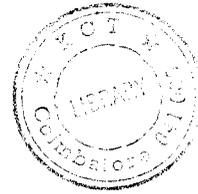


e-Mobiler
INVENT TECHNOLOGIES, Coimbatore

PROJECT REPORT

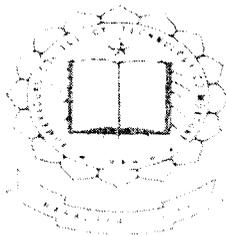
Submitted in partial fulfillment of the requirements for the award of the degree M.Sc. [Applied Science - Computer Technology] of Bharathiar University Coimbatore.

Submitted by
V.Jayalakshmi
0137Q0037



P-952

Under the supervision and guidance of
Mrs. L.S.Jayashree, M.E
Department of Computer Science and Engineering,
Kumaraguru College of Technology,
Coimbatore - 06.



Department of Computer Science & Engineering
Kumaraguru College of Technology
Coimbatore-641 006

April 2003

Certificate

Kumaraguru College of Technology
Coimbatore – 641 006

Department of Computer science and Engineering

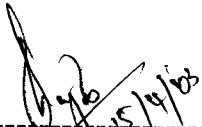
CERTIFICATE

This is to certify that the project report entitled

e-Mobiler

has been submitted by

Ms V.Jayalakshmi in partial fulfillment of the requirement for the award of degree of Master of Science (Applied Science – Computer Technology) of Bharathiyar University ,Coimbatore – 641 046 during the year 2001-2003



Guide



Head of the Department

Certified that the candidate was examined by us in the project viva-voice examination held on 10/5/03----- and the university Register Number is 013700037-----



10.5.03
Internal Examiner



External Examiner

Declaration

DECLARATION

I hereby declare that this project entitled

e-Mobiler

submitted in partial fulfillment of the requirements for the award of the degree of M.Sc(Applied Science – Computer Technology) is the report of the original work done by me during the period of study (2001-2003) in

Kumaraguru college of Technology

Coimbatore –641 006

Under the supervision of

Mrs L.S Jayashree M.E,

Senior Lecturer /CSE Department.

V. JAYALAKSHMI

213790037

V. Jayashree

Name

Register Number

Signature

Place : Coimbatore.

Date : 10-05-2003.

Certificate



INVENT TECHNOLOGY
Krisan Business Centre,
No.41, Govt. Arts College Road,
Coimbatore - 641 018.
Phone : 0422 - 217124, 214758
Fax : 0422 - 214758

IT/GEN/PRJ/010
Thursday, April 10, 2003

To

Head of the Department,
Kumara Guru College of Technology,
Coimbatore.

Dear Sir/ Madam,

SUB: Certification for the completion of a project - reg

This is to be certified that, **V.Jayalakshmi**, M.Sc (Computer Technology) final year student of Kumara Guru College of Technology has completed the given project **E-mobiler**, the period of the project was December 2002 to March 2003.

Thanking you

Yours Truly,
For Invent Technology

K.Kalyankumar.
(Head – Operations)

Dedication

*Dedicated to my
Parents*

Acknowledgement

Acknowledgement

I am extremely grateful to Dr K.K.Padmanabhan, Ph.D Principal. Kumaraguru college of technology, for giving us a golden opportunity to serve the purpose of our education.

My sincere thanks to Dr.Thangaswamy Ph.D Head of the Department of Computer Science and Engineering , Kumaraguru college of technology for his encouragement and inspiration throughout the curriculum.

I am extremely thankful to my course-coordinator Mr.R.Dinesh, M.S, Assistant Professor for his valuable suggestions regarding the project.

I am greatly privileged to express my deep sense of gratitude to my internal guide Mrs L.S.Jayashree M.E Senior Lecturer, Department of Computer Science and Engineering for her valuable advice and encouragement.

I wish to extend my gratitude to Mr.Kalyan Kumar, Head Operations, Invent Technologies, Coimbatore, for allowing me to carry out the project work and Mr.Omkarnath for guiding me to complete the project successfully.

Synopsis

Synopsis

The project entitled “e-Mobiler” is developed as a product for Invent Technologies , Coimbatore using Visual Basic6.0 and SQL Server.

Economical mobile is shortly termed as e-Mobiler. e-Mobiler is designed for the very purpose of transmitting short text messages from computer to mobile through internet. It is a powerful entrepreneur, capable of delivering thousands of messages in very short frame of time and ensuring that the messages are sent promptly and quickly to mobile phones.

This product is designed in a manner similar to that of sending emails. It is provided with an user-friendly GUI and screens to generate various reports. The reports are customized to user requirements.

Sending a text message is convenient, direct, reliable, effective and easier with increased legibility. A short message (text message) sent to any wireless device such as mobile from computer makes it more convenient than mobile-to-mobile short messages. e-Mobiler enables good customer relationship. It is even possible to interact with customers in remote places where other means of communication becomes impregnable.

Company Profile



Profile:

Invent Technology., a Software Consulting & Software Development organization based at Southern part of India.

