Client Management Software

By

Felicia Cheers

Submitted to
the Faculty of the Information Engineering Technology Program
in Partial Fulfillment of the Requirements for
the Degree of Bachelor of Science
in Information Engineering Technology

University of Cincinnati
College of Applied Science

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Felicia Cheers — 6/3/05
Felicia Cheers
Date

Tamilselvaharan Sanyal — 06 June 2005
Professor Sanyal
Date

Patrick C. Kumpf — 6/6/05
Patrick C. Kumpf, Ed.D.
Interim Department Head
Date

Acknowledgements

I would like to thank Latonia Wright for accepting my proposal to write this program for her law office. I would like to give special thanks to my programming instructor, Professor Schlemmer, for providing me with the knowledge to complete this project. I would like to thank my advisor, Professor Sanyal, for keeping me on track with my project. I would also like to thank my group of testers for their input.

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Abstract

Client Management Software was designed to simplify the daily business activities for personnel in the Law Office of Latonia Denise Wright by enabling them to manage and store client information. The application consists of an Access database and user interface created with C#. The information stored in the database can be retrieved for viewing or printing reports. The user interface consists of several forms the user will use to add or remove information to/from the database, schedule appointments, send e-mails, generate invoices, print mailing labels, post payments, calculate charges, and run reports.

Statement of Problem

The Law Office of Latonia Wright has been in business for over three years. The law office practices health law and offers consulting work for businesses. A majority of the clients for this office are people in the medical profession, who have practicing license.

Currently this office is using Microsoft Word, Microsoft Excel, and filing cabinets to manage and store client information. Information stored on clients can consist of, but may not be limited to, name, address, phone, service provided, and billing information. Invoices for the office are generated manually. Keeping track of the last invoice number can be time consuming. Client information is stored in different locations (i.e. phone and address information is stored on a rolodex card). Invoices are stored in a filing cabinet. With the number of clients increasing, the paperwork and the amount of storage space needed will also increase. This method of storing client information lacks security and information is not easily accessed.

The attorney for this office would like to store all client information in a central location. This would improve her method of managing clients and processing invoices. Managing clients with multiple invoices, meaning clients who make multiple payments, would improve with all the information in a central location. She would also like for the information to be maintained in a secure location. With the information in a secure location the privacy rights of clients will be protected. Improving the process of tracking invoice balances is also a necessity for the office.

Description of Solution

To eliminate the current hassle of managing client information, I created a Windows application to automate the daily business processes. The application will enable the users to enter and delete clients, update the database, schedule appointments, e-mail clients, print mailing labels, generate and print invoices, post payments, run reports, and calculate charges. Several forms were added in this application such as the login screen, client, schedule, invoice, email, report, and account management screen. This application has a database backend that will store all of the clients' information in a central location. Storing the information in a central location will allow faster access to client information.

User Profile

The owner of the company will be the primary user of this application. The owner is knowledgeable about using computers and will be trained to use this application. The owner has several years experience using a computer and software applications (i.e. Microsoft Word and Microsoft Excel) for personal and business use. The owner is also familiar with the basic parts and functions of a computer. The owner will be responsible for entering and maintaining the information stored in the database. Initially the owner will be the only one using this application; however the application will be designed for additional users.

The secondary user of this application will be responsible for entering and updating the clients' information. This user will also assist with scheduling appointments. The secondary user will not need a high level of computer knowledge to complete this task.

Product Description

Design Protocol

The interface for this project was created using Visual Studio.NET C#. Each form has labels, textboxes and buttons of various sizes. The logo on the main form and administrator form was created using Microsoft Paint. I decided to use Microsoft Paint because I could draw the different shaped I wanted in the logo as well as color in the shapes.

Microsoft Access was used for the database. I decided to use Microsoft Access because my client is currently using the database and it will provide a sufficient amount of storage space. Connection to this databas[e] will be established using ADO.NET and querying the database will be done using SQL.

