Software Project Management Plan
For
Team 18

March 1, 2020
Version 1

Prepared by:
Steven Hoang, Erik Rairden, Kyle Davis

Table of Contents

REVISION HISTORY 3

1 INTRODUCTION 4

1.1 Overview 4
1.2 Goals and Objectives 4
1.3 Scope 4
1.4 Definitions 5
1.5 Assumptions 5

2 GENERAL DESIGN CONSTRAINTS 5

2.1 Product Environment 5
2.2 User Characteristics 6
2.3 Mandated Constraints 6

3 NONFUNCTIONAL REQUIREMENTS 6

3.1 Operational Requirements 6
3.2 Performance Requirements 6
3.3 Security Requirements 6
3.4 Documentation and Training 7
3.5 User Interface 7

4 Functional Requirements 7

4.1 Feature: Web Traffic Filter 7
4.1.1 Description, Priority, Use Case 7
4.2 Feature: Email System 7
4.2.1 Description, Priority, Use Case 7
4.3 Feature: Virus Detection 8
4.3.1 Description, Priority, Use Case 8
4.4 Feature: MYSQL Database 8
4.4.1 Description, Priority, Use Case 8
4.5 Feature: Database backup 9
4.5.1 Description, Priority, Use Case 9

Revision History

Version	Date	Name	Description
1	3/1/2020	Steven Hoang, Erik Rairden, Kyle Davis	Initial Documentation

1 Introduction

1.1 Overview

Monstrocity Inc, a real estate company has requested for the setup of a networking framework. The framework should encompass 5 satellite offices and 1 corporate location. Each location needs a secure network for employees to access company resources. The network should be able to perform web traffic filtering for both customers and employees.

This document provides information on the requirements for the setup of the secure networking framework. Project goals, scope and definitions are provided in this section. The design constraints and application environment are stated in the next sections. Non-functional requirements are in the third section. The functional requirements are demonstrated to show the network's features and expected outcomes.

The project constraints will be in separate documentation. The Software Project Management Plan will dive deeper into budgeting and scheduling. Testing and procedures will be in its own separate document as well.

1.2 Goals and Objectives

The overall goal is to create a secure networking system. The 4 main goals that must be accomplished is:

1. Setup a network that supports 5 offices and 1 corporate location.
2. Setup secure email with spam and virus detection system.
3. Easily configurable web traffic filtering firewall for clients and employees.
4. Create a Database using MYSQL to spec out and build products.

1.3 Scope

The networking framework should be able to support all 5 offices and the corporate locations. There should be no problem for the agents from each location to accomplish their given task using the provided software and tools. Each agent should be able to keep track of all their listing throughout the year. The software and tools are not part of the networking framework. Instead they are purchased from different software companies.

1.4 Definitions

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.

Scenarios – The many paths that can be taken through a user case

Functional Requirements – The main functions that the framework should achieve.

Constraints – The restrictions that are applied to the framework

1.5 Assumptions

Cloud hosting via AWS or Azure will allow for employees to take advantage of the resources away from the office. Networking Framework via untangle will be easily configured.

2 General Design Constraints

2.1 Product Environment

This network system will serve as a means to transmit Monstrosity Inc's day-to-day business communication services and data. The network will have built-in web filtering features. This will allow different privileges between the networks clients and employees respectively. The system will also work in conjunction with a secure firewall. The network will pull existing company data from a relational database system.The database backups will be conducted via AWS interface. The network will also include intrusion and virus detection components.

The real estate office needs possibly a few database products. One simple database (not necessarily an application) to keep track of all the employees contact information, hire date, termination date, etc. And another database product that allows salesperson clients (buyers/sellers) to interact with an existing API called IDX and search the MLS for homes.

2.2 User Characteristics

Real Estate Users: Any employees of the real estate company that owns desktops or laptops. Employees are alway recording data on paper, having a computer to do the job will be easier and more proficient.

Users also include walk-in customers, and clients.

2.3 Mandated Constraints

The whole office is required to run on Windows 10, and the database product(s) requires MySQL.

3 Nonfunctional Requirements

Any system intrusion attempts shall be data logged, kept and stored within a seperate database pertaining to security. The system shall be portable between the companies varying locations, clients and employees alike shall have ease of access of the network. The system and its database must remain accessible 95% of the time.

3.1 Operational Requirements

Scalability: The network framework must be able to support multiple offices and locations.

Usability: 98% of employees should be able to navigate and utilize the desktop workspace.

The software firewall needs to be easily configured.

3.2 Performance Requirements

Return on queries should take no longer than 2 seconds. Having more than 40 concurrent users running queries should not take more than 8 seconds. The system should be able to

manage Monstrosity's 5 branches concerning its clients and employee's network traffic. The system must be able to handle basic network concurrency.

3.3 Security Requirements

The offices should have a firewall uptime of 99.999999%.

100% of emails on incoming servers are filtered and scanned for viruses.
A minimum of two different types of web filtering will be provided over the network allowing for both client and employee privileges.

3.4 Documentation and Training

The project overall will contain various contentions of documentation processes. System documentation including user documentation. The system shall contain elements such as tutorials, troubleshooting manuals, installation process, reference manuals, and user guides.

3.5 User Interface

Most of the User interface will be based off of existing products. No custom UI will be implemented.

4. Functional Requirements

4.1 Feature: Web Traffic Filter

4.1.1 Description, Priority, Use Case

- A web traffic filtering system must be implemented for employees and customers.

  Priority: low

  Use case: Block a website
  Actor: System admin
  Description: The system admin accesses our firewall configuration page. He/she will be able to add/remove websites the real estate office wants to allow access or block.

4.2 Feature: Email System

4.2.1 Description, Priority, Use Case

- An email system must be implemented. Either purchase an existing service, or create our own email system (expensive).

  Priority: High

  Use case: Filter an email
  Actor: System admin
  Description: The use case begins when the admin enters the email configuration. They will be able to decide which types of email/spam will come in the inbox servers. If the email is clean it will be sent through. Otherwise, it will be deleted.

4.3 Feature: Virus Detection

4.3.1 Description, Priority, Use Case

- The office should have a firewall with virus detection. If a user tries to download a virus, or visit a bad website the virus detection will protect the network.

  Priority: High

  Use case: Detecting viruses
  Actor: Firewall
  Description: The use case begins when a virus gets sent to the firewall. As a packet gets sent to the firewall, it will decide whether it is safe to let through or block. If the firewall senses malicious content it will be blocked and not allowed through. Otherwise, it will let the packet in.

4.4 Feature: MYSQL Database

4.4.1 Description, Priority, Use Case

- A Database must be created using MYSQL to spec out and build products.

  Priority: Medium

  Use case: Storing data in the database
  Actor: Real Estate Employees
  Description: The use case begins when the employee decides to store data in the database. When the real estate agent decides to store information in the database, they will need to run MYSQL in order to input the data. If the data follows the correct syntax, it will be implemented and placed into the tables in the database.

Otherwise, the agent will get an error and be asked to fix the error before completion of the data storing.

4.5 Feature: Database backup

4.5.1 Description, Priority, Use Case

- Implement a backup system to backup the database.

  Priority: Medium

  Use case: Backing up the database
  Actor: Backing up program
  Description: The use case begins when the backup system runs its course. If the specified time is reached, then the programs will start backing up the database. Otherwise the program will continue idling in the background until the given time has been reached.