Software Requirements Specification for SFWRENG 4G06 - Capstone Design Process: subtitle describing software

Team 17, DomainX

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Table 1: Revision History

Date	**Developer(s)**	**Change**
October 6, 2025	Fei Xie	First Draft of Sections: Cost to Ideas for Solution
Date2	Name(s)	Description of changes
...	...	...

Contents

1 Purpose of the Project

1.1 User Business

Insert your content here.

1.2 Goals of the Project

Insert your content here.

2 Stakeholders

2.1 Client

Insert your content here.

2.2 Customer

Insert your content here.

2.3 Other Stakeholders

Insert your content here.

2.4 Hands-On Users of the Project

Insert your content here.

2.5 Personas

Insert your content here.

2.6 Priorities Assigned to Users

Insert your content here.

2.7 User Participation

Insert your content here.

2.8 Maintenance Users and Service Technicians

Insert your content here.

3 Mandated Constraints

3.1 Solution Constraints

Insert your content here.

3.2 Implementation Environment of the Current System

Insert your content here.

3.3 Partner or Collaborative Applications

Insert your content here.

3.4 Off-the-Shelf Software

Insert your content here.

3.5 Anticipated Workplace Environment

Insert your content here.

3.6 Schedule Constraints

Insert your content here.

3.7 Budget Constraints

Insert your content here.

3.8 Enterprise Constraints

Insert your content here.

4 Naming Conventions and Terminology

4.1 Glossary of All Terms, Including Acronyms, Used by Stakeholders involved in the Project

Insert your content here.

5 Relevant Facts And Assumptions

5.1 Relevant Facts

Insert your content here.

5.2 Business Rules

Insert your content here.

5.3 Assumptions

Insert your content here.

6 The Scope of the Work

6.1 The Current Situation

Insert your content here.

6.2 The Context of the Work

Insert your content here.

6.3 Work Partitioning

Insert your content here.

6.4 Specifying a Business Use Case (BUC)

Insert your content here.

7 Business Data Model and Data Dictionary

7.1 Business Data Model

Insert your content here.

7.2 Data Dictionary

Insert your content here.

8 The Scope of the Product

8.1 Product Boundary

Insert your content here.

8.2 Product Use Case Table

Insert your content here.

8.3 Individual Product Use Cases (PUC's)

Insert your content here.

9 Functional Requirements

9.1 Functional Requirements

Insert your content here.

10 Look and Feel Requirements

10.1 Appearance Requirements

Insert your content here.

10.2 Style Requirements

Insert your content here.

11 Usability and Humanity Requirements

11.1 Ease of Use Requirements

Insert your content here.

11.2 Personalization and Internationalization Requirements

Insert your content here.

11.3 Learning Requirements

Insert your content here.

11.4 Understandability and Politeness Requirements

Insert your content here.

11.5 Accessibility Requirements

Insert your content here.

12 Performance Requirements

12.1 Speed and Latency Requirements

Insert your content here.

12.2 Safety-Critical Requirements

Insert your content here.

12.3 Precision or Accuracy Requirements

Insert your content here.

12.4 Robustness or Fault-Tolerance Requirements

Insert your content here.

12.5 Capacity Requirements

Insert your content here.

12.6 Scalability or Extensibility Requirements

Insert your content here.

12.7 Longevity Requirements

Insert your content here.

13 Operational and Environmental Requirements

13.1 Expected Physical Environment

Insert your content here.

13.2 Wider Environment Requirements

Insert your content here.

13.3 Requirements for Interfacing with Adjacent Systems

Insert your content here.

13.4 Productization Requirements

Insert your content here.

13.5 Release Requirements

Insert your content here.

14 Maintainability and Support Requirements

14.1 Maintenance Requirements

Insert your content here.

14.2 Supportability Requirements

Insert your content here.

14.3 Adaptability Requirements

Insert your content here.

15 Security Requirements

15.1 Access Requirements

Insert your content here.

15.2 Integrity Requirements

Insert your content here.

15.3 Privacy Requirements

Insert your content here.

15.4 Audit Requirements

Insert your content here.

15.5 Immunity Requirements

Insert your content here.

16 Cultural Requirements

16.1 Cultural Requirements

Insert your content here.

17 Compliance Requirements

17.1 Legal Requirements

Insert your content here.

17.2 Standards Compliance Requirements

Insert your content here.

18 Open Issues

Insert your content here.

19 Off-the-Shelf Solutions

19.1 Ready-Made Products

Insert your content here.

19.2 Reusable Components

Insert your content here.

19.3 Products That Can Be Copied

Insert your content here.

20 New Problems

20.1 Effects on the Current Environment

Insert your content here.

20.2 Effects on the Installed Systems

Insert your content here.

20.3 Potential User Problems

Insert your content here.

20.4 Limitations in the Anticipated Implementation Environment That May Inhibit the New Product

Insert your content here.

20.5 Follow-Up Problems

Insert your content here.

21 Tasks

21.1 Project Planning

Insert your content here.

21.2 Planning of the Development Phases

Insert your content here.

22 Migration to the New Product

22.1 Requirements for Migration to the New Product

Insert your content here.

22.2 Data That Has to be Modified or Translated for the New System

Insert your content here.

23 Costs

There is no development cost for this project, due to the nature of this being a capstone project.
The costs of hosting the required services, such as the database and the web application will depend on McMaster University's existing infrastructure.
However, estimating using a common cloud provider such as Amazon Web Services (AWS).
Using the Relational Database Service (RDS) for database and the Elastic Cloud Computing (EC2) service for hosting. Assuming around a maximum usage of 20 Hours/Month, the total cost of hosting is 11.63 CAD per month, as shown in Table 2.

