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# ENERGY EFFICIENT MULTI PATH ROUTING IN NETWORK LOAD BALANCING SYSTEM

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***Abstract*—**The first step in the software development life cycle is the identification of the problem. As the success of the system depends largely on how accurately a problem is identified. The software used to solve the problem and develop the application site is Microsoft Visual Studio.Net with VB.Net as programming language and MS-SQL Server 2000. Currently the Energy Efficient is being done through browser application. Since every detail regarding the routings are manually viewed, the time taken for processing is more and thus existing system is more time consuming. Continuous Energy Efficient to various accounts results in more time consuming. When logged with any user, all routings will be available and it lacks the important routing privacy such as confidential routings. Automatic Energy Efficient to various accounts results in less time and effort. Need not login too many accounts with providing passwords every time. Accessing through single application results in routing consolidation. Routing privacy is possible by avoiding temporary users to view all kind of routings.

***Keywords*—**MS Visual Studio .Net, SQL Server, Enegry Efficient.

## I. INTRODUCTION

The first step in the software development life cycle is the identification of the problem. As the success of the system depends largely on how accurately a problem is identified. The software used to solve the problem and develop the application site is Microsoft Visual Studio.Net with VB.Net as programming language and MS-SQL Server 2000. Currently the Energy Efficient is being done through browser application. Since every detail regarding the routings are manually viewed, the time taken for processing is more and thus existing system is more time consuming. Continuous Energy Efficient to various accounts results in more time consuming. When logged with any user, all routings will be available and it lacks the important routing privacy such as confidential routings. Automatic Energy Efficient to various accounts results in less time and effort. Need not login too many accounts with providing passwords every time. Accessing through single application results in routing consolidation. Routing privacy is possible by avoiding temporary users to view all kind of routings.

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### *Objective of Project:*

An application id required with a feature to maintain number of routings collectively within single application. So, this project identifies that and helps for Energy Efficient and auto responding even if routings are not read.

### *System Specification:*

This section gives the details and specification of the hardware on which the system is expected to work.

Processor : Intel core i3
RAM : 2 GB DDR RAM
Hard Disk : 500 GB

This section gives the details of the software that are used for the development.

Operating System : Windows 7
Frontend : VB .NET
Backend : MS-SQL Server 2000

### *Software Description:*

**FRONT END**

Visualbasic.Net, the latest version of visual basic, includes many new features. The visual basic supports interfaces but not implementation inheritance. Visual Basic.NET supports implementation inheritance, interfaces and overloading. In addition, Visual Basic.Net supports multithreading concept. Visual Basic.NET is also compliant with CLS (Common Language Specification) and supports structured exception handling. CLS is set of rules and constructs that are

supported by the CLR (Common Language Runtime). CLR is the runtime environment provided by the .NET Framework; it manages the execution of the code and also makes the development process easier by providing services. Visual Basic.NET is a CLS-compliant language. Any objects, classes, or components that created in Visual Basic.NET can be used in any other CLS-compliant language. In addition, it can use objects, classes, and components created in other CLS-compliant languages in Visual Basic.NET .The use of CLS ensures complete interoperability among applications, regardless of the languages used to create the application. Visual Basic.NET supports implementation inheritance. This means that, while creating applications in Visual Basic.NET, it can drive from another class, which is know as the base class that derived class inherits all the methods and properties of the base class. In the derived class, it can either use the existing code of the base class or override the existing code. Therefore, with help of the implementation inheritance, code can be reused. Constructors are used to initialize objects, whereas destructors are used to destroy them. In other words, destructors are used to release the resources allocated to the object. In Visual Basic.NET the sub finalize procedure is available. The sub finalize procedure is used to complete the tasks that must be performed when an object is destroyed. The sub finalize procedure is called automatically when an object is destroyed. Garbage Collection is another new feature in Visual Basic.NET. The .NET Framework monitors allocated resources, such as objects and variables. In addition, the .NET Framework automatically releases memory for reuse by destroying objects that are no longer in use. In Visual Basic.NET, the garbage collector checks for the objects that are not currently in use by applications. When the garbage collector comes across an object that is marked for garbage collection, it releases the memory occupied by the object. Overloading is another feature in Visual Basic.NET. Overloading enables us to define multiple procedures with the same name, where each procedure has a different set of arguments. Besides using overloading for procedures, it can use it for constructors and properties in a class. Visual Basic.NET also supports multithreading. An application that supports multithreading can handle multiple tasks simultaneously, it can use multithreading to decrease the time taken by an application to respond to user interaction. To decrease the time taken by an application to respond to user interaction, it must ensure that a separate thread in the application handles user interaction. Visual Basic.NET supports structured handling, which enables us to detect and remove errors at runtime. In Visual Basic.NET, it need to use Try Catch Finally statements to create exception handlers. Using Try Catch Finally statements, it can create robust and effective exception handlers to improve the performance of our application.

