Software Project Management Plan

BIT: Real Estate

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Document Control

Change History

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Steven Hoang, Kyle Davis, and Erik Rairden are responsible for developing and maintaining this document.

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1 Overview

1.1 Purpose and Scope

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.

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.

1.2 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 Project Deliverables

The following items will be delivered to the customer on or before 04/3/2020:

1. Networking infrastructure for all client offices and corporate locations.
2. Web filtering firewall for both employees and customers
3. User's Guide
4. System Administrators Manual
5. Test Plan
6. System test Cases

1.4 Assumptions and Constraints

Assumptions:

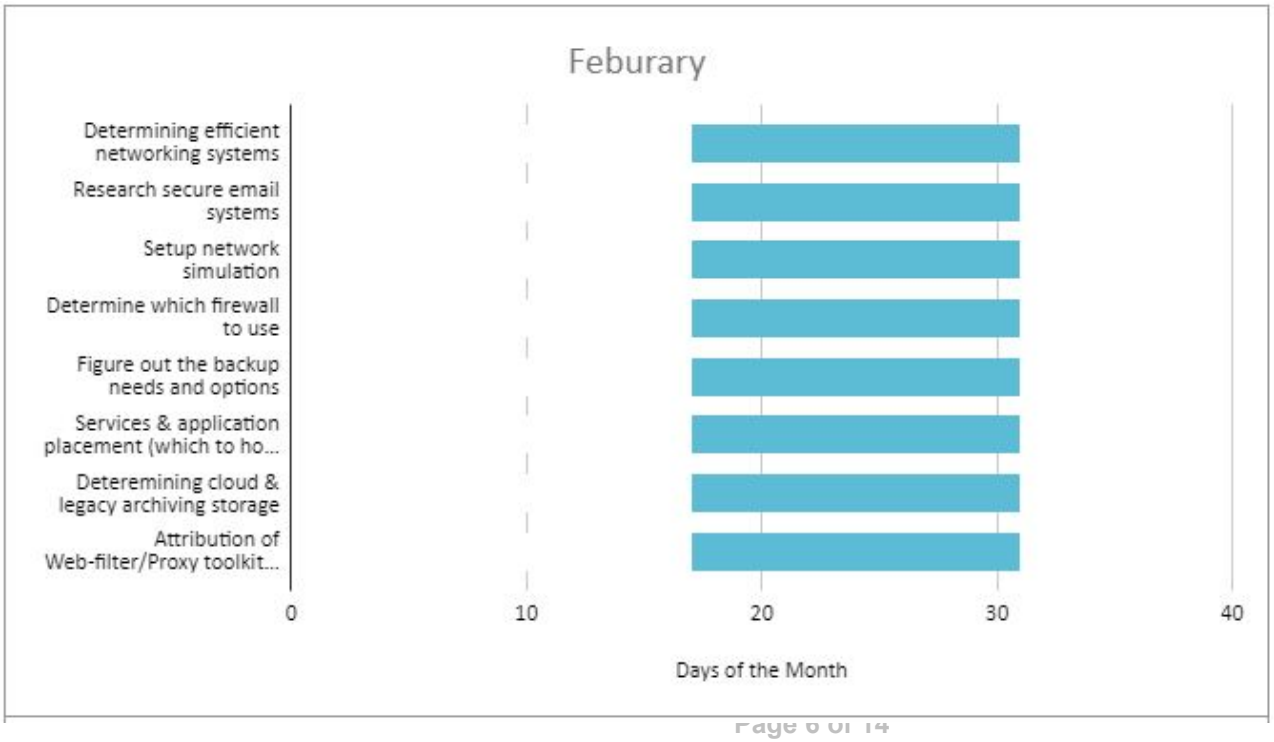
1. Cloud hosting via AWS or Azure will allow for employees to take advantage of the resources away from the office.
2. Networking Framework via untangle will be easily configured.
3. Employees will be able to navigate Windows 10 operating system.
4. Employees kept paper records of transactions, to be placed into the database.

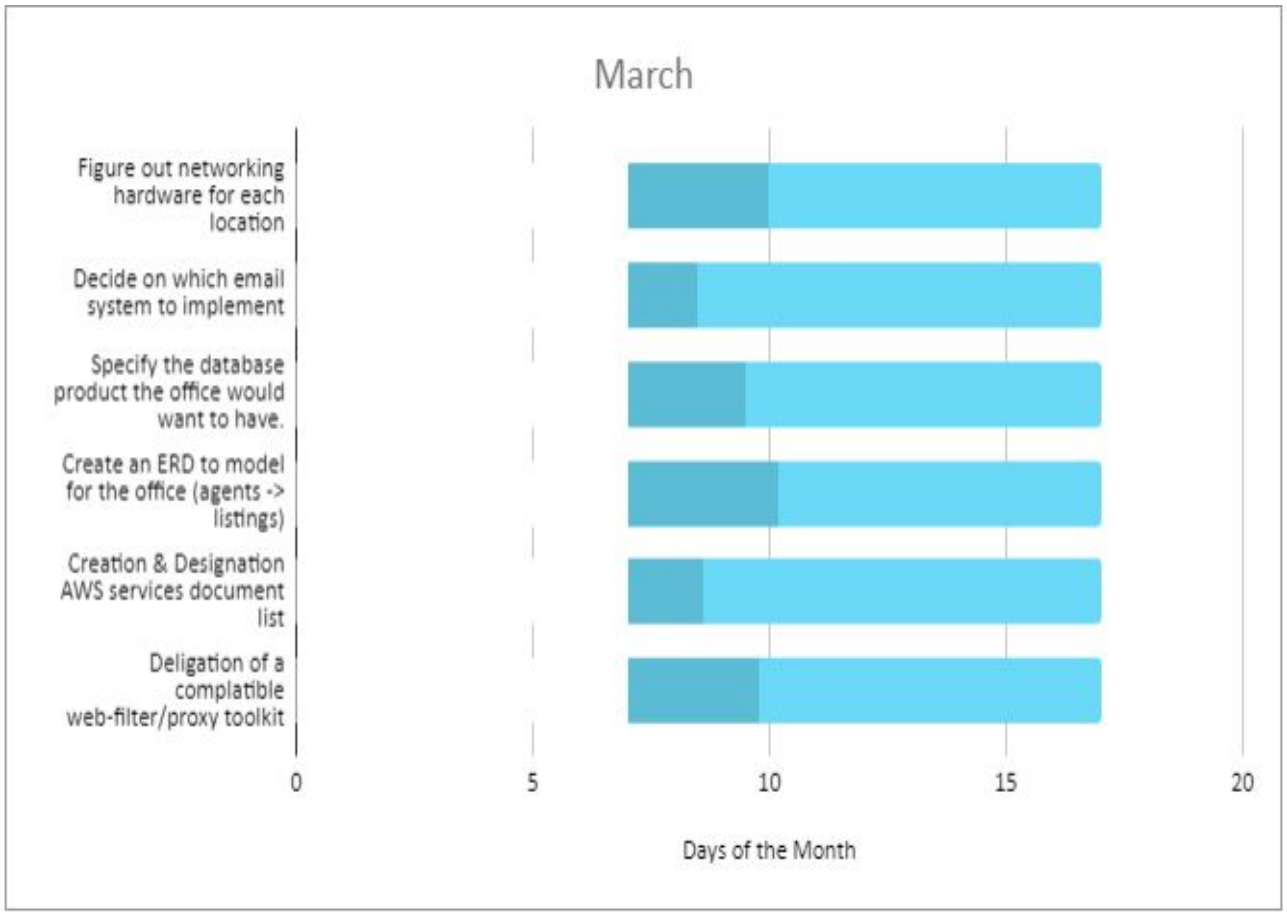
Constraints:

1. The whole office is required to run on Windows 10.
2. The database product(s) requires MySQL.

1.5 Schedule and Budget Summary

	TASK NAME	START DATE	DAY OF MONTH*	END DATE	DURATION* (WORK DAYS)	DAYS COMPLETE*	DAYS REMAINING*	TEAM MEMBER	PERCENT COMPLETE
First Iteration									
	Determining efficient networking systems	2/17	17	3/1	14	14	0	Steven	100%
	Research secure email systems	2/17	17	3/1	14	14	0	Steven	100%
	Setup network simulation	2/17	17	3/1	14	14	0	Steven	100%
	Determine which firewall to use	2/17	17	3/1	14	14	0	Erik	100%
	Figure out the backup needs and options	2/17	17	3/1	14	14	0	Erik	100%
	Services & application placement (which to host on cloud)	2/17	17	3/1	14	14	0	Kyle	100%
	Deteremining cloud & legacy archiving storage	2/17	17	3/1	14	14	0	Kyle	100%
	Attribution of Web-filter/Proxy toolkit based on user-rights	2/17	17	3/1	14	14	0	Kyle	100%
Second Iteration									
	Figure out networking hardware for each location	3/7	7	3/16	10	3	7	Steven	30%
	Decide on which email system to implement	3/7	7	3/16	10	1.5	9	Steven	15%
	Specify the database product the office would want to have.	3/7	7	3/16	10	2.5	8	Erik	25%
	Create an ERD to model for the office (agents -> listings)	3/7	7	3/16	10	3.2	7	Erik	32%
	Creation & Designation AWS services document list	3/7	7	3/16	10	1.6	8	Kyle	16%
	Deligation of a complatible web-filter/proxy toolkit	3/7	7	3/16	10	2.8	7	Kyle	28%





Budget List:

1. Hardware (routers/switches) - $1000
2. Google Fiber - $70 per month
3. Untangle Software - $25 per month
4. Email Server - $100 per month
5. ERD - $1
6. Contract out software developers to make the database product - $20,000
7. Storage of data on AWS - $200 per month

1.6 Success Criteria

The success of this project depends on:

1. Total Project cost does not exceed 30% of the project budget estimates.
2. All high priority tasks are done by the project deliverable date.
3. All offices and corporate locations are operational under the new network infrastructure.
4. Successful implementations of a firewall.
5. Have a separate web filtering for both employees vs customers.
6. Email system is secure with spam and virus filtering.

1.7 Definitions

Product – Software/Hardware implementations for the client.
Project – activities that will lead to the production of the product.
Functional Requirements – The main functions that the framework should achieve.
Constraints – The restrictions that are applied to the framework.
AWS - Amazon Web Service, an on-demand cloud service provided by Amazon.

1.8 Evolution of the Project Plan

At the start of each iteration, the project plan will be updated. Any new tasks will be explained in detail along with an updated Gantt chart. At the conclusion of an iteration, the project plan will be updated to include the actual effort for each completed task.

2 Startup Plan

2.1 Team Organization

Project Manager:	The project manager is responsible for creating the project plan (with input from those doing the work), managing risks, running the weekly team meeting and providing monthly status reports to senior management.
Developers (3):	Developers are primarily responsible for implementation and unit testing. They are also expected to take part in architecture planning and review meetings.
Build Coordinator:	The build coordinator is responsible for setting up, running and distributing the results of the build.

2.2 Project Communications

Communication	Frequency	Goal	Owner	Audience
Discord				
Project status report	Weekly	Review project status and discuss potential issues or delays	Project manager	Project Team
Meetings				
Team standup	Weekly	Discuss what each team member did the last week, the current week, and any plans for the future.	Project manager	Project team
Project review	At milestones	Present project deliverables, gather feedback, and discuss next steps	Project manager	Project team + project sponsor

2.3 Technical Process

1. Project Planning
2. Requirements
3. Analysis
4. Design
5. Implementation
6. Testing
7. Deployment

2.4 Tools

This section specifies the development tools the team will be using to perform their work.

A network team could demo a network by using GNS3 or PacketTracer to test if everything is working---a simulation.

An experienced network engineer could install and configure a network perhaps without using either GNS3 or Cisco PacketTracer tools.

3 Work Plan

3.1 Activities and Tasks

1. Main task: **A working network**
    a. subtask #1: prototype a network with Cisco PacketTracer
        i. Owner: Steven Hoang
        ii. Effort est: 20 hours
        iii. Start date: 3/9/20
        iv. End date: 3/19/20
        v.
    b. subtask #2:

2. Main task: **Firewall configured to needs**
    a. subtask #1: Setup Untangle for two types of web-filtering
        i. Owner: Erik Rairden
        ii. Effort Est: 10 hours
        iii. Start date: 3/9/20
        iv. End date: 3/13/20
        v. dependency: The core network (#1a) has to be 100% configured first
    b. subtask #2: Try out / enable Untangle's free antivirus
        i. Owner: Erik Rairden
        ii. Effort Est: 5 hours
        iii. Start date: 3/9/20
        iv. End date: 3/13/20
        v. dependency: The core network (#1a) has to be 100% configured first

3. Main task: **Working email system**
    a. subtask #1: Test email storage server
        i. Owner: Steven Hoang

   ii. Effort Est: 4 hours
   iii. Start date: 4/1/20
   iv. End date: 4/6/20
b. subtask #2: Virus test on email server
   i. Owner: Steven Hoang
   ii. Effort Est: 3 hours
   iii. Start date: 4/1/20
   iv. End date: 4/6/20

4. Main task: **Working database product**
   a. subtask #1: Create an ERD model the office desires (completed)
      i. Owner: Erik Rairden
      ii. Effort Est: 5 hours
      iii. Actual: 2 hours
      iv. Start date: 3/8/20
      v. End date: 3/8/20
   b. subtask #2: Make a contract with a developer team to build product
      i. Owner: Erik Rairden
      ii. Effort Est: 20 hours
      iii. Start date: 3/9/20
      iv. End date: 3/13/20
      v. dependency: An ERD (#4b) has to be completed first.
5. Main task: **Backup data**
   a. subtask #1: Assign proper AWS services for backup data
      i. Owner: Kyle Davis
      ii. Effort est: 3 hours
      iii. Start date: 4/15/20
      iv. End date: 5/1/20
      v. dependency: email (#3a, 3b) and the database product (#4a, 4b)
   b. subtask #2: Configuration of automatic data backups/file logging
      i. Owner: Kyle Davis
      ii. Effort est: 4 hours
      iii. Start date: 4/16/20
      iv. End date: 5/10/20
      v. dependency: email (#3a, 3b) and the database product (#4a, 4b)

3.2 Release Plan

1. Working network 3/21/20
2. Firewall configured to needs 3/28/20
3. Working email system 4/1/20
4. Working database product 4/30/20
5. Working backups 5/7/20

3.3 Iteration Plans

Iteration 1	Iteration 2	Iteration 3
Analysis	Design	Design
Design	Testing	Testing
Testing	Implementation	Implementation
Implementation	Review	Review
Review	Start of Iteration 3	Deployment
Start of Iteration 2		Maintenance

3.4 Budget

Total Projected cost estimates are as follows:

Hardware (routers, switches, cables, servers)	$2,500
Software (Untangle, Wingate, AWS, Office 365)	$6,000
Contract expenditures (internal/external staffing)	$20,000

The project budget includes various costs for Monstrosity's networking applications. Budget cost above covers a minimum cost for network implementation and business solutions.

4 Control Plan

4.1 Monitoring and Control

Weekly – Project Status Report. Review project status and discuss potential issues or delays

Weekly - Team Standup. Discuss what each team member did last week, the current week, and any plans for the future.

At Milestone - Project Review. Present project deliverables, gather feedback, and discuss next steps

4/1/2020 – Critical Design Review. Formal inspection of product architecture.

5/8/2020 – Executive Review. The project manager presents current project status to project sponsor and senior executives.

5 Supporting Process Plans

5.1 Risk Management Plan

Technical	Status
Failure of correct network architecture implementation	N/A
Cannot meet system responses	N/A
Cannot provide accurate backups/logs	N/A
Failure to assign proper virus protection	N/A
Unable to provide intrusion detection solutions	N/A
Managerial	
Inability to suitably manage the overall project	N/A
Inability to staff key positions	N/A
Inadequate communication among team members	N/A
Budget or schedule constraints	N/A
● Design not scalable	N/A
● Unavailable test facilities or resources	N/A

Risk	Probability	Size of Loss (1-10)	Risk Exposure
Failure of correct network architecture implementation	60%	8	4.8
Cannot provide accurate backups/logs	10%	6	0.6
Unable to provide intrusion detection solutions	10%	5	0.5
Failure to assign proper virus protection	10%	3	0.3
Cannot meet system responses	10%	2	0.2

Considering the risks involved, the highest priority risk will have probability minimized. The purpose is to protect confidentiality, integrity, and available real estate network information. The IT contingency plan should address the following three types of disruptions:

- Technological equipment/systems failure
- Reduced or inadequate workforce
- Closure of physical facility

Contingency Planning will be document sourced and rely heavily on priority based system. Associations of status, alternate arrangements, action plan, and target date shall all be provided and updated throughout the lifetime of the project.

5.2 Configuration Management Plan

1. All products will be stored in the database. Using MYSQL we will store everything product related-wise there.
2. The naming convention for documents will be: Group 18 - XXX.suffix where XXX is the project document. For example, the second version of the requirements document created as a google doc might be labeled: Group 18 - Requirements Plan.DOCX.
3. All project (work products) items (documents, test cases, program data, test data, etc) will be stored in the GitHub repository. Not all change control will be in Github however. That can be found in the version history of Google docs or Google spreadsheets.
4. A change history with all documents is encouraged but only required for baselined documents. The change history should be at the front of the work item and include: (1) the name of the person making the change, (2) brief description of what has changed, (3) reason for the change, and (4) the date the change was integrated.