Name	**Configuration**	**Estimated Usage**	**Total Cost**
RDS for MySQL	Two vCPU and 8GB of Memory	20 Hours/Month	9.76 CAD/Month
EC2	t4g.large Instance	20 Hours/Month	1.87 USD/Month

Table 2: Price estimates and total costs for two AWS services.

24 User Documentation and Training

24.1 User Documentation Requirements

24.1.1 User Manual

The user manual will highlight the key features of the product, and provide additional details for installing, setup and usage that wasn't previously covered in the project's README.

The maintenance of this document will be the responsibility of the development team. Changes to the product's features, such as adding new features or altering existing features must be reflected in the user manual upon release of the update.

24.1.2 Release Manual

The release manual will cover the release process required for future releases of the product, found in the Development Plan. It should include the whole CI/CD lifecycle, including team standards, release labelling, and more.

The maintenance of this document will be the responsibility of the development team. Changes to the CI/CD process, either from the development team or the broader McMaster University infrastructure team should be reflected before the next release.

24.2 Training Requirements

1. Users should be able to use the tool and utilize key features immediately after following the tutorial

2. Users should be able to find key features without consulting additional documentation 95% of the time.

The responsibilty of the training will first fall towards the development team of the tool. They must ensure the provided in-tool tutorial is up-to-date and sufficient to help a user understand all key features.
Additional training will be provided to the supervisor, hosted by the development team. Subsequent training will be the responsibility of the supervisor,

if needed to train future users of the tool, in the format that the supervisor chooses.

25 Waiting Room

1. Comparing across Domains
The user should be able to compare two (or more) completed domain analysis against each other.

2. Versioning of Domains
Users can revist and update completed domains, adding new data or editing existing ones. Allowing users to view the evolution of the state of best practice for the domain.

26 Ideas for Solution

The following is the development team's idea for the user interface of the tool. Figure 1 shows the initial concept, drawing inspiration from Octave Online, the cloud IDE for Matlab.
The main section of the tool will be where the data is displayed and gathered for each domain. With the sections that can be automatically gathered differentiated using a different colour, such as the gray shown in Figure 1.
The left sidebar will contain all the domains, with indications on whether it's completed or not. As well as providing a filter to quickly search for a specific domain.

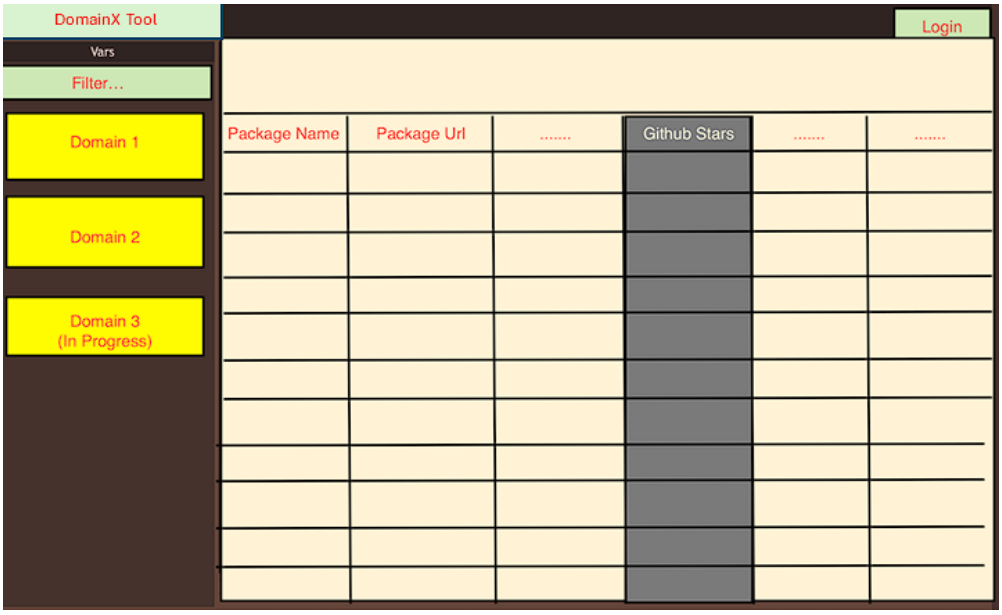

Figure 1: DomainX UI, inspired by Octave Online

Appendix — Reflection

The purpose of reflection questions is to give you a chance to assess your own learning and that of your group as a whole, and to find ways to improve in the future. Reflection is an important part of the learning process. Reflection is also an essential component of a successful software development process.

Reflections are most interesting and useful when they're honest, even if the stories they tell are imperfect. You will be marked based on your depth of thought and analysis, and not based on the content of the reflections themselves. Thus, for full marks we encourage you to answer openly and honestly and to avoid simply writing "what you think the evaluator wants to hear."

Please answer the following questions. Some questions can be answered on the team level, but where appropriate, each team member should write their own response:

1. What went well while writing this deliverable?
2. What pain points did you experience during this deliverable, and how did you resolve them?

3. How many of your requirements were inspired by speaking to your client(s) or their proxies (e.g. your peers, stakeholders, potential users)?

4. Which of the courses you have taken, or are currently taking, will help your team to be successful with your capstone project.

5. What knowledge and skills will the team collectively need to acquire to successfully complete this capstone project? Examples of possible knowledge to acquire include domain specific knowledge from the domain of your application, or software engineering knowledge, mechatronics knowledge or computer science knowledge. Skills may be related to technology, or writing, or presentation, or team management, etc. You should look to identify at least one item for each team member.

6. For each of the knowledge areas and skills identified in the previous question, what are at least two approaches to acquiring the knowledge or mastering the skill? Of the identified approaches, which will each team member pursue, and why did they make this choice?