural Requirements

NFR-12: The interface shall be useable by users who speak a language other than English or French.
Rationale: Restricting the interface's language to only official languages will exclude many ethnic minorities from being able to access clinical studies. Making the program multilingual will ensure that a minimal number of ethnic minorities will be excluded.
Fit criterion: Users who speak the languages in the top 5 most spoken non-official languages in Canada should be able to use the interface without issue.
Traceability: Traces to functional requirements involving the user interface.

3.8 Legal Requirements

NFR-13: The system shall be compliant with the *Personal Health Information Privacy Act, 2004*
Rationale: Since the data stored pertains to personal medical information, we are legally required to manage the data in such a way that protects the personal information of the patients.
Fit criterion: The system should be able to pass an independent audit to ensure the data is being collected and secured in an appropriate manner.

Traceability: Traces to requirements involving user input (specifically medical data input) and security requirements.

3.9 Health and Safety Requirements

This section is not in the original Volere template, but health and safety are issues that should be considered for every engineering project.

4 Project Issues

4.1 Open Issues

4.2 Off-the-Shelf Solutions

4.3 New Problems

4.4 Tasks

4.5 Migration to the New Product

4.6 Risks

4.7 Costs

4.8 User Documentation and Training

4.9 Waiting Room

N/A

4.10 Ideas for Solutions

References

James Robertson and Suzanne Robertson. *Volere Requirements Specification Template*. Atlantic Systems Guild Limited, 16 edition, 2012.

5 Appendix

This section has been added to the Volere template. This is where you can place additional information.

5.1 Symbolic Parameters

The definition of the requirements will likely call for SYMBOLIC_CONSTANTS. Their values are defined in this section for easy maintenance.