Promoted in the year 2001. Provides complete Business Software Solutions, which are aimed at improving the Business performance of the Organization. We help you to leverage the Information Technology, to improve your competitive advantage through improved services to your clients. We focus on providing Consulting Services, Custom Software Solution software Products, e-Commerce Solutions, ERP

Mission

Our business is providing IT solutions. Our specialty is, providing Software products & services. Our current focus is to serve clients in South India (Tamil Nadu, Kerala And Andhra) We are aware that our business existence and success depends on how well we meet our responsibilities to the customers. We will anticipate and satisfy our customer needs in a professional manner through a very high quality products and services. Our success is dependent on meeting the customer's need better than our competitors. User friendliness will be given importance in all products & services and our aim is to achieve highest level of professional excellence in the industry.

Vision

To be a leading global software service provider by delivering superior solutions to enhance the competitive advantage of the client.

Few of our major Clients to list;

- **Umesh Pencil Processors P.Ltd**
Is manufacturer for Natraj pencil
- **Magic Dial**
Is Coimbatore based Call center Service

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1. Introduction

1.1 PROJECT PURPOSE :

With the ever increasing number of customers, most of the organizations feel intricate to communicate with them personally for conveying messages either through telecommunication where the receiving person may be unavailable or through post where it might be undelivered; henceforth increasing their costs. In order to discard the above mentioned disadvantages and to fulfill the organization needs the product “e-Mobiler” is built.

e-Mobiler transmits short messages from computer to mobile through Internet. Transmission of messages is done by store and forward method and detection is done using Log files. Messages are categorized as two types. They are single and multiple messages. ‘Single Messages’ are used for sending a single message to a recipient or recipients. Example: Dues, Payments etc. ‘Multiple Messages’ are sent to multiple recipients. Example: New schemes, Offers etc.

Messages are sent to all the customers simultaneously. One of main advantages of e-Mobiler is that it supports national and international roaming.

An organization can have many statuses such as prepaid, postpaid etc. Grouping of customers under these statuses varies from organization to organization.

1.2 PROJECT SCOPE:

Usage of mobile phones becomes familiarized, because of its distinguishing characteristic in that an active mobile handset is able to transmit or receive a short message at any time, independent of whether an incoming call or talk is in progress.

Concept used in this project is new-fangled to application-oriented projects. Scope of this project mainly depends on the segment in which it is used. The segments may be customer-oriented, export oriented etc. Focusing highly on customer-oriented organizations this project becomes more economical than snail mails and telecommunications. Even in export oriented organizations which has collaborations worldwide, send short messages through local 'Internet Service Providers' which is more economical than any other communication facilities. In case of textile oriented sectors short message serves for intimation, that is for direct contacts with customers. It can become highly popularized because of its main advantage being that the user need not be connected to the internet always since the messages gets stored temporarily in the PC mail servers like Opra, Outlook Express etc. The messages are later forwarded or sent when the internet is connected. In this way the scope of e-Mobiler increases in multitudes for any organization which serves their customers.

1.3 PROJECT DEFINITION, ABBREVIATIONS:

DEFINITION:

e-Mobiler stands for economical mobiler. Internet and mobile facility interconnected, is popularly named as “e-Mobiler”. e-Mobiler is used to transmits messages in short form from the personal computer to the mobile phone through internet.

ABBREVIATIONS:

ISP:

Stands for *Internet Service Provider* - a company that provides access to the internet.

The Service Provider gives a software package, username, password and access phone number to the individual users. In addition to serving the individual users, ISPs also serve large companies, providing a direct connection from the company's networks to the Internet. ISPs themselves are connected to one another through NAPs (Network Access Points). ISPs are also called IAP (Internet Access Provider).

MSP :

Stands *Mobile Service Provider*. This service provider gives a number, which gets reserved for a particular organization, through which messages gets transferred to mobiles. Even without MSP message can be transferred to mobiles.

1.4 PROJECT REFERENCES :

Text messaging is a convenient form which makes communication much more easier. Text messaging done by mobile to mobile method of communication the manual power, cost factor etc are very high in comparison with the computer to mobile communications using internet.

Extent of this project is innovative to application-oriented projects since its trial based development is to achieve the target of a high customer based organization's requirement. On the whole, the e-mobiler is developed to be used as a single product and not to be considered literally as a project. The main objective of this product is to reduce the difficulties faced by the organization during its interaction with its customer and also the cost accounted for, during the interactive communication. This product can be used by any individual organization to enhance the relationship with their customers in an effective and convenient manner thereby increasing their trade and stock market values.

1.5 PROJECT OVERVIEW:

In today's competitive world, an organization must essentially differentiate its services with its likes, in order to establish its success. Once the basic services, such as landlines, if in case are defuncted, short messages by e-Mobilers becomes a powerful vehicle for providing services.

e-Mobiler is more flexible, economical, saves manual power and time. This product functions as three sections – Master, Transaction and Reports.

Master is concerned with • Storing Mobile numbers prefixes, • Storing Customer's status (i.e. Category) • Customer details such as mobile number - where the mobile prefixes already existing are selected by the user with the single key press 'F1', name, address, phone, date of birth, status – entry selected as per the 'Customer's status storage' and email.

Transaction section is concerned with composing both Single Message and Multiple Message.

