SE 3XA3: Software Requirements Spann

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Table 1: **Revision History**

Date	Version	Notes
Oct. 1, 2016	1.0	Initial Changes

This document describes the requirements for Spann. The template for the Software Requirements Specification (SRS) is a subset of the Volere template (**?**). If you make further modifications to the template, you should explicity 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

The project needs to run on software and hardware that McMaster University has and has the licenses for.

1.4 Naming Conventions and Terminology

1.5 Relevant Facts and Assumptions

The application will assume the user has a modern, HTML5 compatible browser that has JavaScript enabled. The application will be tested to ensure it is functional on the major modern browsers(insert reference to list of browsers in appendix here).

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

This application needs to maintain a unified enterprise look and feel. A major goal of this application is to increase development speed, this means it is incredibly important that the user experience is clean. To achieve this, options such as save, properties, and right-click must be constant throughout the application. As a target, this application must respond and feel like a desktop application while running in browser meaning all actions that one would expect to work in a desktop IDE such as Eclipse must work in browser.

3.2 Usability and Humanity Requirements

3.3 Performance Requirements

3.3.1 Client

The client side UI must be quick and responsive as well as not using a lot of resources as it runs in the browser. It is most important that the application can run asynchronously at all times to not lock up the browser.

3.3.2 Server

For the server it is very important that it is fast and is able to handle a lot of requests. It also needs to run its processes in a proper asynchronous manner as the processes are long running.

3.4 Operational and Environmental Requirements

3.5 Maintainability and Support Requirements

3.6 Security Requirements

This application should provide a secure platform and carry out its functionality in a secure manner. This means the application needs to meet the following a set of security requirements:

- The application cannot allow anyone except the owner of the account to view/modify to the files associated with the account and the settings associated with the account.

- The application does not allow anyone to intercept the data while it is being transferred over the network.

- The application executes user code in secure manner, isolated from the rest of the system to ensure any malicious code doesn't compromise the security of the system and application.

3.7 Cultural Requirements

??????? The project may need to be translated or support translation if a significant number of users' primary language is not English.

3.8 Legal Requirements

3.9 Health and Safety Requirements

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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

The are various off-the-shelf solutions available for writing and running code on the web browser, but these solutions have little to no support for the python programming language besides being able to provide simple code completion and ability to execute the code. Thus, for this project, we're aiming to both support execution of python, code comple-

tion and add IDE-like, developer friendly features (fill in some IDE-like features we'll have)

4.3   New Problems

4.4   Tasks

4.5   Migration to the New Product

4.6   Risks

One inherent risk with allowing users to execute code on your servers is the user's ability to perform malicious actions. This can result in damage to the hardware, the software stack and to the data on the server. Another risk is the possibility of some fault in the system causing user's to lose data or the project to lose business critical data or damage the hardware or software stack.

4.7   Costs

The project will be mainly using free and open source (libre) software that is available without costs, as well as non-libre software this is available to us without cost. If the platform is to be scaled for public usage, the project will need to be hosted on some server (or multiple server depending on user adoption) which would have a regular cost.

4.8   User Documentation and Training

4.9   Waiting Room

4.10   Ideas for Solutions

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.