

Chapter I

INTRODUCTION

Email is an instant form of communication and it's hard to imagine a workplace that does not rely on email for internal and external communications (Root III, 2019). It has become the most widely used instructional technology and it is being used primarily for course task-related purposes (Jones, 2002). Today, it is hard to believe an institution that's still not using email. Email creates a paper trail to help both parties remember the content of a discussion and allows a uniform message to be sent to a large group. In addition, e-mails can be sent in real time, right when a problem or solution to a problem arises (Bushweller, 2005).

Lately, the MSU Main Campus employees under the unit of Academic, Semi-Academic, and Administrative Offices rely mostly on online social networking sites as means of communication. They disseminate announcement of meetings, seminars, orientations, memorandums, and other important information through social networking sites like Facebook. It is true that Facebook lets you connect to different people from anywhere, and people everywhere these days are familiar with Facebook, but no matter how helpful it is, it's not ethical to use in professional or in a corporate environment as form of communication. There are many fake profiles and ID's, it is easier to create fake profiles using stolen pictures. Anyone can also stalk and get any personal information. Many people have lost their username because their accounts were falsely reported. Not only students, but also people working in offices can waste time on Facebook. That's why many offices have decided to block the site from their networks. Facebook cannot be trusted for sending confidential messages.

MSU tried implementing an email system before but it didn't progress because of unstable internet connection. That email system is dependent on internet connectivity and due to Marawi's unstable internet connection it didn't work out. And another reason is the lack of Active Directory system, which results in inefficient of sending emails with numerous recipient. So the employees of MSU remain using Facebook for communication until now.

The Local Email System with Active Directory aims to solve those problems. This system uses the existing local area network (LAN) of MSU to handle email transmission and reception. It

allows users to access their emails without the need for an Internet connection on their computers. It will enable users to access from their computers even when they aren't online and it allows users to read, archive and compose new email even when you don't have an internet connection. With the use of Active Directory, it will not require the user to enter individual email when sending to numerous recipient. With an email group recipient, everyone can receive automatically. Sending group recipient has become the norm for many businesses, as a faster and more effective way to communicate with a lot of person. Creating an email distribution group is possible with active directory.

This project also pays attention to performance evaluation of the mail systems that rely on Internet Standard Protocols SMTP, POP3, and IMAP4. Performance and reliability of mail services are equally important requirements for the system to work properly. Mail servers have to meet user demands and guarantee a good quality of service by designing and delivering mail systems characterized by high availability and good performance.

1.1 Project Context

This capstone project entitled “Performance Evaluation of Local Email System with Active Directory for Academic, Semi-Academic, and Administrative Offices of Mindanao State University Main Campus” is a project that will provide a reliable communication system for the University. This project was started last July, 2019 and is expected to be finished until the end of December, 2020.

This project intend to make the unit of academic, semi-academic, and administrative university tasks more reliable and efficient. It will provide basic email package that includes mail management and an active directory for all the offices of MSU Marawi. The proponent also ensures the quality of the local email system by performing a standard evaluation performance to the developed email system. Through this project it will allow employees to communicate more effectively, maximize their day-to-day productivity through local area network (LAN), even without internet access.

1.2 Purpose and Description

This capstone project entitled “Performance Evaluation of Local Email System with Active Directory for Academic, Semi-Academic, and Administrative Offices of Mindanao State University Main Campus” aims to develop a local email system for the Mindanao State University Main Campus’ Academic, Semi-Academic, and Administrative Offices and employees.

The purpose of this project is to provide local email system with active directory for MSU offices and employees that will result to reliable and efficient form of communication in the university. In order to ensure the quality of the local email system, this project will also perform a standard evaluation performance to the developed local email system.

1.3 Objectives

1.3.1 General Objective

This capstone project entitled “Performance Evaluation of Local Email System with Active Directory for Academic, Semi-Academic, and Administrative Offices of Mindanao State University Main Campus” aims to design and develop a Local Email System with Active Directory within the Mindanao State University Main Campus.

1.3.2 Specific Objectives

In order to achieve the general objective of this study, this project aims to:

- To study the university’s existing Local Area Network and Organizational Structure of its offices and employees.
- To configure a Local Email System Server in the university’s LAN.
- To design an Active Directory with the university’s offices and employees.
- To develop a Local Email System with Active Directory for the offices of Academic, Semi-Academic, and Administrative Units of MSU Main Campus.

- To perform standard evaluation performances for Local Email Systems using the Windows inbuilt tool Performance Monitoring.

1.4 Scope and Limitations

1.4.1 People

- The system will be managed by the MSU Information and Communications Technology Center – Information Systems Department.
- The system will only cater for MSU Main Campus Marawi City constituents, excluding the other 7 autonomous MSU-campuses.
- The system will cater for university offices and employees with essential need for email service excluding the university student.

1.4.2 Process

- The system will cater email services such as new email application/creation, updates, and deletions.
- The system will cater for active directory domain services such as accounts creations, updates and deletions.
- The system's evaluation performance will include the following monitoring system performance: Base Exchange Monitoring and Mailbox Role Monitoring.

1.4.3 Technology

- The system will use a Local Email Server with an Active Directory Domain Services and Microsoft Exchange Server.
- The system will use the existing Microsoft Outlook email application which is pre-installed in the widely used Windows OS for desktop.
- The system will use a Performance Monitor, by default it is pre-installed in any Windows OS. It is designed to measure a system's ability to act as a mail server. It will be used to monitor, test, and evaluate the system under heavy load conditions.