'Single Message' is used for sending a message to one recipient or any number of recipients i.e. single message-single recipient, single message-multiple recipient. The format of single message consists of a Subject field below which the Content (should not exceed 160 characters) field is given. The message can be sent to the recipients by pressing the 'Send' button. The

recipient/recipients can be chosen in the order of Mobile numbers or Names or Email Id's(in the absence of mobile number) or date of birth wise when this option is selected the recipients birthdays at the current date's , mobile numbers are made available in the list, or status(which can be opted from the combo box). The form of order chosen will appear in the list, from which the recipients are selected.

'Multiple Messages' for transmitting multiple messages to multiple recipients i.e. multiple message-multiple recipient. The 'Multiple Message' type is similar to that of 'Single Message' but with some additional features and slight modifications.

The modifications being that the Subject, Content and Recipient fields appear in a single row.

Some of the extra features are that if the content to be sent are already existent in a file in the PC, then this content can be transferred directly to the content field by pressing the image button.

Another feature is the availability of the 'Add From List' button. Once this button is pressed currently selected recipients are added to the recipient field.

An added advantage in the Multiple Message type is that if any specific string is to be added to the contents fields, the string specified in the 'Enter string to add' field is appended to contents field when the 'Add' button is pressed..

When the 'send' button is pressed the message gets transferred to temporary storage PC mail server – Outlook Express, Opra etc. Features are available for adding other mail servers and chosen when the message gets transferred.

Report section is concerned with generating address book of customer, generating status wise report and number of SMS sent in particular intervals.

Two utilities are available. The option 'Import Mobile number' is provided, so that when the recipient details such as name and mobile number are available in excel sheets they are converted into text and are opened using 'Find' button. When refreshed the details stored in text document adds to the grid and 'Import' option imports it to the Customer Details. Other utility is for setting the password.

2. General Description

2.1 *PRODUCT PERSPECTIVE :*

The benefits of e-Mobiler centers around convenience, flexibility and seamless integration of messaging services such as ISP and MSP. From this perspective, the primary benefit that's concurred is the extended ability to send messages from computer to handset.

At the minimum, the benefits includes the following :

- Delivery of notifications – the message will be sent to the recipients only after a positive notification is received from the user as soon as the internet is connected.
- Guaranteed message delivery with zero percentage error occurrences and no requirement for acknowledgement.
- Reliable, low-cost communication mechanism.
- Reduced cost for the sender.
- Delivery of messages to multiple recipients simultaneously.

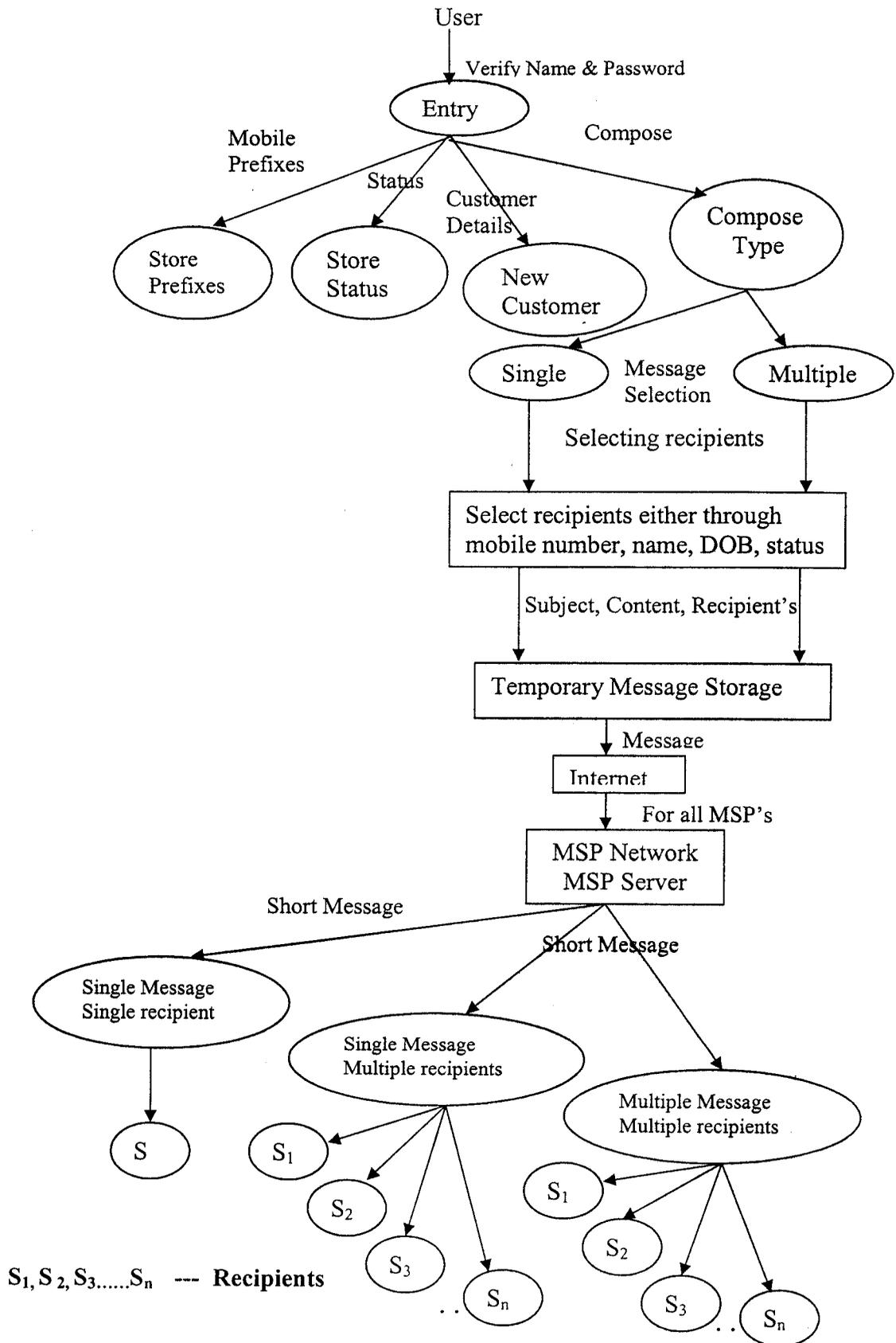
The internet - mobile based solutions facilitate for a reduced cost factor compared to mobile – mobile solutions because it can support other applications as well as be flexible to activate new services and new upgrades regardless of the technology supported by mobile, thereby being financially accommodative for several other services and application annexure.