Deliverables

In order to meet the goal of simplifying the user's daily business activities the following deliverables were included in this project:

- Automate process by creating user interface using Visual Studio.NET C#
- Login screen to authenticate users
- Client screen to enter client information
- Schedule screen to schedule appointments
- Invoice screen to create invoices and post payments
- Email screen
- Account management screen to add/remove users
- Report screen to run various reports and printing the reports
- Printing mailing labels

Design and Development

Timeline

TASK	START DATE	END DATE	COMPLETED
SENIOR DESIGN I			YES
RESEARCH	4/5/2004	4/2005	YES
INTERVIEWS	4/5/2004	5/2004	YES
PROPOSAL	5/12/2004	6/2/2004	YES
SENIOR DESIGN I PRESENTATION	6/2/2004	6/2/2004	YES
SENIOR DESIGN II			
DESIGN GUI	7/21/2004	4/17/2005	YES
DESIGN DATABASE	7/21/2004	11/2/2004	YES
WRITE CODE	8/9/2004	5/2005	YES
TESTING CODE	8/20/2004	6/2005	YES
TESTING DATABASE	8/20/2004	11/2/2004	YES
MEETING WITH ADVISOR	9/28/2004	9/28/2004	YES
PRODUCT DESCR, USE AND USER PROFILE	10/6/2004	10/12/2004	YES
MEETING WITH ADVISOR	10/5/2004	10/5/2004	YES
PRODUCT DESCR, USE, AND USER PROFILE APPROVAL	10/12/2004	10/12/2004	YES
MEETING WITH ADVISOR	10/12/2004	10/12/2004	YES
MEETING WITH ADVISOR	10/26/2004	10/26/2004	YES
DESIGN FREEZE PROJECT	10/27/2004	11/2/2003	YES
TEST PROTOTYPE	11/17/2004	11/23/2004	YES
PRESENTATIONS	11/24/2004	12/1/2004	YES
SENIOR DESIGN III			
WRITING CODE	8/9/2004	5/2005	YES
TESTING CODE	8/20/2004	5/2005	YES
CLIENT TEST FINAL PROJECT	2/2005	5/2005	YES
PACKAGE PROJECT	3/2005	3/2005	NO

Budget

ITEMS	COST
Microsoft Access	$229.00
Visual Studio.Net(C#)	109.00
Crystal Reports	199.00
TOTAL	**$537.00**

Proof of Design

The user interface design will consist for several window forms designed using C#. The first screen wi be the application login screen (see fig. 1)

This screen will navigate the users to the main screen (see fig. 2) within the application. The administrator for the application will have additional options such as running reports and creating or deleting user accounts. The administrator will be directed to a different screen where they can run reports and create users; this will prevent any user other than the administrator from using these features (see fig 7). The users wi click the buttons that are across the top of the screen to get to additional screens within the application. The screens will open on top of this screen which is the parent screen in the application.

Users that click the "client" button on the main screen will be directed to the client screen (see fig 3) in the application. On this screen users will enter, update and delete clients. This screen will also enable users to search for and delete existing clients. The client screen also allows users to navigate to the schedule, e-mail anc invoice screens.

The e-mail screen (see fig 5) will open when the option is selected from the file menu or from the main screen (see fig 2). The SMTP feature that is offered through the IIS service will be used to send e-mails from this application. From this screen users will enter the following information from address, to address, cc and bcc if applicable, subject, attachment if application and message to the recipient. Once users click the send button a message box will appear letting users know the e-mail was sent.

The schedule screen (see fig 4) will allow users to manage appointments by adding, deleting and viewing schedule appointments. When users click the view appointments, all the scheduled appointments wil appear in the data grid. From the data grid users will change or delete appointments and click the change butt to save changes.

The invoice screen (see fig 5) design will include the standard invoice fields such as the date, bill to information, due date, service, hours, amount and total amount due. This invoice screen will permit users to search for existing invoices, enter payments and update the total amount due in the database. The bill to field the invoice will be populated manually by the users.

Reports (see fig. 8) will be generated from the report screen in the application. Users will generate reports for printing/tracking all invoices, printing mailing labels and scheduled appointments.

