

Global E-Mail Client

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Abstract— Electronic mail, commonly called email or e-mail, is a method of exchanging digital messages from an author to one or more recipients. Modern email operates across the Internet or other computer networks. Some early email systems required that the author and the recipient both be online at the same time, a la instant messaging. Today's email systems are based on a store-and-forward model. Email servers accept, forward, deliver and store messages. Neither the users nor their computers are required to be online simultaneously; they need connect only briefly, typically to an email server, for as long as it takes to send or receive messages. Many Email providers are available such as Yahoo, Gmail, Rediff, Hotmail etc. Our project Global Email Client aims at providing a single view or single login to access all these email accounts.

Key words: Client, Data, Database, E-mail, Global, LDAP, Protocol, Server

I. INTRODUCTION

The Global Email Client, as the name suggest will be a Email tool which will provide access to all other Email providers by providing a single login. Global Email Client will be based on LDAP protocol[4]. LDAP stands for Lightweight Directory Access Protocol. "LDAP-aware" client programs can ask LDAP servers to look up entries in a wide variety of ways. LDAP servers index all the data in their entries, and "filters" may be used to select just the person or group you want, and return just the information you want. LDAP is used to provide "single sign-on" where one password for a user is shared between many services. LDAP is appropriate for any kind of directory-like information, where fast lookups and less-frequent updates are the norm. As a protocol, LDAP does not define how programs work on either the client or server side. It defines the "language" used for client programs to talk to servers (and servers to servers, too). On the client side, a client may be an email program, a printer browser, or an address book. The server may speak only LDAP, or have other methods of sending and receiving data—LDAP may just be an add-on method.

II. EXISTING SYSTEM

At present, a single user has multiple email id's. He has multiple logins for accessing different websites. In such a busy life it becomes difficult to remember user id/ login name/ user name and password for each of this website and emails. Again if user has multiple email account, he has to separately login to each of his email account and check the mail. This is really very cumbersome and hectic when a user does not have much time to login independently to each of his email account. Also the current email system does not provide the facilities for sending email on behalf of some other email id. They also lacks in feature of email

scheduling. Summarizing above paragraph user faces following problems:

- Remembering multiple email id's and corresponding passwords
- Insufficiency to send email on behalf of other email id
- Email scheduling
- Contacts Synchronization

A. Email Service Providers:

1) Hotmail:

A July 2011 post on the official Microsoft blog claimed Hotmail served 360 million unique users a month. According to August 2011 statistics cited by Yahoo!, Hotmail is the biggest webmail provider with over 330 million unique users. The latest Factsheet (albeit September 2010) from Microsoft notes that "Windows Live Hotmail is one of the world's largest e-mail providers with more than 355 million active accounts". In March, 2010, a Group Program Manager at Windows Live Hotmail wrote that the service had over 369 million active users.

2) Yahoo! Mail:

In August 2011, Yahoo! reported independent statistics giving it 302 million unique users globally and double the number of Gmail users in the US market. In March, 2011, Miriam Geller (Yahoo! Mail's Director of Product Management) headlined a blog post "Change Email for 270M People with Yahoo! Mail Applications". In a May 2010 interview, Yahoo! Mail's Carlo Catajan mentions 275+ million users. In August 2011, Seema Kamath (Product Manager at Yahoo! Mail) noted that the latest version of Yahoo! Mail had surpassed 100 million monthly active users and that Yahoo! Mail was the top email provider in the USA.

3) Gmail:

Research from Return Path suggested Gmail ended 2010 with some 193 million users. Gmail users may be more active, however. For example, email service provider MailChimp publishes the total number of emails they send to each of the major email address providers. The results for July 2011 saw Hotmail and Gmail addresses as the most "popular" in mailing lists, closely followed by Yahoo! Mail, with AOL way behind. Data from competitive intelligence service Hitwise suggests Yahoo! Mail is the most used: as of September, 2011, the most popular email websites (based on US Internet usage and in descending order of popularity) were: Yahoo! Mail, Gmail and Windows Live Hotmail (see current rankings.) Interestingly, the data also suggests that email is a far more important part of the Yahoo empire than Google's. The mail-related domain is the most popular at the Yahoo portal, while Gmail accounts for a small proportion of visits to Google. Webmail providers like Gmail and Microsoft may also be behind some other domain names, either through POP3 retrieval of email from other accounts

or through email hosting services offered to businesses and organizations which retain the latter's domains[1].

III. PROPOSED SYSTEM

Keeping all the above said problems in mind, we decided to develop such a tool which will provide a single login to access all the emails. Apart from this it will have all the mails related to different email account under one single roof. A user can send email by any of his preferred email id. Email scheduling which is the most appealing and important feature will be included in Global Email Client^[6].

A. Block Diagram/ Architecture:

1) Presentation Layer:

This layer will act as an interface to user. This layer will hide all the implementation details and will provide an abstract view to the user.