2.2 *PRODUCT FUNCTION:*

The functions are drawn out as follow:

- Storing mobile numbers.
- Storing categories (varies from organization to organization)
- Basic details about the Customer such as name, mobile number, address, phone number, date of birth, status. The point to be noted here is that the mobile prefixes and status are selected from existing options.
- Selecting the message type - single/multiple.
- Short message (content) is given as input.
- Choosing recipients either through mobile numbers, names, date of birth, Status.
- Message to be sent is stored in the PC mail server.
- Once the internet is connected the message is sent.
- ISP establishes a connection with the MSP network and the message is then transferred to the MSP server.
- The MSP server transcribes the messages as - single message single recipient, single message multiple recipient, multiple message multiple recipient, and the messages are sent according to the transcription.

DATA FLOW DIAGRAM :



2.3 USER CHARACTERISTICS :

The main users of this product are highly customer-oriented organizations. In this era of highly competitive global market procedures for the emerging technologies such as wireless cellular mobile communications and its likes, the main objective for them will be to make a highly decisive campaign to reach out to the customers in a successful manner. Success can be retained if and only if both ends that is both the customer and the organization obtains derisive positive results in their pursuits. Another essential factor is that their potentials must be updated. The above mentioned ideas are broad-based and are apt for any organization narrowing down to the user a few identities are given below which must be taken as default.

The basic user attributes are as follows :

- To access the system the user needs a prefunctionary idea about sending short messages.
- Since it is a user interface system, the user should know fundamental events such as select, click etc.
- User should be able to select using menus.
- User should be able to choose from options in existent.

2.4 GENERAL CONSTRAINTS :

As communication exist between computer to mobile via internet, a 'must follow' situation arises for the following constraints .

- Internet facilities should be available
- Customer must be mobile user.
- User should enter correct name, mobile number, status, address etc.
- The messages should not exceed 160 characters.
- Images cannot be edited or attached.
- The message should not be intertwined.
- The format in which the customer gets his message in his handset depends mainly on the make of his handset and has no connection whatsoever with the user. For example a single message sent, will be received in blocks in N number of times. This may seem as multiple message even though it is not. So these types of variation occur due to the make of the handset.

3. Specific Requirements

3.1 Functional Requirements

3.1.1 INTRODUCTION:

This project or any project for that matter requires a podium on which it can be developed. Here to serve this purpose Visual Basic 6.0 and SQL Server are used, the ascribing of whose functions has become a part and parcel and henceforth described below.

Visual Basic 6.0:

Visual Basic is ideal for developing sophisticated applications it makes use of Graphical User Interface for creating powerful applications. In Visual Basic, “Visual” refers to the graphical user interface (GUI) that uses illustrations, rather than writing numerous lines of codes to describe the appearance, functions and location of interface elements. “Basic” refers to the BASIC programming language, a widely preferred language by many programmers for its simplicity.

Visual Basic is an Integrated Development Environment i.e. development tools can be virtually accessed. and a Visual Development Environment (VDE) in which one need not have to write codes to use standard interface elements such as command buttons or list boxes. Features such as easier comprehension, user-friendly, faster application development makes Visual Basic an interesting tool to work with.

Visual Basic provides an easy way to create all kinds of programs that run under Windows. Two important features of Visual Basic are:

1. A visual method of creating the application including its forms, controls and components on the form.
2. Ability to attach code directly to each event of each element in visual design.

Important Features :

Multiple Projects - It is possible to open multiple projects in the same instance of Visual Basic.

Forms - Forms have a “.frm” file name extension. They can contain graphical descriptions of the form and its controls, including their property settings.

Modules - Code modules have “.bas” file name extension. They can contain global or module level declarations of type constants, variables, external procedures and global procedures.

Flex Grid Control - This control is like a table which helps in displaying multi-records at a time.

Menu Editor - This is a powerful editor used to construct a menu-based program rapidly. It is quite easy to develop and manipulate this editor.

Reports - These are the output obtained from any Visual Basic Application. It is used for reporting from various databases and tables.

