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Java Based Intrinsic Multiple Mail Service Application Using Simple Mail Transfer Protocol and Post Office Protocol

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Abstract— Intrinsic Multiple Email Service Full MIME (Multi-Purpose Purpose Extension) is a pure Java implementation of the email application. Allows the user to access, manage and compose email using a web browser. It is POP3 (Post Office Protocol) and SMTP (Exchange Reverse Protocol). It is a multi-protocol web-protocol that contains various features. It is intended to fulfil the need for a stable, fully integrated messaging app in the Java world. This project describes the necessary analysis using a program called Intrinsic Multiple Mail Service that is designed to provide a flexibility to provide users flexibility, networking platforms built that are accessible by the browser.

Keywords— SMTP, POP, Java script, API, GUI

I. INTRODUCTION

The motivation of this paper is to create a Java based multiple mail service application using Simple Mail Transfer Protocol and Post office Protocol. In the project, it describes the analysis required to use a program called Intrinsic Multiple Mail Service that is designed to provide a flexibility to provide users flexibility, an enhanced communication environment available through the browser [1]. Advanced GUISs are listed next. The 'Administrative User Interface' focuses on the consistent data available, which is part of the organization's operations and which requires proper authentication for data collection. These areas help managers in all event regimes like data entry, data removal and date updates and great data search capabilities. The 'Functional or Graphical User Interface' assists the end users of the program in processing existing information and required services [2]. The user interface is also useful for ordinary users in managing their information in a customized manner. The Internet has become one of the most important structures of the daily lives. They provide a way to enter a large amount of data, and put what have into [3]. Most importantly, they have become the most important role to play in the twentieth century's largest e-commerce enterprise. Without the ability to develop the Internet for unlimited amounts of information in the hands, it is possible to buy products and services without leaving the house, Ecommerce means user can buy books, computers, cards, travel, cars and more at any time. Although the idea was initially encouraging, but they spread slowly due to public interest, keeping bank details and credit card data in an unknown location is a major risk [4]. Although these risks are limited, they are still there. This is a serious risk that the credit card fact is sent in an unencrypted manner, which means it can be stolen and use this information for fraud. Users have been developing various strategies to overcome this problem and Protect consumers, who are investing in the hearts of honest people and encouraging them to shop online. Most of the time this is attributed to the automation of incoming messages, in addition to anti-spam strategies [1]

- Electronic message sent from one system to another
- Email saves money and time compared to regular email
- An email message takes seconds to reach the destination
- It is also used to search for work or print a message in this program can be used on more than one server on the same system after changing the server name and the find and forwarding port will buy online

II.RELATED WORK

Email is the most popular way to communicate online. An app that allows users to send, receive, and read email is called an email client [5]. After all the threat of internet users and attempts to steal email and steal money and fraud came the need to protect email and look for security through the use of similarity. SSL security and check the actual user of this email for a digital certificate. Its validity and the existence of an electronic signature with the company provider and user details and the user can authenticate the server. Digital certification is performed through several authentication and authentication processes known as hand-shake [6]. When using the site security appears in the yellow key on the side of the page indicating that this site is using the SSL protocol. Email systems are based on customer server architecture and the message is sent from any customer to a central server [7]. This central server returns mail to its intended destination. The first "real" email was received by Ray Tomlinson of the network now operating at ARPANET, which in 1971

sent a message it received seconds later, to a computer that was placed next to the first. The first system of email clients was ever developed by the MSG [8]. Initially, the email was sent in an FTP (File Transport Protocol) format. MSG has also been one of the foundations in building an SMTP (Simple Mail Transfer Protocol)-set, which is now a common gateway to all or all of the messages passing through to reach their email clients [9]. Email has become the preferred tool for IT, academics and technology. Initially developed only based on the text as shown in Fig. 1. There are basically four types of postal customers. They are Linux and UNIX email clients, Mac email clients, Web-based email clients and Windows email clients [10]. The disadvantage of using webmail is that it should always be online time so users can see their emails. Windows email clients offer sharing social networks because they can be configured to use a population. Email clients can help people manage their messages quickly and are not bound to use their own computers.

A. Existing System

Current programs do not provide features that are compatible with most policies and implementations. The system does not provide all the features and processes it wants. Systems aiming for protocol and implementation. The Existing System does not work while maintaining all the relevant information and requires a lot of effort. Retrieving the required messages and making decisions is a slow and tedious process. Data incompatibility and data loss may be due to poor data handling.

B. Obstacles to Existing System

- Risk of overcrowding and excessive information
- Requires an effective information search strategy
- Search can be slow
- It is difficult to sort and prioritize information
- There is zero guarantee of getting what you want
- There are a lot of seemingly offline details
- The Net is highly rated due to the large number of users
- There is no regulation
- There is no quality control over the data available
- The ease with which such information is maintained may cause index problems.