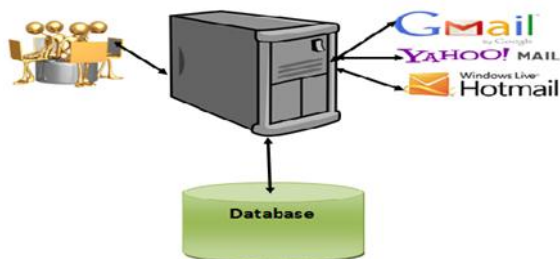


Fig. 1: Block Diagram/ Architecture

2) Middle-Tier Layer:

In this layer all the processing logic will be implemented. This layer will communicate with different email servers for sending and receiving email. This layer will also communicate with the database for inserting and modifying the data.

This layer will communicate with Gmail, Yahoo, and Hotmail servers using external APIs.

3) Database Layer:

All the data related to users will be stored in the database. Sensitive information like passwords will be encrypted and then stored in the database.

B. Advantages of Proposed System over Existing System:

- Time efficient
- All mails under one single roof
- No more remembering of number of passwords

C. Features:

- Supports multiple email accounts
- Quick view of all your mails
- Better security
- Send email through any email account
- Customizable settings
- Email Scheduling
- Password recovery through SMS

IV. TECHNOLOGIES LANGUAGE AND SOFTWARE RELATED TO PROPOSED SYSTEM

A. ASP.NET:

ASP.NET is an open source server-side Web application framework designed for Web development to produce

dynamic Web pages. It was developed by Microsoft to allow programmers to build dynamic web sites, web applications and web services. ASP.NET is built on the Common Language Runtime (CLR), allowing programmers to write ASP.NET code using any supported .NET language. The ASP.NET SOAP extension framework allows ASP.NET components to process SOAP messages.

B. .NET Framework:

The .NET Framework is the combination of layers of CLR, FCL, Data and XML Classes and our Windows, Web applications and Web Services.

C. C#:

C# is no doubt the language of choice in the .NET environment. It is a whole new language free of the backward compatibility curse with a whole bunch of new, exciting and promising features.

D. GSM Modem:

A GSM modem[2] is a wireless modem that works with a GSM wireless network. A wireless modem behaves like a dial-up modem. The main difference between them is that a dial-up modem sends and receives data through a fixed telephone line while a wireless modem sends and receives data through radio waves. In addition to the standard AT commands, GSM modems support an extended set of AT commands.

E. AT Commands:

AT[3] and AT+ commands can be used to manually collect simple information. This is an ideal choice for "full control" over the communications that are sent and returned from the phone. These can also be used when there is no tool available to communicate with the phone.

F. Microsoft Visual Studio 2013:

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs for Microsoft Windows, as well as web sites, web applications and web services. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code. Visual Studio supports different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C, C++ and C++/CLI (via Visual C++), VB.NET (via Visual Basic .NET), C# (via Visual C#), and F# (as of Visual Studio 2010). Support for other languages such as M, Python, and Ruby among others is available via language services installed separately. It also supports XML/XSLT, HTML/XHTML, JavaScript and CSS.

V. EMAIL PROTOCOLS:

Basically, a protocol is about a standard method used at each end of a communication channel, in order to properly transmit information. In order to deal with your email you must use a mail client to access a mail server. The mail client and mail server can exchange information with each other using a variety of protocols.

A. IMAP Protocol:

IMAP (Internet Message Access Protocol) – Is a standard protocol for accessing e-mail from your local server. IMAP is a client/server protocol in which e-mail is received and held for you by your Internet server. As this requires only a small data transfer this works well even over a slow connection such as a modem. Only if you request to read a specific email message will it be downloaded from the server. You can also create and manipulate folders or mailboxes on the server, delete messages etc.

B. POP3 Protocol:

The POP (Post Office Protocol 3) protocol provides a simple, standardized way for users to access mailboxes and download messages to their computers. When using the POP protocol all your email messages will be downloaded from the mail server to your local computer. You can choose to leave copies of your emails on the server as well. The advantage is that once your messages are downloaded you can cut the internet connection and read your email at your leisure without incurring further communication costs. On the other hand you might have transferred a lot of message (including spam or viruses) in which you are not at all interested at this point.

C. SMTP Protocol:

The SMTP[5] (Simple Mail Transfer Protocol) protocol is used by the Mail Transfer Agent (MTA) to deliver your email to the recipient's mail server. The SMTP protocol can only be used to send emails, not to receive them. Depending on your network / ISP settings, you may only be able to use the SMTP protocol under certain conditions.

D. HTTP Protocol:

The HTTP protocol is not a protocol dedicated for email communications, but it can be used for accessing your mailbox. Also called web based email, this protocol can be used to compose or retrieve emails from your account. Hotmail is a good example of using HTTP as an email protocol.

- [5] Simple Mail Transfer Protocol(SMTP), <http://www.ietf.org/rfc/rfc0821.txt>.
- [6] MW S. Squillante and David NoWn, University of Washington “Integrating Heterogeneous Local Mail Systems.”

VI. ACKNOWLEDGMENT

The main objective of the application is to provide a single master login to access all the e-mail accounts.

Thus remembering of multiple user id and passwords can be avoided and user can have single view to access all the email accounts.

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