Software Requirements Specification

For

Monstrosity Inc. Networking

[2/24/2020]

[Version 3]

Prepared by:

Zach, Tyler

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Revision History

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| --- | --- | --- | --- |
| **Version** | **Date** | **Name** | **Description** |
| 1 | 2/25/2020 | Zach, Tyler | started work on section 1 |
| 2 | 2/26/2020 | Zach, Tyler | started work on sections 2 and 3 |
| 3 | 3/1/2020 | Zach, Tyler | finished work on sections 3 and 4. completed the document |

# **Introduction**

## ***Overview***

This document defines the requirement for the networking system that is being developed for Monstrosity Inc. The purpose of this document is to represent the system requirements in a readable way so that clients and stakeholders can understand them and verify them for correctness but with enough detail that developers can design and implement a software system from them.

This document doesn’t address *project* issues such as schedule, cost, development methods, development phases, deliverables and testing procedures. Those are addressed in a separate project document and quality assurance test plan.

This document provides a way for authors to get direct and specific feedback from readers while imposing minimal additional work for authors and readers.

## ***Goals and Objectives***

To give Monstrosity Inc a secure network to allow them to conduct business more efficiently. This network must be able to:

* Provide both customers and employees with internet access.
* Provide a secure platform for employees to email one another.
* Providing a database for company information storage, must also provide

clustering and a means of backing it up.

## ***Scope***

At the minimum, the project will (1) allow customers and employees to connect to the internet, (2) provide Monstrosity with a secure email connection, (3) allow employees to edit databases containing customer information. Time permitting, the scope could be extended to include (1) more offices and (2) a larger database to allow for more customers.

## ***Definitions***

This section defines potentially unfamiliar or ambiguous words, acronyms and abbreviations. If terms such as “shall”, “should” and “may” are used to indicate importance the meaning of these terms should be defined here.

***Example:***

**Use case** – describes a goal-oriented interaction between the system and an actor. A use case may define several variants called scenarios that result in different paths through the use case and usually different outcomes.

**Scenario** – one path through a use case

**Actor** – user or other software system that receives value from a use case.

**Role** – category of users that share similar characteristics.

**Product** – what is being described here; the software system specified in this document.

**Project** – activities that will lead to the production of the product described here. Project issues are described in a separate project plan.

**Shall** – adverb used to indicate importance; indicates the requirement is mandatory. “Must” and “will” are synonyms for “shall”.

**Should** – adverb used to indicate importance; indicates the requirement is desired but not mandatory.

**May** – adverb used to indicate an option. For example, “The system may be taken offline for up to one hour every evening for maintenance.” Not used to express a requirement, but rather to specifically allow an option.

**Controls** – the individual elements of a user interface such as buttons and checkboxes.

## ***Document Conventions***

This section describes presentation conventions used in the document.

***Example:***

Portions of this document that are incomplete will be marked with TBD. Each TBD item will have an owner and estimated date for resolving the issue.

## ***Assumptions***

Monstrosity Real Estate network is available at all times for employees and guests in different locations. Monstrosity Real Estate should be able to effectively filter web traffic and have secure emails with spam and virus protection. While for managers and employees having access to work from home with a VPN. The database product must be able to be hosted as well.

# **General Design Constraints**

## ***Product Environment***

Most software systems don’t exist in isolation. They interact with other systems and are part of a larger system or environment. Our environments are going to need to all be in connection together for all of our locations and product envirments to be safe and secure, while giving the people a hassle free experience when working or visiting a location. We need to be able to provide fast internet, safe internet, and a strong enough network to support our database.

The system will use an existing database management system to describe the interface here.

Note the user interface, which characterizes an interface between the system and its environment, is described below.

***Example:***

The database will be a component used and updated reguarly for keeping customers information that is used throughout the company at the different locations. We will make sure to have different support functions for authentication to best keep the information on the databases safe and out of harm's way. As for the network, this will also play a crucial role in keeping everything safe, we will make sure all our systems are connected and up to date while monitoring what is being trafficked in and out.

## ***User Characteristics***

It’s important for developers to have a complete and accurate image of the end users. Even when the requirements of the user interface are described in detail the developer will still make many tiny design decisions during design and implementation. Knowing the general characteristics of the end users will help the developer make better decisions.

If the specific users of the system know list them here. More likely there will be user roles or categories of uses. For each group of users list their responsibilities, characterize their knowledge of the domain and describe their characteristics including technical sophistication, background and education.

Prioritize users if necessary. This is especially important when user characteristics conflict. For example, if the system must accommodate experienced users as well as novices it is important to know which should be given priority in case it’s not possible to accommodate both groups.

## ***Mandated Constraints***

The database must be created using MySQL and must include means of clustering and back ups.

The network must be secured but it is up to the developers on what specifically to use. (AWS, Azure, etc.) This also applies to the email protection

## ***Potential System Evolution***

As our company decides to grow and add other branches no matter where in the country, we need to be able to accommodate and be able to grow our network to make sure our new branches can run perfectly. We always want to stay ahead of the growth so we can make sure we have room to grow then when we need to upgrade our systems. With growth comes new problems. So we always need to make sure our system is always running properly and is best suited for people to continue to work effectively. Technology is always evolving so if something better comes out things in the company may change to best suit our needs.