SQL Server :

SQL Server is a client/server database engine. SQL Server uses the concept of relational database which is based on collection of related objects. Database in SQL Server contains not only raw data, it also contains the structure of the database, any indexes, the security of the database, and perhaps other objects such as views or stored procedures related to that particular database. SQL Server helps in connecting as a network.

Microsoft SQL Server supports a set of features that result in the following benefits:

- Ease of installation, deployment, and use
- Scalability
- Data warehousing
- System integration with other server software

Microsoft SQL Server is typically one of the fastest DBMS for any given database size or hardware platform. It is easy to install and administer, and it comes with tools and wizards that make it easy to develop application. The backup and restore component of SQL Server provides an important safeguard for protecting critical data stored in SQL Server databases.

SQL Server includes a number of utility programs which helps to manage the database, two of the most powerful tools are the 'Enterprise Manager' and 'Query Analyzer'.

Enterprise Manager:

It is a tool that allows you to manage multiple SQL server database from a single computer. Using enterprise manager, we can

- Manage collection of logins
- Create and delete
- Manage database users
- Create, delete and change tables, indexes and views
- Back-up and recover databases.

Query Analyzer:

It is a utility primary used to execute SQL statements and view the results. It also describes how the query was executed and performs index analysis, which helps to improve the performance of the query statement.

3.1.2 LIST OF INPUTS :

This product is proposed so that simple, personalized and localized messages can be sent. The main limitation being that the total number of characters allowed, being upto 160 characters in length, but this length too varies from one make to another handset make.

For any given message a list of inputs are to be entered. The inputs being,

- Login Id and Password.
- Mobile Number Prefixes.
- Status.

[Both Mobile number prefixes and Status are mandatory]

- Details regarding customer such as Name, Mobile Number, Status/Category, Date of birth, Address, Fax, Email etc.
- Message or Content.

3.1.3 INFORMATION PROCESSING REQUIRED :

Some of the information to be processed are:

- Checking of password at entry level
- Checking of duplicate entries at all stages
- Checking for entries of a status (deletion of which is possible), is noted. In the event of absence of entries under the status, it can be deleted. In the presence of even a single entry, deletion of the status is defuncted.

With all the three information available, the report generated as a result will be accurate. In the absence of an one of the checking, the possibility of error occurring increases.

The reports generated are

- **ADDRESS BOOK OF THE CUSTOMER :**

For listing out the details of the customer such as name, address, phone number according to mobile number.

- **SMS COUNTER:**

Count of SMS send to recipients in particular intervals.

- **STATUS-WISE REPORT :**

Cataloging out the customer name, mobile number according to the selected status.

3.2 Performance Requirements

3.2.1 SECURITY:

What with free flow of viruses and hacking becoming a daily affair, the internet users will be doomed without security. This product is developed in the internet arena. Hence security is pivoted to play an all important role. With this idea in mind two levels of security are provided.

They are :

- Password security for the user.
- Database security for product.

3.2.2 AVAILABILITY:

Easy availability of any product's components makes it very popular. In this, the components are neither hard to procure nor unreachable.

The two major components that are necessary being:

- Internet facility
- Mobile hand set.

With these two components the product developed is readily available throughout its lifetime. Even when the messages cannot be forwarded immediately due to the inactive state of the recipient's handset then they are stored in MSP server and forwarded later when the handset is activated.

3.2.3 CAPACITY:

According to this product there is no necessity for a particular environment or restrictions, and it mainly depends on the system requirements. The only necessary condition is that the system must support internet connection. The database is capable of handling any modification, updating during execution. To speed-up the process the stored data's must be given back-up in schedules.

3.2.4 RESPONSE TIME :

Response time is calculated as a fraction of a second during which the required output is obtained. Time taken for generating responses is very less. But the response time normally depends upon the mail server and MSP.

3.3 Design Constraints

3.3.1 STANDARD COMPLIANCE :

Maintaining of design constraints and standards is impeachable. Some of the standards set forth in this product are say, message length upto 160 characters and composing of messages in two types only. Standards for the system and the handset in general are upto the requirements.

3.3.2 HARDWARE REQUIREMENTS:

Processor	: Intel Pentium Family
RAM	: 64 MB RAM or Higher
Hard Disk Drive	: 30 GB or Higher
Keyboard	: Standard keyboard
Monitor	: Display panel 640*480 or Higher
Mouse	: Serial mouse

SOFTWARE REQUIREMENTS :

