

GOMC Capstone

Software Requirements

Version 0.1

September 24,2017

# Caleb Latimer

# Ahmed Taher

# Muamer Besic

# 

# **Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Description** | **Author** | **Comments** |
| 9/24/17 | V 0.1 | Caleb Latimer | Started with v1, from the examples, research online, the development plan and our current backlog. We got a long road ahead of us. |
|  |  |  |  |

**Document Approval**

The following Software Requirements Specification has been accepted and approved by the following:

|  |  |  |  |
| --- | --- | --- | --- |
| **Signature** | **Printed Name** | **Title** | **Date** |
|  | Ahmed Taher | Team Lead |  |
|  | Caleb Latimer | Lead UI Developer |  |
|  | Muamer Besic | Lead QA Developer |  |
|  | Azam Peyvandipour | Team TA |  |
|  | Younes Nejahi | Client |  |

**Table of Contents**

Revision History............................................................................................................................ II

Document Approval.......................................................................................................................II

1. Introduction............................................................................................................................... 1

1.1 Purpose.................................................................................................................................. 1

1.2 Scope..................................................................................................................................... 1

1.3 Definitions, Acronyms, and Abbreviations.............................................................................. 1

1.4 References............................................................................................................................. 1

1.5 Overview................................................................................................................................. 1

2. General Description.................................................................................................................. 2

2.1 Product Perspective............................................................................................................... 2

2.2 Product Functions.................................................................................................................. 2

2.3 User Characteristics............................................................................................................... 2

2.4 General Constraints................................................................................................................ 2

2.5 Assumptions and Dependencies............................................................................................ 2

3. Specific Requirements.............................................................................................................. 2

3.1 External Interface Requirements............................................................................................ 3

3.1.1 User Interfaces.................................................................................................................... 3

3.1.2 Hardware Interfaces............................................................................................................ 3

3.1.3 Software Interfaces.............................................................................................................. 3

3.1.4 Communications Interfaces................................................................................................. 3

3.2 Functional Requirements........................................................................................................ 3

3.2.1 <Functional Requirement or Feature #1>............................................................................ 3

3.2.2 <Functional Requirement or Feature #2>............................................................................ 3

3.3 Non-Functional Requirements................................................................................................ 3

3.3.1 Performance........................................................................................................................ 4

3.3.2 Reliability............................................................................................................................. 4

3.3.3 Availability............................................................................................................................ 4

3.3.4 Security................................................................................................................................ 4

3.3.5 Maintainability...................................................................................................................... 4

3.3.6 Portability............................................................................................................................. 4

3.4 Design Constraints................................................................................................................. 4

3.5 Logical Database Requirements............................................................................................ 4

3.6 Other Requirements............................................................................................................... 4

4. Analysis Models........................................................................................................................ 4

4.1 Data Flow Diagrams (DFD).................................................................................................... 4

A. Appendices.............................................................................................................................. 4

A.1 Appendix 1............................................................................................................................. 4

A.2 Appendix 2............................................................................................................................. 4

**Introduction**

The purpose of this document is to provide the reader with a thoroughly detailed explanation of the scope, design and implementation of the GOMC capstone project. Within this segment an overview of all required knowledge will be provided followed by detailed explanations of functionality and our build plan. Any and all acronyms and graphics will also be accompanied by a detailed explanation.

**Purpose**

The central goal of this project is to develop an underused website into a core tool for the presentation the of research, new releases and data input for the software.

This project will encompass the full front-end redesign of the website with a toolchain chosen by the engineers of the development team. It will conform to it’s own code, performance and style standards as decided by the team with the client’s approval. In addition to that the project will require integration with the restful Github API v3 in order to dynamically update announcements, new releases of code from a source repository, an updated user manual and an updated tracking of the number of downloads and other components of the website at the client’s specification.

Lastly, the website will allow users to input data required for the GOMC newly released software, send it to an endpoint and receive a well-formed XML file to run with the software. These goals are the fundamental source of functionality that this document aims to address, define and accomplish and develop a quality product.

**Definitions, Acronyms, and Abbreviations**

All terms and definitions used in the course of this document are defined in this segment.

|  |  |
| --- | --- |
| **Term** | **Meaning** |
| UI | User Interaction |
| JS | Javascript |
| VMD | Visual Molecular Dynamics |
| VLE | Saturated Vapor & Liquid Equilibria |
| MC | Markov Chain |
| Boltzmann | Boltzmann Sampling |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |