**Customizable   
Inventory Management System**

**Project Proposal Case**

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**Project Preparation 304**

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# Project Description

The Möbius Foundations proposed project is a customizable inventory management software.   
Our project consists of employing security, network, hardware, and server service. This project will satisfy our customers business need, and strategically align our businesses together.

# Project Need

The customizable inventory management system will address the following problems

1. disorganized storage, handling, and indecipherable documentation.
2. documentation of timesheets is illegible.
3. receipts, and point of sales bakery and catering order are handled through paper documentation, which are all disorganized, and improper documentation of the sales
4. lack of online presence, which the owner has expressed their desire to expand into.
5. inventory tracking of perishable products, and purchases of inventory is disorganization and relies heavily on manual, paper documentation.
6. all monetary sales are done by paper, and documentation maybe inaccurate
7. Verbally informing the owner of low inventory products needed for ordering

It will take care of the business need of the owner, optimizing the entire business structure and process and making all the process efficient, and cost effective.

# Project Components Checklist

## Security

* + - * + Firewalls (Soft/Hard) / Malware Prevention

Install pfSense and place the Windows Server 2016, Centos 7 Web Server, and Linux member server, on the zone.

Install Firewalld on the Linux machine, ensure Windows defender is up and running

Installing, running, and maintaining Snort.

Configure firewall, and iptables for Linux, ensure to disable SSH

disable IPv6 since services is not used

disable inbound traffic on ports not used

use different ports for services rather than default ports

backup using RAID, or extra harddrive.

* + - * + Encryption

Encrypting customer database mySQL using certificates

Encrypting Apache Web Server using SSL, free signed certificate.

* + - * + OS Hardening / Permissions

Windows Server 2016 and Linux (Policies)

PowerShell execution policy level set to restricted level

Check for daily Windows policy

Ensure proper time zone and time sync on NTP (Network Time Protocol) server for logging.

Enable automatic notification on patch availability

Remove user rights part of OS rights

Restrict local logon access only to administrator

Deny guest account logon, batch jobs, locally or RDP

Remove user rights to login with Microsoft Account

Disable guest login

Disable anonymous enumeration of SAM accounts, and shares

Disable everyone permissions to apply to anonymous users

Active Directory Domain member, digitally encrypt or sign secure channel data

Configure account logon audit policy

configure logon/logoff audit

configure privilege use audit

configure policy change audit

configure event logging

Server and service network segmentation

Limit administrative access to system

SSL/TLS secure mail server

SSI for web server.

Change password strength

Team will make a security audit report

## Networking

* + - * + VLAN Trunking, separate Windows server, separate web server
        + port forwarding web server port to different port 4500
        + Virtualize Domain Controller, and member servers

## Hardware and Budget

|  |  |  |
| --- | --- | --- |
| **Hardware** | **Price (with Taxes)** | **Power Usage (W)** |
| HP ProLiant DL 385 G7   * Intel Xeon E5649 (2.53 GHz/6-Core/12MB) * 32 GB RAM DDR3 * Gigabit NIC * Power Supplies | $ 413.71 [1] | 80 W [2] |
| HP 146GB 2.5 SFF 3G SAS Hard Drive for HP ProLiant 385 G7 Server | $ 201.6 [2] |  |
| Raspberry Pi 3 B | $ 108.14 [3] | Idle: (1.4 W)  400% CPU Load (3.7 W) [5] |
| Raspberry Pi Camera | $ 17.84 [3] |  |
| Monitor 22” | $ 89.24 [5] | 0.3 W [8] |
| Mouse | $ 9.55 [6] |  |
| Keyboard | $ 13.61 [7] |  |
| Total | $ 853.72 | 84 W |
| Reasons: (Please place something here) | | |

## Software

* + - * + Integrated system administration system for Snort, security, network, system and performance logging and monitoring.
        + Automatic employee timesheet logging, and analysis
        + Automated website order purchase alert
        + Automated website customer review/compliant submission
        + Automated mass mail advertisement
        + Automated daily instore orders report
        + Automated alert system for perishable food when it will expire
        + Automate low inventory alert required for baking
        + Website for catering menu, review/feedback/information
        + Scan wholesale producer paper order documentation in an online database
        + Virtualization of servers and service

## Server Services

* + - * + Active Directory Domain Services
        + Active Directory Lightweight Directory Services for user logins website
        + DHCP Server Services
        + DNS Server Services
        + Print and Document Services
        + Apache Server httpd Services
        + Linux Mail Server Services
        + Firewalld Server Services
        + File and Storage Services

# Responsibilities

|  |  |
| --- | --- |
| **Team Member Names:** | **Work Descriptions** |
| Alina Larcencova | * + - * + Hardware setup         + Installation of server services:   Active Directory Domain Services  Active Directory Lightweight Directory Services for user logins website  DHCP Server Services  DNS Server Services  Print and Document Services  Apache Server httpd Services  Linux Mail Server Services  Firewalld Server Services  File and Storage Services   * + - * + Encryption   Encrypting customer database mySQL using certificates  Encrypting Apache Web Server using SSL, free signed certificate. |
| Daniel Tcherepanov | * + - * + Scan wholesale producer paper order documentation in an online database         + OS Hardening / Permissions   Windows Server 2016 and Linux (Policies)  PowerShell execution policy level set to restricted level  Check for daily Windows policy  Ensure proper time zone and time sync on NTP (Network Time Protocol) server for logging.  Enable automatic notification on patch availability  Remove user rights part of OS rights  Restrict local logon access only to administrator  Deny guest account logon, batch jobs, locally or RDP  Remove user rights to login with Microsoft Account  Disable guest login  Disable anonymous enumeration of SAM accounts, and shares  Disable everyone permissions to apply to anonymous users  Active Directory Domain member, digitally encrypt or sign secure channel data  Configure account logon audit policy  configure logon/logoff audit  configure privilege use audit  configure policy change audit  configure event logging  Server and service network segmentation  Limit administrative access to system  SSL/TLS secure mail server  SSI for web server.  Change password strength   * + - * + Firewalls (Soft/Hard) / Malware Prevention   Install pfSense and place the Centos 7 Web Server, and Linux member server, on the zone.  Install Firewalld on the Linux machine, ensure Windows defender is up and running  Installing, running, and maintaining Snort.  Configure firewall, and iptables for Linux, ensure to disable SSH  disable IPv6 since services is not used  disable inbound traffic on ports not used  use different ports for services rather than default ports  backup using RAID, or extra harddrive. |
| Mark Tan | * + - * + Integrated system administration system for Snort, security, network, system and performance logging and monitoring.         + Automatic employee timesheet logging, and analysis         + Website for catering menu, review/feedback/information         + Active Directory Lightweight Directory Services for user logins website         + Scan wholesale producer paper order documentation in an online database |
| Sean Dow | * + - * + Automated mass mail advertisement         + Automated daily instore orders         + Automated alert system for perishable food when it will expire         + Automate low inventory alert required for baking         + VLAN Trunking, separate Windows server, separate web server         + port forwarding web server port to different port 4500 |

# Deliverables

Out proposed project will be a deliverable customizable inventory management system. In particular it will have a hardware component HP ProLiant DL385 G7, and Raspberry Pi with a camera attached.

# Works Cited

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