Operating System	: Windows 9x / NT 2000
Database	: SQL Server

3.3.3 EXTERNAL INTERFACE REQUIREMENTS:

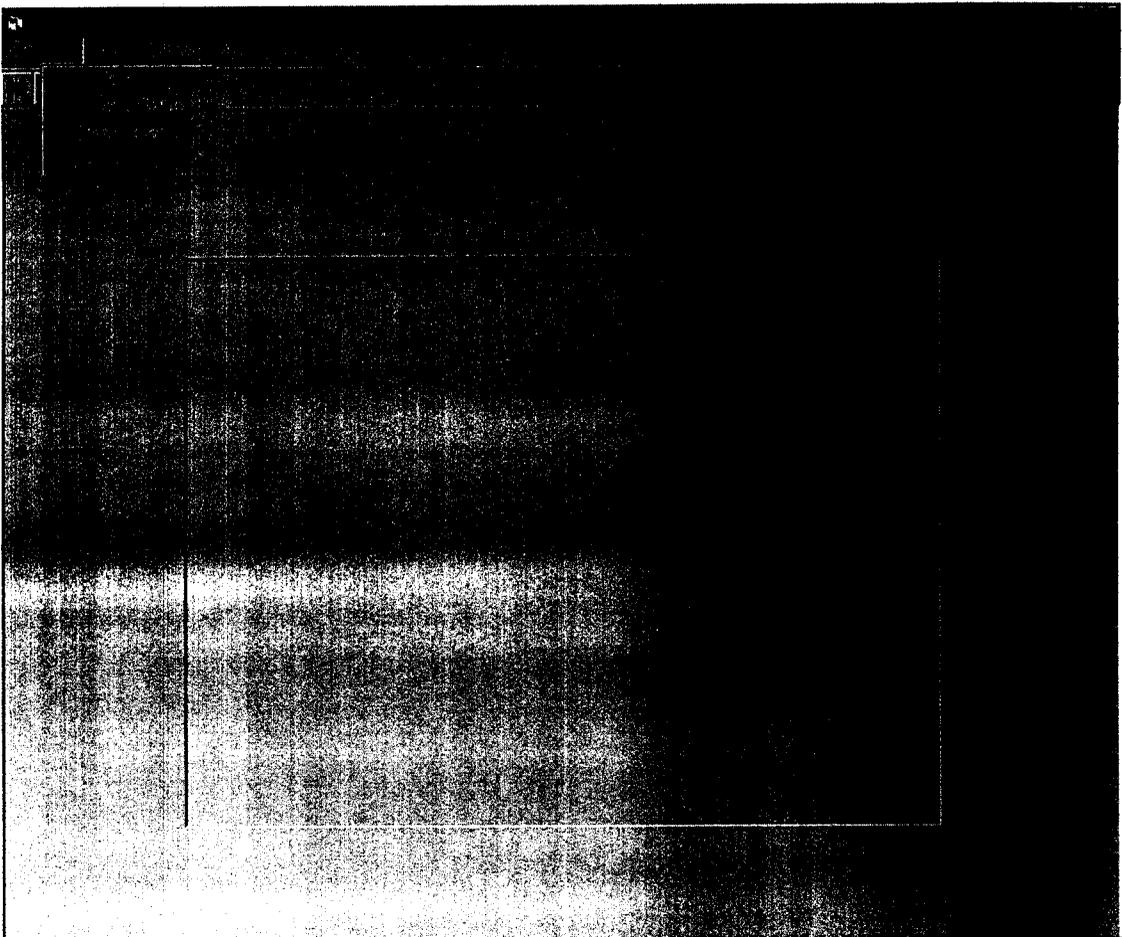
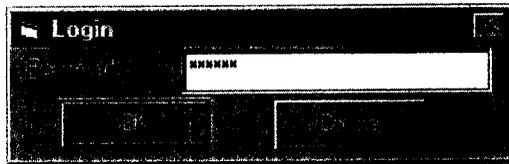
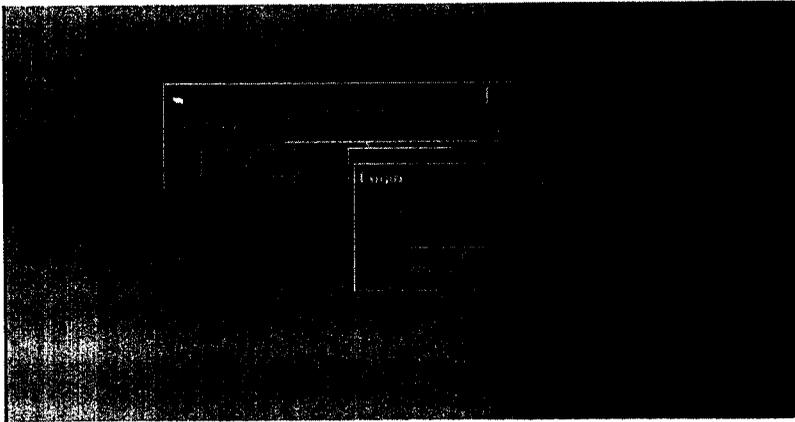
The two major external interface required for this product are :