Administrator will have the ability to add/remove users as well as change passwords on the Account Managements screen (see fig. 9). Once the administrator clicks the one of the buttons to the right of the screen the corresponding box will be enabled.

Users for this application will also have their own e-mail address for the purpose of e-mailing clients. The e-mail address screen (see fig. 10) will allow the administrator to enter the e-mail address for each user. The e-mail screen "To:" textbox will then be populated with a list of all the e-mail addresses.

DATABASE DESIGN

The Access database for this project includes the following tables; client, schedule, user and invoice

PK = Primary Key

Client	**Schedule**	**User**	**Email**
PK Phone	***PK ApptNumber***	***PK Username***	***PK EmailAddress***
FirstName	Date	Password	
FirstName	Time		
Address	FirstName		
City	LastName		
State	Event		
Zip			
Email			

Invoice

PK Invoice Number

DueDate

BillTo

Service (six fields numbered 1-4 for service)

Hours (six fields numbered 1-4 for hours)

Amount (six fields numbered 1-4 for amount)

Total

Payment

Results From Testing (need to add more)

Testing was conducted throughout the development phase. Each section in the application was tested once completed to ensure that it is working properly. I found that testing the application as I was developing was easiest. As a problem arose it was less complicated to debug the error.

Once the project is complete I had a group of individuals test the application. Each individual was give test cases to perform and questions to answer. Levels of IT literacy varied among the group of testers. After th group of testers completes the test cases, I had the client test the application.

Conclusion

This project was a wonderful learning experience. It not only taught the importance of time management, but enhanced my programming skills as well. I was able to take what I learned through coursework and build onto that to create this project. The e-mail and printing functions were two features that took a great deal of time to complete. With the e-mail feature I conducted a lot of research to ensure the values for the virtual server were correct. I found a lot a great tutorial online for the printing. I had to take parts from each tutorial to get the printing feature to work. The challenging part with the printing was getting the text to print in the exact location of the textbox or label. Overall, I am satisfied with outcome of *Client Management Software*

Appendix

Appendix A

Figures

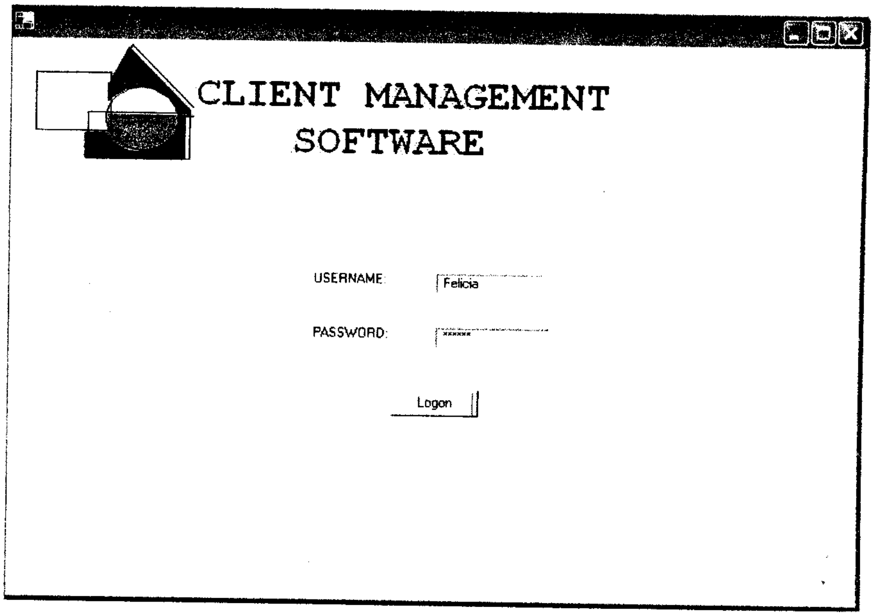

Figure 1 (Logon Screen)

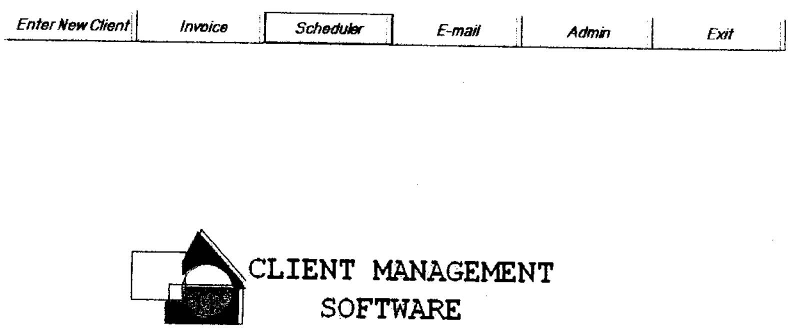

Figure 2 (Main Screen)

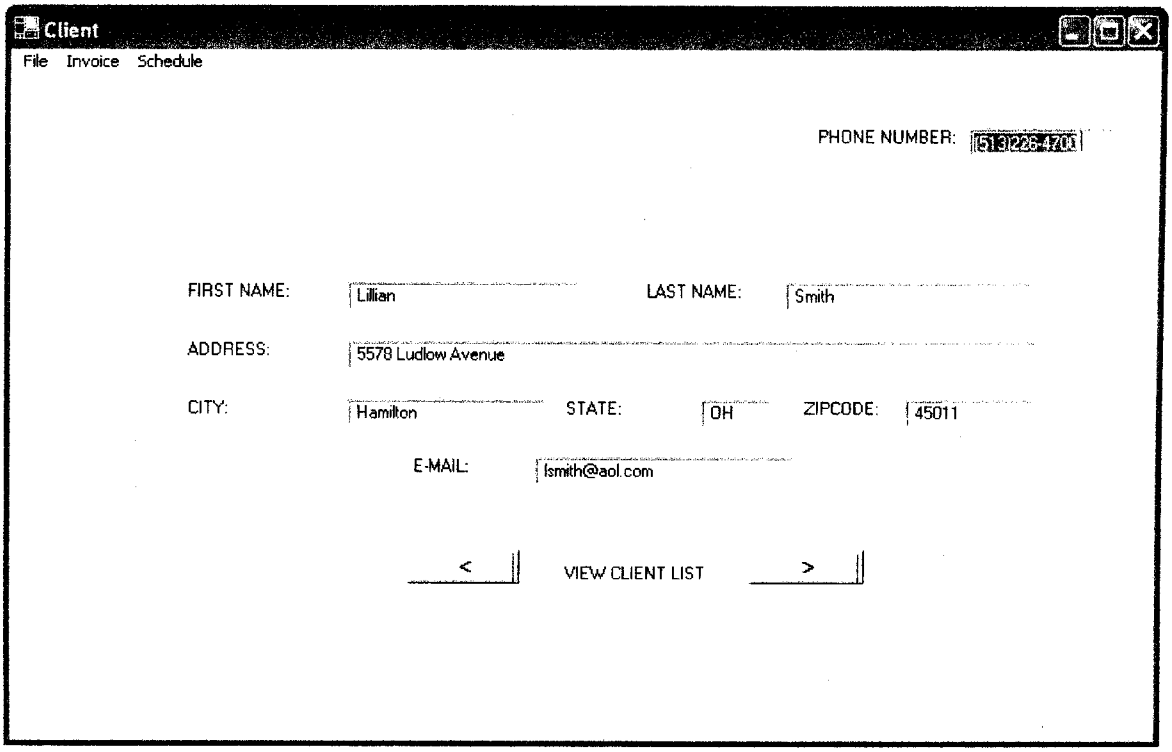

Figure 3 (Client Screen)

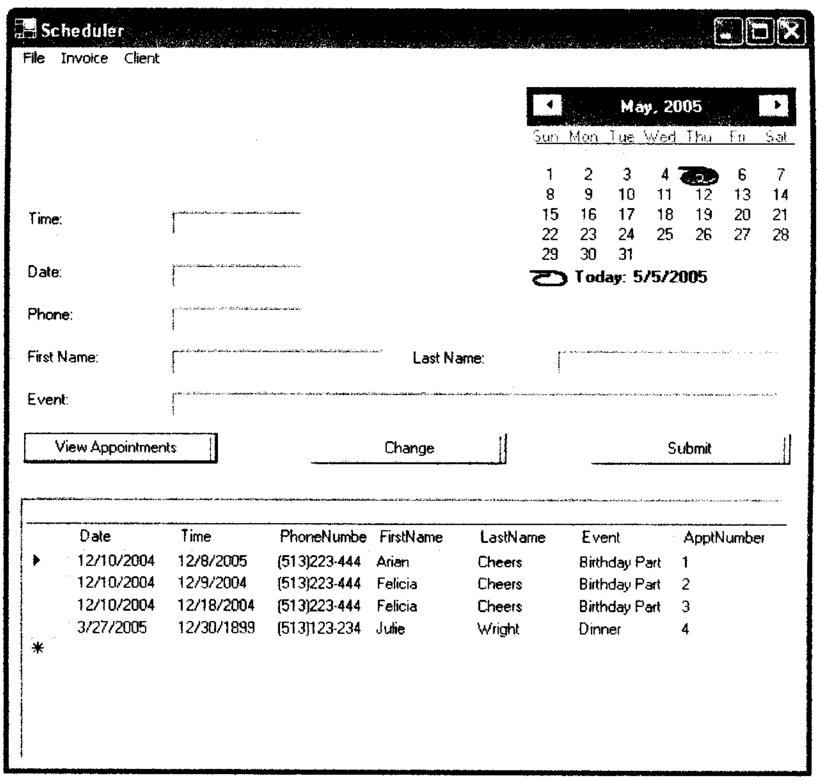

Figure 4 (Scheduler Screen)

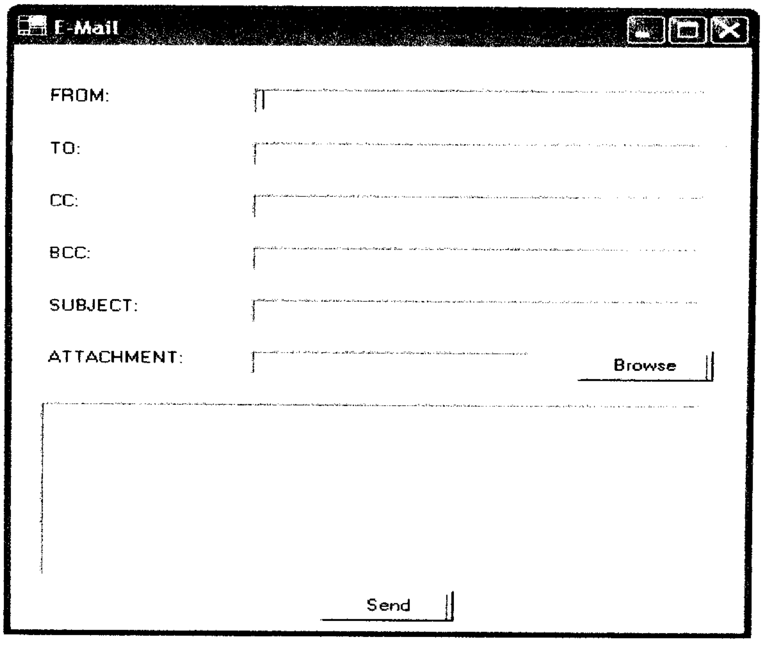

Figure 5 (E-Mail Screen)

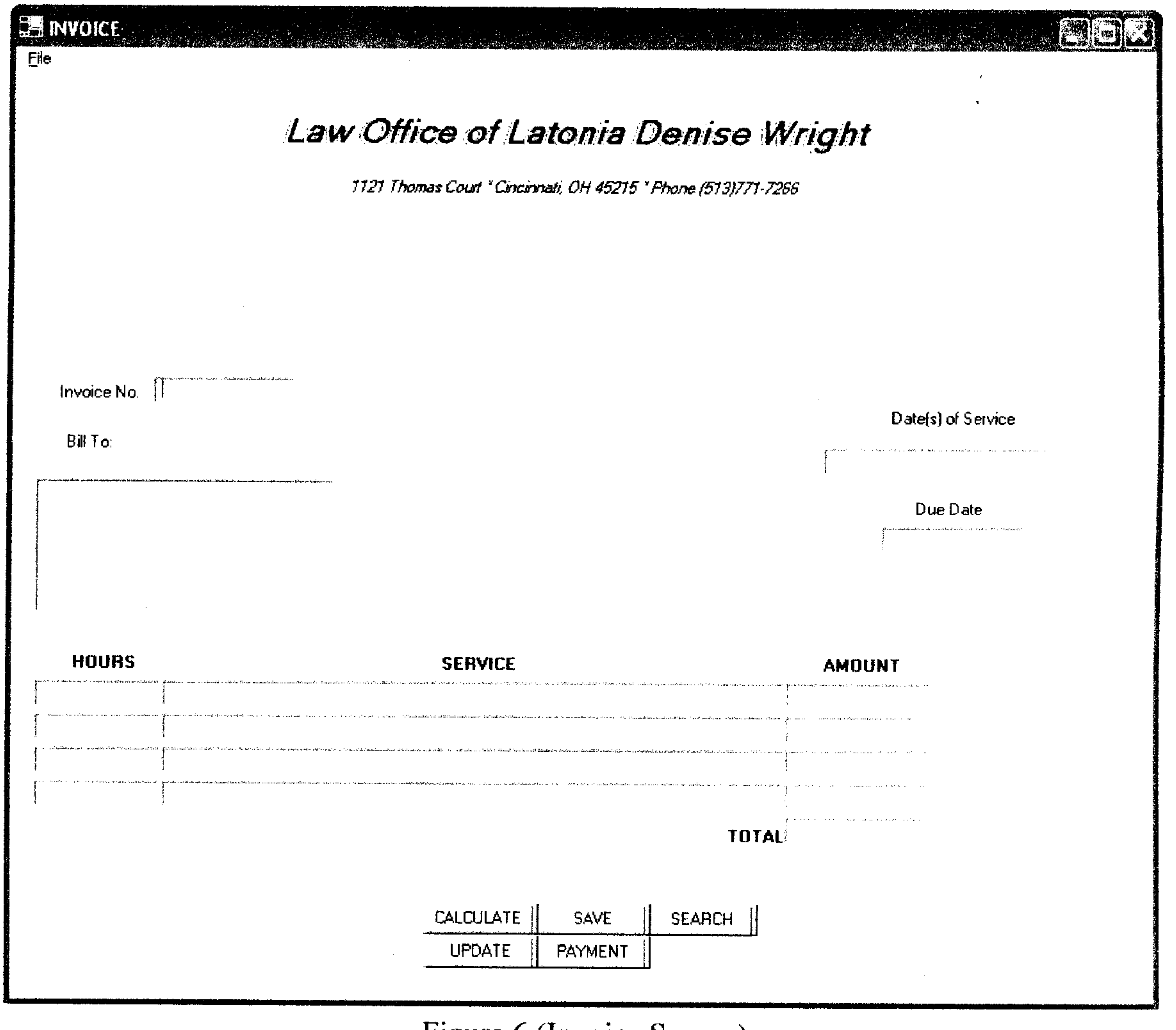

Figure 6 (Invoice Screen)

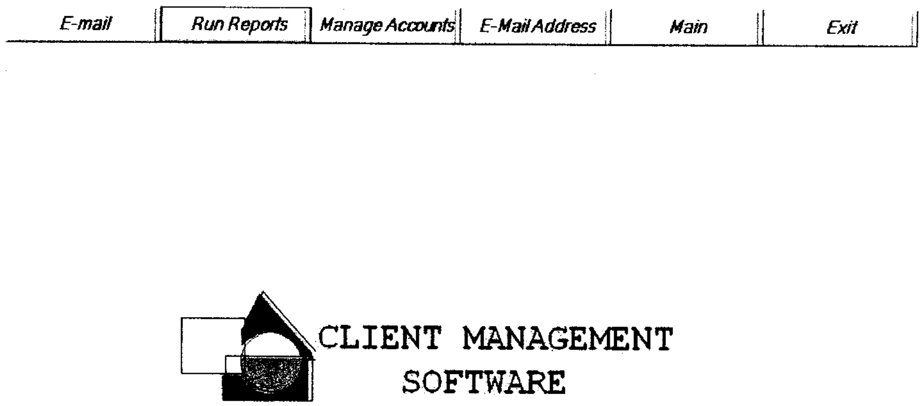

Figure 7 (Administrator Screen)

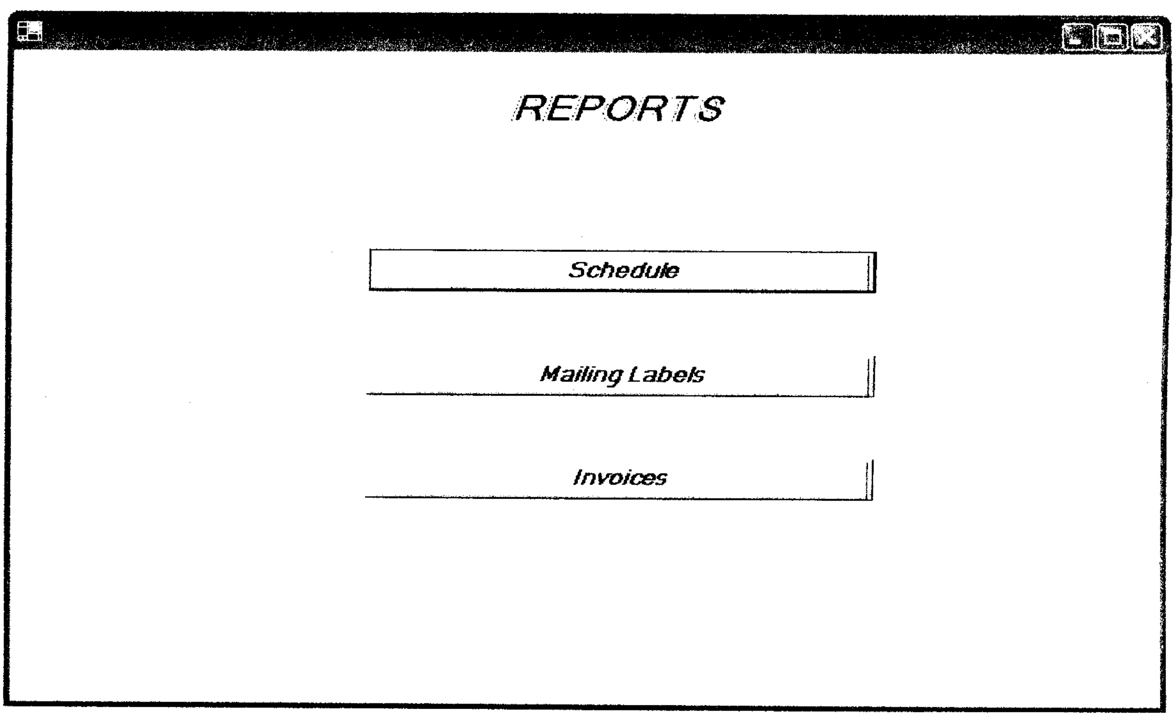

Figure 8 (Report Screen)