III. METHODOLOGY

The proposed Intrinsic Mailing System is a highly efficient system and provides a complete set of features required for a standard mailing system. The system can be easily adapted to any environment. The system provides well-defined intervals that are easy to use and provide many services. The proposed system was developed using Java. The proposed Intrinsic Mailing Service contains benefits such as free information access, low cost of initial connection, lowered promotion costs, same communication agreement can be applied to all services, facilitates high speed data exchange, facilitates exchange of large amounts of data, restraints, facilitates access to different sources of information, always, Corporate information management, available anywhere and has become a global media issue [11].

A. Features of the Proposed Plan

- Active and friendly.
- Secure and durable.
- Easy retrieval of information.
- The user can apply for a visa at any time at any location.
- Provides more flexibility to the applicant compared to the existing program.

B. Module description

The various modules involved are as follows:

- Mailing Module
- Contact Module
- Calendar Module
- Notes Module

a. Mailing Module: This module stores all information about each user's mail in the organization. It provides features for composing email, viewing sent mail, and saving inbox. It also allows one to create and delete folders. Some features allow the user to save sender details and separate useless mail from others.

b. Contact Module: This module stores information about all contacts associated with all users. One can search for a contact in an address book using a quick search or alphabetical search area. It also provides a place to separate the contacts into separate groups. User can send or import contact list.

c. Calendar Section: This module eventually finds itself assisting users in keeping track of daily, weekly and monthly events. Allows the user to add new events with a new event link.

d. Notes Module: This module manages and stores notes related to notes. Allows the user to store information related to specific information in terms of this directory. It also allows users to split notes into separate folders.

C. System Installation Design

Input design is part of the overall system design. The input design consists of specific processes for data correction, step performance. Such steps are required to place the data in a usable form for processing and entering data. The main purpose during the design of the input is given below:

- Produce an inexpensive installation method.
- To achieve the highest level of accuracy.
- Ensures that the input is acceptable and understandable by the user.
- Controlling the required input values.

D. System Output Design

Computer output is the most important and direct source of information for the user. One of the essential elements of a user program is the result it produces. An efficient,

efficient output design should improve the system's relationship with the user. The biggest type of issue, reports is the hardcopy of their printer. The printer must be designed for the user's needs. Figure 1 shows the data flow of Intrinsic Mailing Service. The main considerations when deciding on media releases are:

- Suitability of the application for a specific application
- Need for hard copy
- Response time required
- Location of users

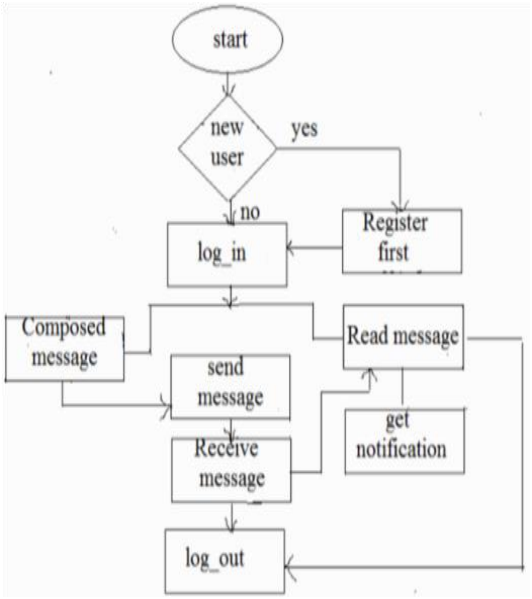

Figure 1. Dataflow diagram for Intrinsic Mailing Service

IV. PERFORMANCE EVALUATION

In this section, details of the use of the Intrinsic Mailing Service System are presented. In this work, have chosen Java as the leading language for the system modules. Java Developed by Sun Microsystems is a simple, object-oriented, translated, robust, secure, and architectural language that is neutral, portable, multilingual and programmable. The language originally designed to control consumer electronics is now widely used in designing web-based applications [11]. SNMP based communications can be easily done using Java. Java provides TCP / IP socket routes for such types of communication applications. However, there is a more effective way to develop an SNMP-based management system in Java. The Java class package dedicated to SNMP connections is freely available in many organizations. AdventNet is one of the companies offering SNMPv2c package written in Java [12]. It helps developers of network management applications by facilitating SNMP communication. The library takes care of all SNMP information underneath, so that program editors can focus on the implementation goal of administrative requests. The host and agent modules for the Internet / Intranet server management system are based on this SNMP package [13].

a. Hardware Configuration

- Processor : Pentium IV
- RAM : 2 GB
- ROM : 300 GB
- Mouse : Optical Mouse

b. Software Configuration

- Operating System : Windows 8
- Technology : Java
- Java Version : JDK 1.5
- Web Designing : HTML,CSS
- Database : SQL

c. Java Platform

The platform is a hardware or software operating system where the system works. In this paper it is already mentioned some of the most popular platforms like Windows 2000, Linux, Solaris, and Mac OS. Many platforms can be described as a combination of operating system and hardware. The Java platform is different from other platforms in that it is the only software platform that works on top of other hardware based platforms [12]. Java API is a large collection of ready-to-use software tools that provide many useful capabilities, such as graphical user interface (GUI) widgets. Java API is organized into libraries related to classes of assemblies; these libraries are known as packages. A native code is a code that after compiling it, the compiled code runs on a specific hardware platform. As a standalone platform, the Java platform can be a bit slower than traditional code [13]. However, smart compilers, well-tuned translators, and near-term compilers can enhance traditional code performance without threatening availability. Figure 2 show the screen shot.

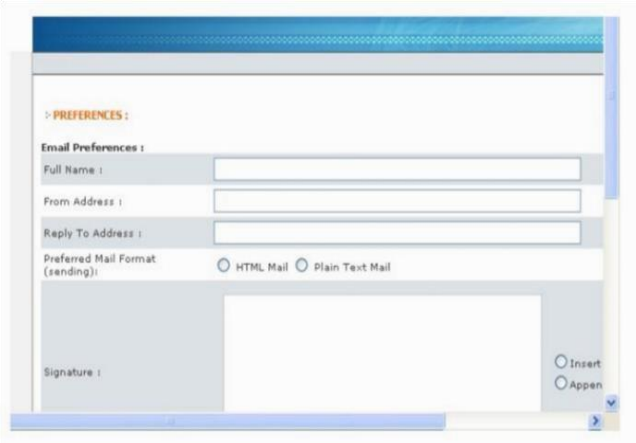

Figure 2. Intrinsic Mailing Service

V. RESULTS AND DISCUSSION

The proposed Intrinsic Mailing Service System is compared with other existing systems. The comparison is made on following performance metrics such as response time, latency, throughput and execution time. Java based Intrinsic Mailing Service system is improved on C++ and C based mailing systems.

a. Response Time

Response Time is the length of time taken for a person or system to react to given a result. Table 1 shows the response time of proposed system and existing systems. Figure 3 represents the graph view of the improvement of proposed methods. On seeing the graph it is clear that the proposed method works better of 93% over response time comparison.

Table 1. Response time comparison.

Number of Users	ResponseTime (sec)		
	Java	*C++*	*C*
25	0.76	3.21	3.98
50	1.45	4.72	4.81
100	2.41	4.86	4.92
150	2.89	4.99	5.34
200	3.63	5.23	5.72
250	3.52	5.62	5.92

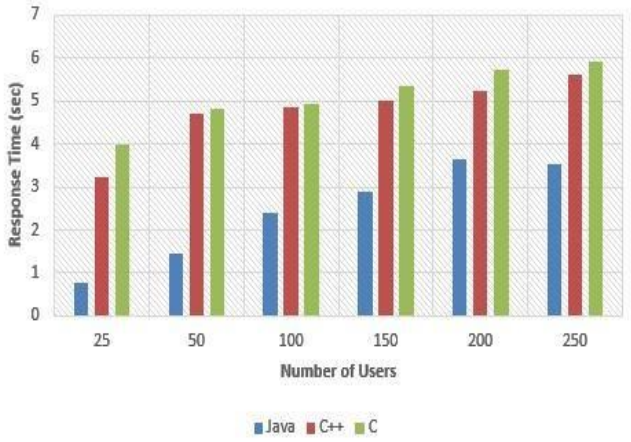

Figure 3. Graph representation of Response Time in seconds.

b. Latency

Latency is defined as the time delay taken by the mail packet to travel from one system to another system. Table 2 shows the latency time varying between proposed and existing methods. Figure 4 represents the graph view of the enhancement. It is clear that the proposed method reduces latency over 95%.

Table 2. Latency comparison.

Number of Users	Latency (ms)		
	Java	*C++*	*C*
25	15	31	34
50	20	34	38
100	23	40	45
150	28	48	49
200	30	50	53
250	32	53	58

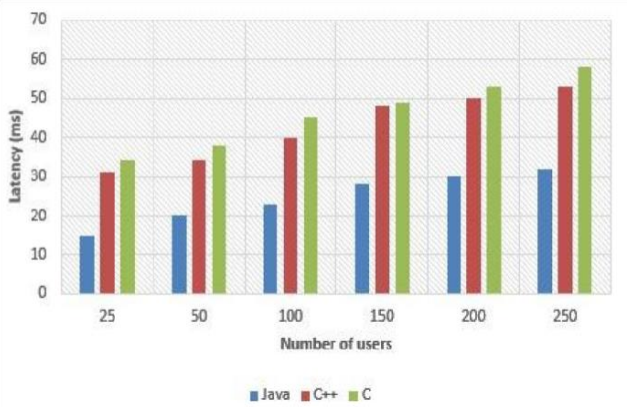

Figure 4. Graph representation of Latency in milliseconds.

c. Execution Time

Execution time is defined as the total time taken to complete or run a task given to the system. Table 3 shows the execution time spent by the proposed system and the existing systems. Figure 5 depicts the graph view of the execution time between the Java based mailing system and C++ and C based mailing system. It is well understood that the proposed method outperforms better in execution time of 96%.

Table 3. Execution time comparison

Number of Users	Execution Time (sec)		
	Java	*C++*	*C*
25	0.21	1.56	2.58
50	0.45	2.72	3.51
100	0.89	2.94	3.97
150	1.25	3.69	4.05
200	1.55	4.07	4.95
250	1.67	4.61	5.54

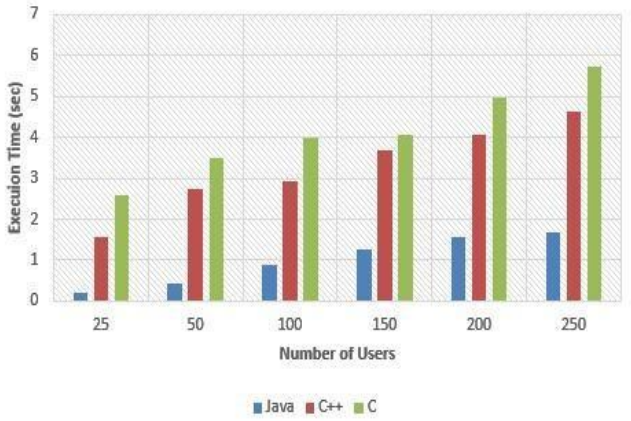

Figure 5. Graph representation of Execution Time in seconds.

d. Throughput

Throughput is defined as the number of packets passed on a particular time period. Table 4 shows the throughput improvement of the proposed system and existing system. Figure 6 shows throughput in graph representation. The throughput in proposed method is increased than the other methods by 90%.

Table 4. Throughput comparison

Number of Users	Throughput(%)		
	Java	*C++*	*C*
25	95.34	87.25	83.96
50	95.04	85.38	82.11
100	92.32	78.92	77.26
150	92.28	76.34	74.87
200	91.39	73.21	70.39
250	90.71	70.86	70.02

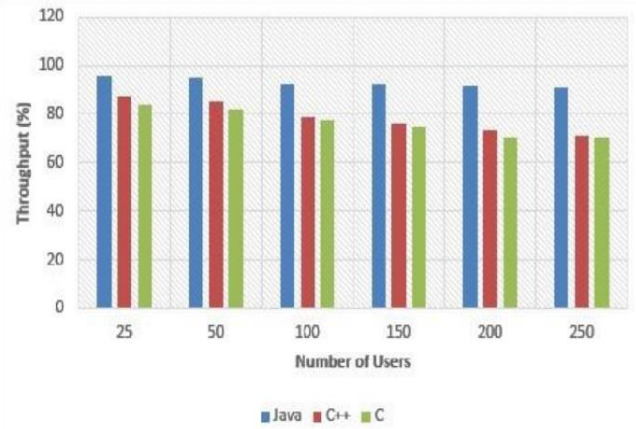

Figure 6. Graph representation of Throughput in presentation.

VI. CONCLUSION AND FUTURE SCOPE

The proposed Intrinsic Multiple mail Service in Java is attractive, flexible and easy to use when it comes to sending and receiving mail. Useful and possible, benefits and features aside, many new features can be added to this project to make it better. This includes installing new features or modules as per user requirement. Adding, updating and deleting folders can be a good idea. Also, the E group can be built within the mail server program. In future development each application has its own set of requirements and requirements. The project covered almost all the requirements. Additional requirements and improvements can be made easier as coding is more structured or modular in nature. This web-based system and the cyber security of the Cyber Security Division, require careful scrutiny to find any security gaps. The data centre console can be made available to allow employees to browse the sites that are cleared to host at a specific time. Moreover, it is just the beginning; and the system can be used for various other types of audit work. Network testing or similar process applications related to workflow. On verifying the results it is well understood that the proposed method performs well than the other methods and shows up to 98% of improvement.

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