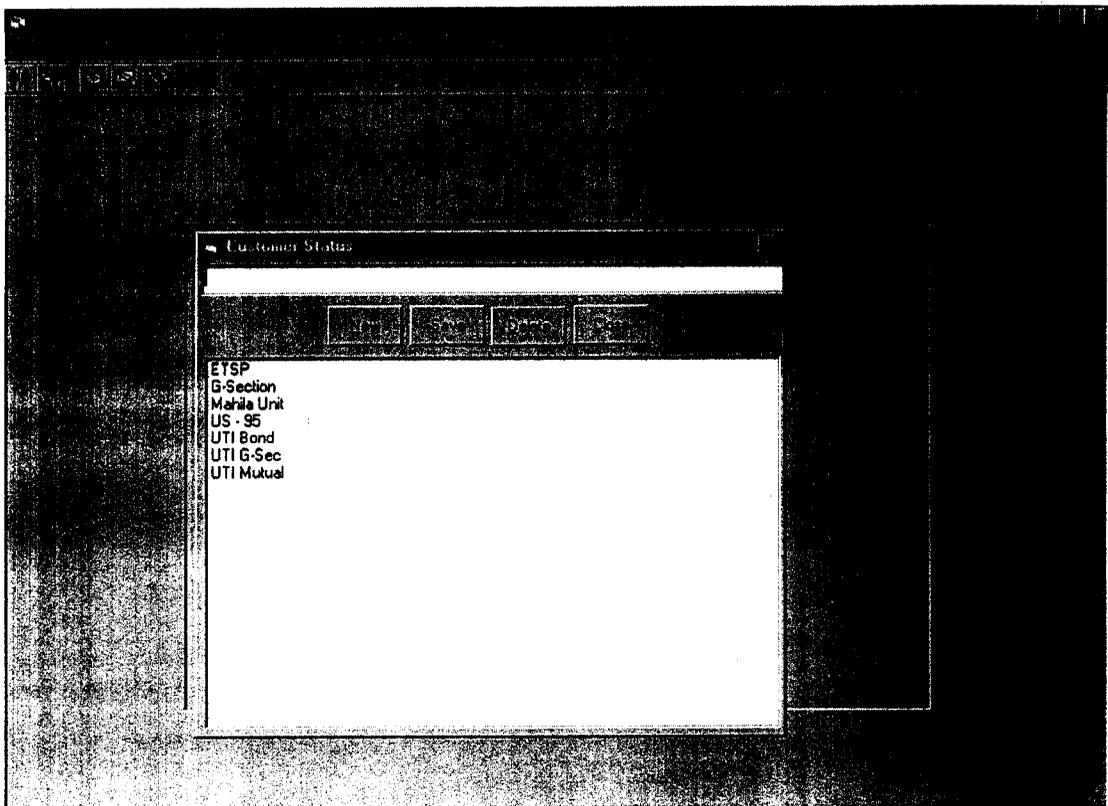
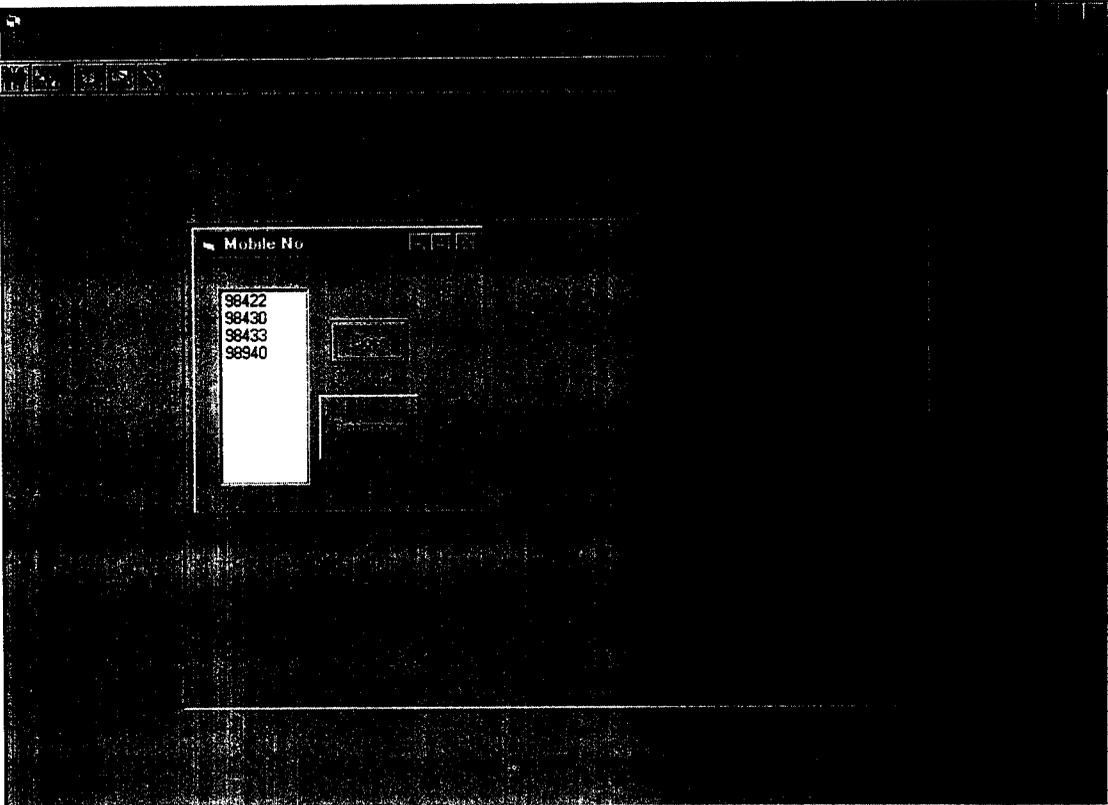
Modem : Internal / External