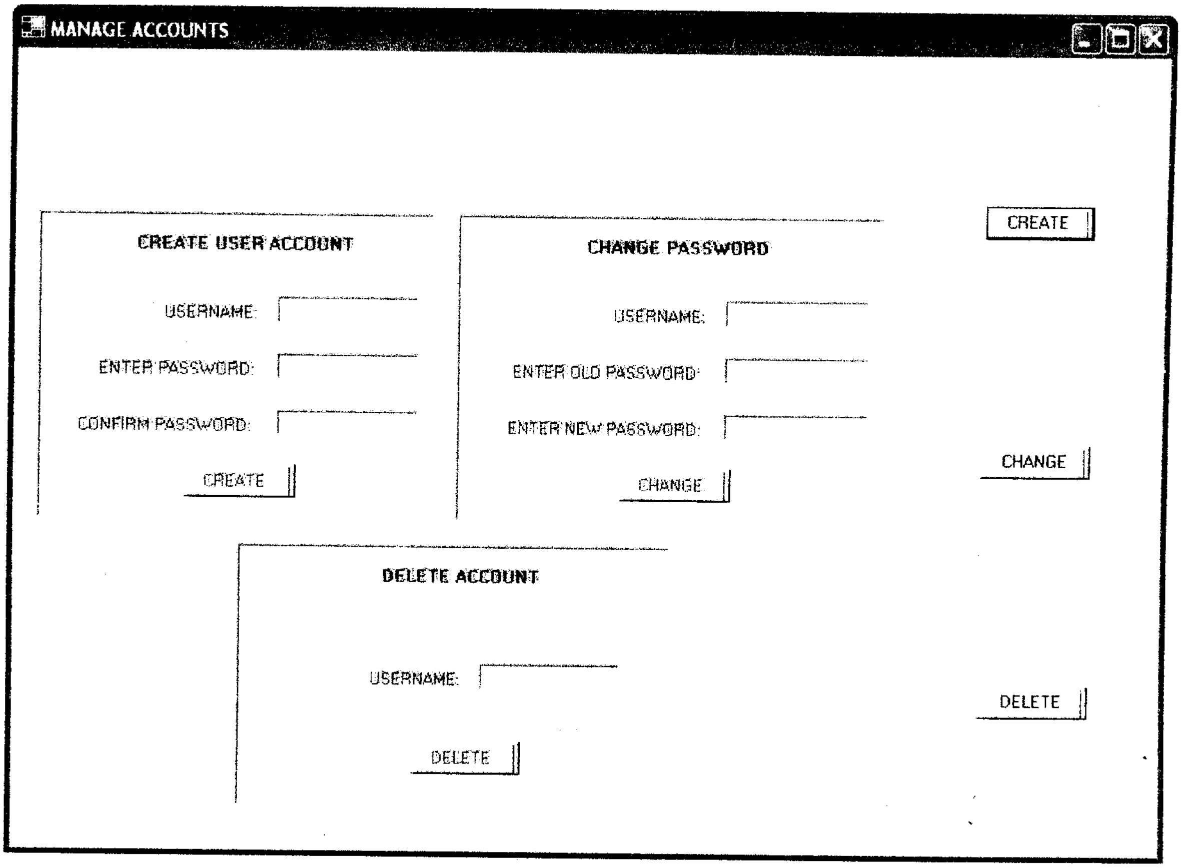

Figure 9 (Manage Account Screen)

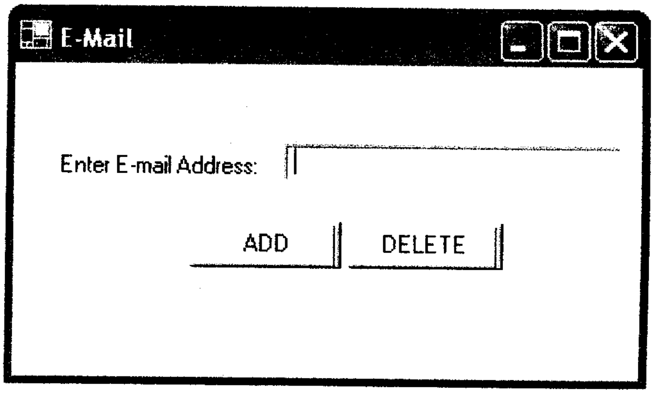

Figure 10 (E-mail Address Screen)

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