**BACKEND**

Microsoft SQL Server is a relational model database server produced by Microsoft. Its primary query languages are T-SQL and ANSI SQL.The OLAP Services feature available in SQL Server version 7.0 is now called SQL Server 2000 Analysis Services. The term OLAP Services has been replaced with the term Analysis Services. Analysis Services also includes a new data mining component. The Repository component available in SQL Server version 7.0 is now called Microsoft SQL Server 2000 Meta Data Services. References to the component now use the term Meta Data Services. The term repository is used only in reference to the repository engine within Meta Data Services. The SQL Server 2000 database engine includes integrated XML support. It also has the scalability, availability, and security features required to operate as the data storage component of the largest Web sites. The SQL Server 2000 programming model is integrated with the Windows DNA architecture for developing Web applications, and SQL Server 2000 supports features such as English Query and the Microsoft Search Service to incorporate user-friendly queries and powerful search capabilities in Web applications. The same database engine can be used across platforms ranging from laptop computers running Microsoft Windows® 98 through large, multiprocessor servers

running Microsoft Windows 2000 Data Center Edition. SQL Server 2000 Enterprise Edition supports features such as federated servers, indexed views, and large memory support that allow it to scale to the performance levels required by the largest Web sites. The SQL Server 2000 relational database engine supports the features required to support demanding data processing environments. The database engine protects data integrity while minimizing the overhead of managing thousands of users concurrently modifying the database.

## II. SYSTEM STUDY

### *Existing System:*

The existing system is accessing routings for only individual routing accounts. Logging into individual routing accounts also leads to time consuming. In addition, auto response is not possible. Routings from some specific routing ids need to be replied promptly even if the user is out of station and not able to access the routing. This will increase the communication behavior and goodwill of the users. But the current system is lacking in such communication method. The existing system is lack in producing the security to the routing users from the temporary user. The existing system does not provide the routing privacy such as confidential routings.

### *Drawbacks:*

The existing system has following disadvantages,

- Continuous Energy Efficient to various accounts results in more time consuming.
- Need to login various accounts with typing username and passwords.
- Complexity is more.
- When logged with any user, all routings will be available and it lacks the important routing privacy such as confidential routings.
- Have minimum level of security to confidential routings.

### *Proposed work:*

Because of the complications in the existing system there is a need for the proposed system, which would be better than the existing system. The new system is required such that it eliminates login to many accounts. The drawbacks, which are faced during the existing system, can be eradicated by using this system, auto response is possible. The new system concentrates in increasing the communication behavior and raising the good will through proper contact with senders. Routing privacy is one of the important features in the proposed system this is achieved by creating a temporary password to the temporary user to secure the confidential routings from temporary user.

### *Advantages of Proposed System:*

The proposed system has following advantages,

- Automatic Energy Efficient t o various accounts results in less time and effort.
- Need not login too many accounts with providing passwords every time.
- Complexity is less.
- Accessing through single application results in routing consolidation.
- Increases the communication behavior.
- Routing privacy is possible by avoiding temporary users to view all kind of routings.
- User interactive one.
- High security of confidential routings.