# **Nonfunctional Requirements**

Some of the non-functional requirements we are going to have are that really we don’t ever want our system to go down, especially here in the main branch. The only time we want it to go down is if it is us for maintenance and upgrading. Our branches rely on us to get their work done. Which these will also cross over to some of the functional requirements and making sure our system is set to high standards and made sure to last. We want our network and system to maintain stability for as long as it is needed.

## ***Usability Requirements***

Our users are going to have very little or no prior computer knowledge so making the network and front end of the database as user friendly is needed. The wifi should also be named something specific to the company so both employees and customers do not get confused as to which one to connect to.

## ***Operational Requirements***

The router in each child location should be in a place that is out of the way for every day work but easily accessed by IT personnel if needed. The servers in the corporate office should also be out of the way of normal day to day activities of non-IT personnel.

## ***Performance Requirements***

The database should be backed up on a daily basis to prevent loss of customer data. The database should also be large enough to accommodate a large number of customers and room for more if needed. Access/changes to the database should also be instantaneous to allow multiple users to manipulate it at the same time.

## ***Security Requirements***

Customers should only be allowed access to generic websites and search engines through Wi-Fi. The employees should be allowed access to the same websites with some extra ones that would aid in company services. Company emails need to be kept secure and a firewall installed to help prevent any attacks on the computer systems.

## ***Safety Requirements***

The server room at the corporate level should only allow access to people that are authorized to access it to prevent any tampering with the server data. Electrical outlets should be kept away from any place that could get water on them to prevent electrical fires.

## ***Legal Requirements***

Within our company, certain people are going to need certain access to certain documents so we need to make sure that not everybody has access to every single thing. It would be best practice to set permissions. For example, HR should be the only people to know people's personal information, and people that write the checks should be the only ones that know peoples banking information.

## ***Other Quality Attributes***

WiFi will be made available for anyone who walks into any branch of our company. This not only will be used for business purposes but also as a tool for customers should they need to check something with their personal banking account or any other personal reason they may need

## ***Documentation and Training***

Within the company, when new employees need training for work we can use a system such as Convergence Training where we can assign people training that need to be done. Depending on what people do the training will be different and will be distributed to them by the HR who receive documentation when training is completed.

## ***External Interface***

External interfaces may be user interfaces or software interfaces.

### **User Interface**

The front end for the database will be coded using the .NET framework. The interface convey a professional attitude as it will be strictly used for looking up, adding, and removing customer information. It will also be a fairly easy system to learn as our target consumer will most likely not have very much advanced computer knowledge. We estimate that any person that has worked with a computer using the Windows operating system should be able to figure out most of the components within seconds of coming into contact with it

### **Software Interface**

The database will be coded using MySQL and the front end will be coded using the .NET framework.

# **System Features**

The system will respond to the user quickly and edit the database behind the user interface within seconds of the user inputting new or updated customer information. (priority #1)

Secure email for all employees will be provided. this will help prevent any spam, viruses, or any other potential intrusions into our system

(Priority #2)

Data backup is needed in the chance our database goes down or gets corrupted by any means. having a backup will aid in a quick and efficient recovery of most customer information

(Priority #3)

Secure WiFi will be provided to any and all persons who come into any of our branches. (Priority #4)

## ***Feature:*** Security Groups

With a company that will have a database with private information we want to make sure that information is protected we need to make sure our employees have the right access for viewing the correct information. We can do this by creating Security Groups within our Active Directory where we will be able to find all the employees based on locations and give those employees the correct groups depending on if they need access or not.

Cost: Low

Risk: Low

Value: High

### **Description and Priority**

Basically the next one is something the company could use to just really make things easier and add another protection for their account. While virus and data backups are neccessary to help keep the company safe in case of situations that might arise.

Cost: medium

Risk: low

Value: high

### Use Case**:** Multi-Factor Authentication

This is a feature that is going to come in handy and everyone should use whether or not you work for a company that has it or not. This is going to allow the users to keep their stuff safe and make sure that when they are logging on outside of work that it is prompting them to authenticate and make sure that they are the ones signing in and not someone else. This will help keep their information and the customers information safe.

Cost: Medium

Risk: Medium

Value: High

### **Additional Requirements**

Include in this section additional functional and non-functional requirements not specified in the use case(s) above.

## ***Feature:*** Virus Protection

### **Description and Priority**

The company is going to need to make sure that the employees emails are protected, we don’t need private information getting out of our company. Virus protection is a must have no matter what type of company you work for. People like to get information and do who knows what with it.

Cost: High

Risk: High

Value: High

## 4.3 Feature: Available WiFi

### 4.3.1 Description and Priority

Wifi for customers and employees is going to be made available for both personal and business related means

Cost: Medium

Risk: Low

Value: Medium

### 4.4 *Feature: Data Backup*

**4.4.1 Description and Priority**

Data backup is a must when you are dealing with a database in case something wrong happens you want to be able to revert and go back to a point where you can recover and not lose any important information.

Cost: Medium

Risk: High

Value: High

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