## III. PROPOSED WORK

### *Module Description:*

The project is designed using Microsoft Visual Studio.Net 2005 as front end, which works in .Net framework version 2.0. The coding language used is Visual Basic .Net. The back end used is Microsoft SQL Server 2000. The following are the main modules in the project.

### *Routing Settings for Incoming Routings:*

The module contains options for adding a number of erouting users (especially Grouting accounts since grouting only allows free pop3 access) along with their passwords in the database. This module receives routing from all accounts are periodic intervals and store the routings offline. The new routings received alerts are also displayed. The routing from various accounts can be saved in different folders for easy reference.

***Routing Settings for Recepient Routing:***

The module contains options for adding recipient routing settings so that all incoming routings from specific routing ids are redirected to this routing. The subject will contain the sender's routing id so that the recipient user understands from routing id.

***Auto Response Settings:***

This module contains options for adding auto response message settings so that specific routings can be auto responded if not read for a specific period of time. The details can be send as SMS to the sender's personal mobile number.

***Temporary user settings:***

This module contains options for adding temporary users to the application so that specific routings cannot be viewed by those users.

***Routing ID Categorization:***

This module contains options for categorizing routings ids as public or private. This helps to avoid temporary users to view the confidential routings.

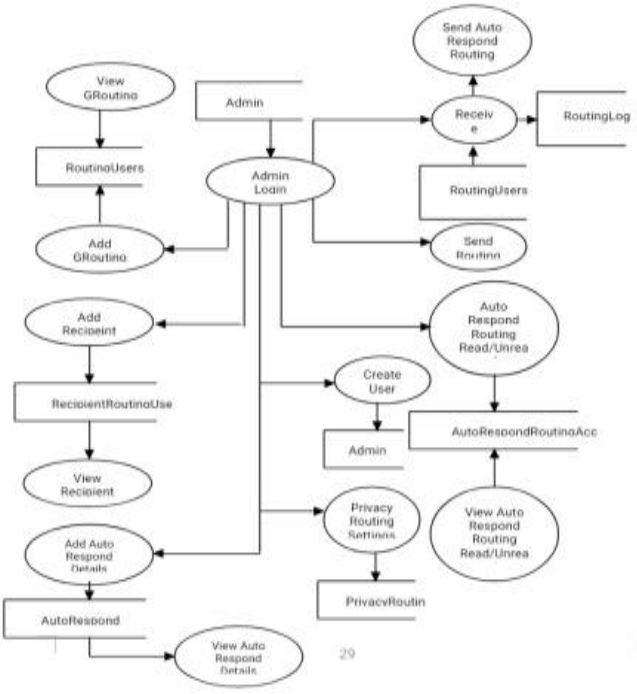
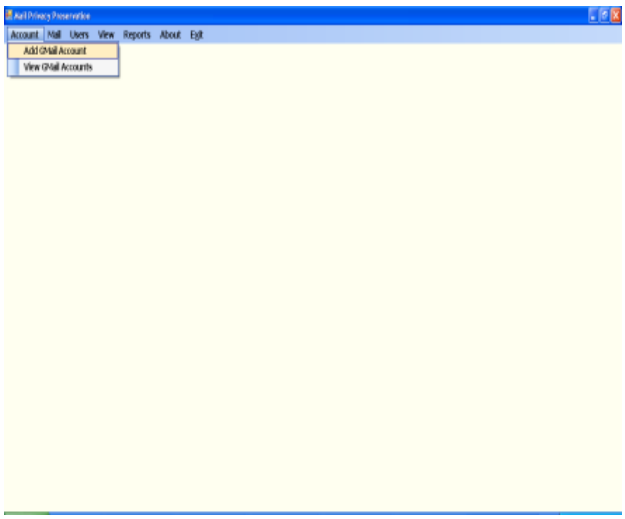
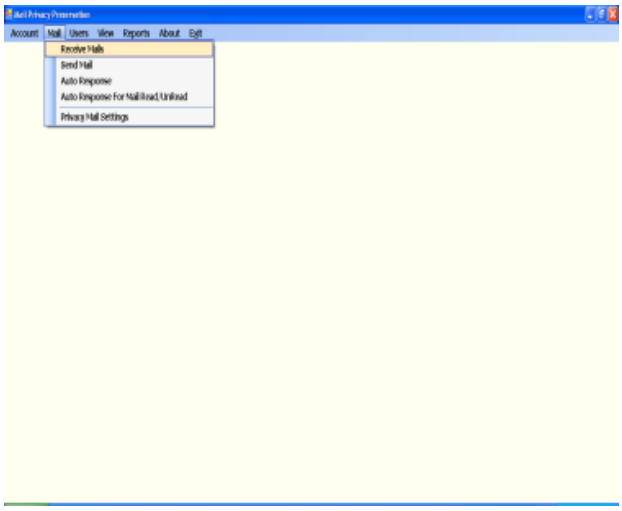
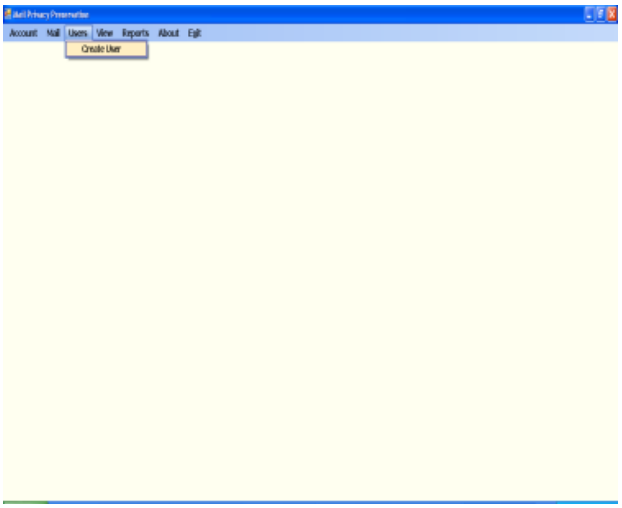



**Figure 1 Proposed work Diagram**

## IV. EXPERIMENTAL RESULTS

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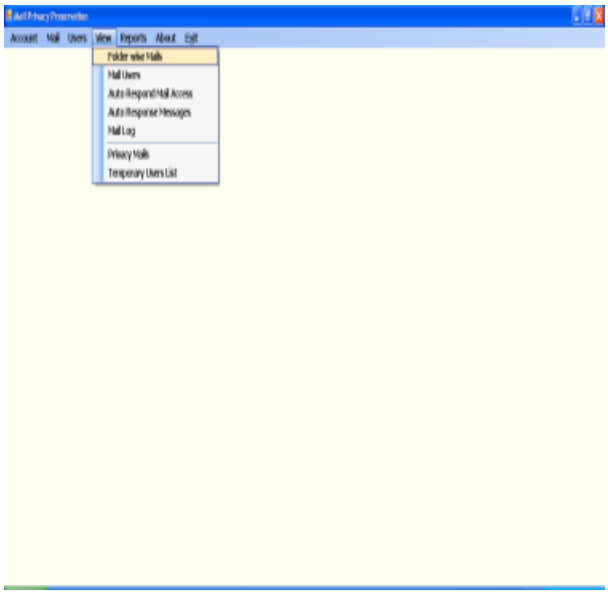
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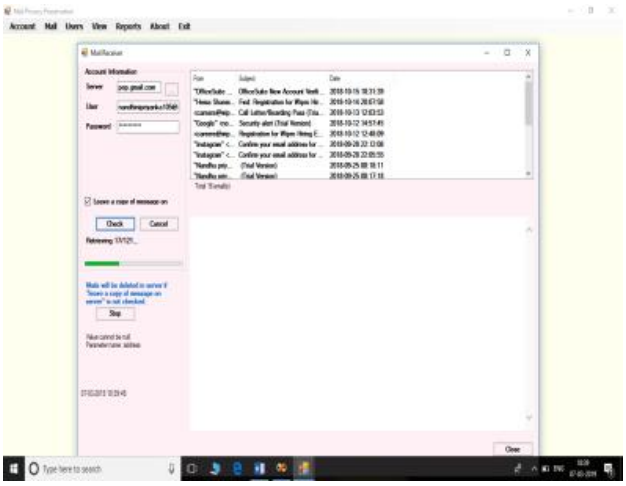
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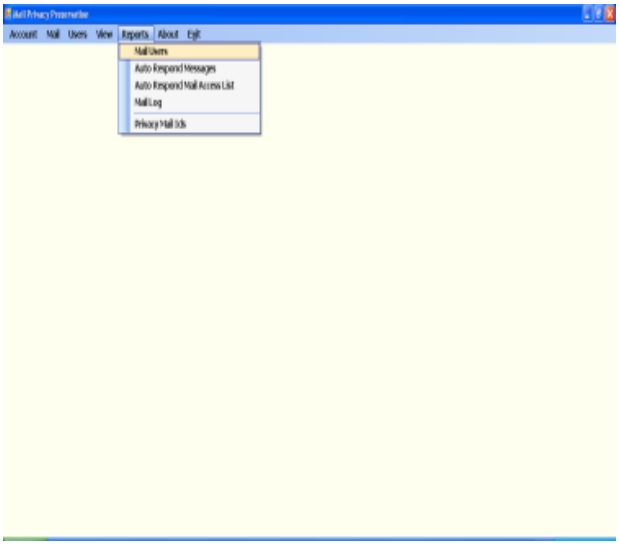
Account Mail Users View Reports About Exit
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Auto Respond Messages
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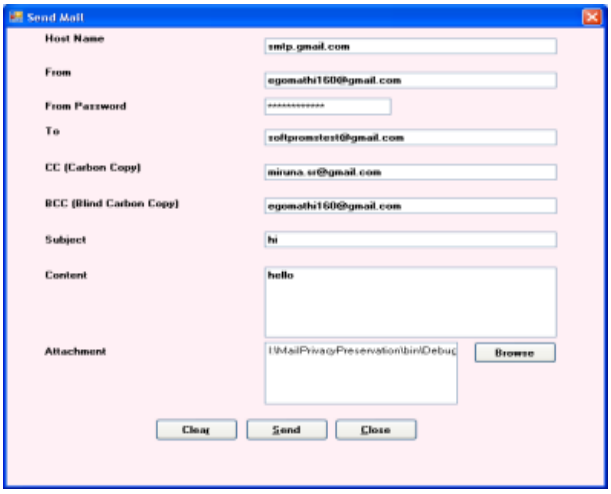
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## V. CONCLUSION

The new system eliminates the difficulties in the existing system. It is developed in a user-friendly manner. The system is very fast and any transaction can be viewed or retaken at any level. Error messages are given at each level of input of individual stages. This software is very particular in reducing the work and achieving the accuracy. It will reduce time be avoids redundancy of data. The user can easily understand the details available from the report. This software will support for the future development. The software is menu driven. Routing can be stored and also can be retrieved offline also. Since the project is designed as software, a user can automatic Energy Efficientto various accounts results in less time and effort. Need not login too many accounts with providing passwords every time. Accessing through single application results in routing consolidation. Routing privacy is possible by avoiding temporary users to view all kind of routings. In this project, I have overcome some of the drawbacks such as speed and accuracy is maintained in the project, routing username are entered in formatted manner, Modification and maintenance can be made very easily and application is tested with more routing users for routing receiving and tested whether working or not.

### SCOPE FOR FUTURE ENHANCEMENT

The system is very flexible and user-friendly, so the maintenance based on the changing environment and requirements can be incorporated easily. Any changes that are likely to cause failures are prevented with security and preventive measures could be taken. The coding is done in understandable and flexible method program which helps easy changing. Since MS-SQL Server and.NET are very flexible tools, user can easily incorporate any modular program in the application. It helps the user to add the routing users easily. Facilities fast data backup and restoration facility in case of data loss situations. Facilitate administrators to auto respond for routings without interacting with system or browser. The application if designed as web site, can be used everywhere across the platforms.

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