Internet Service Provider

Screen Formats

3.3.4 Screen Format:

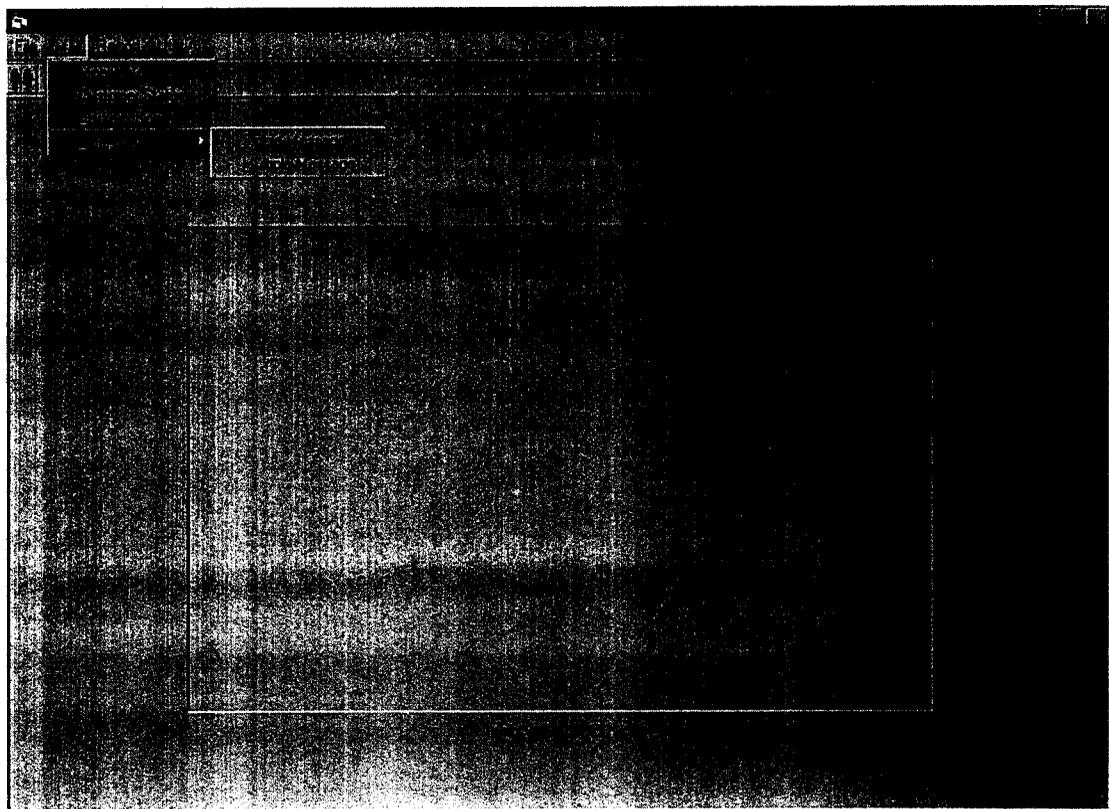


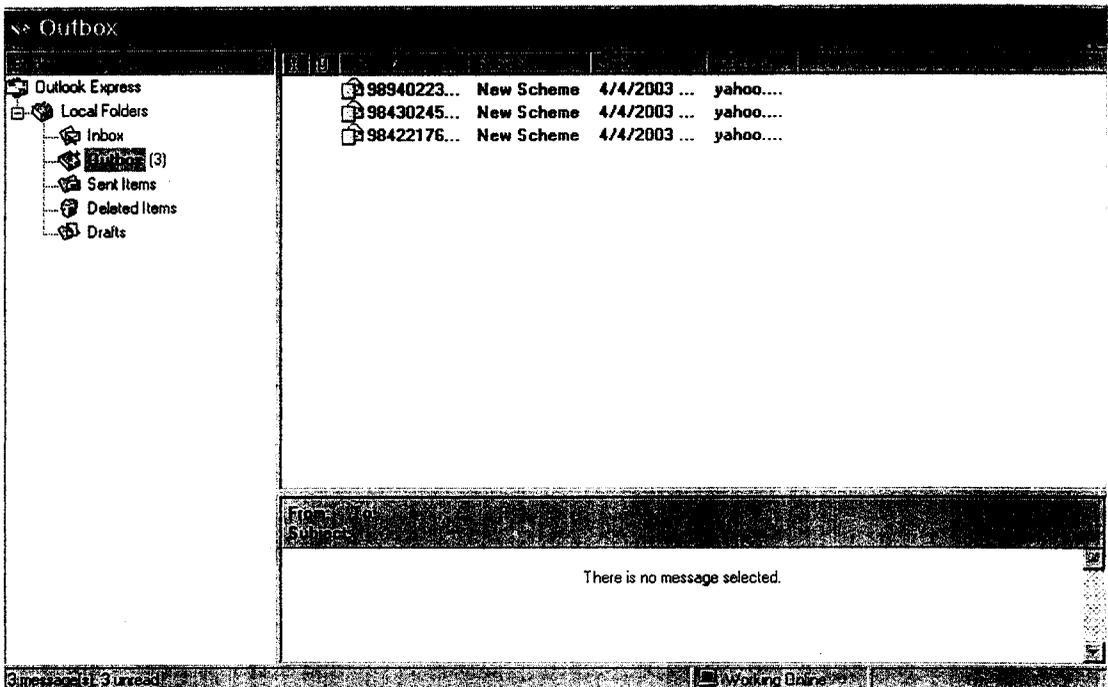
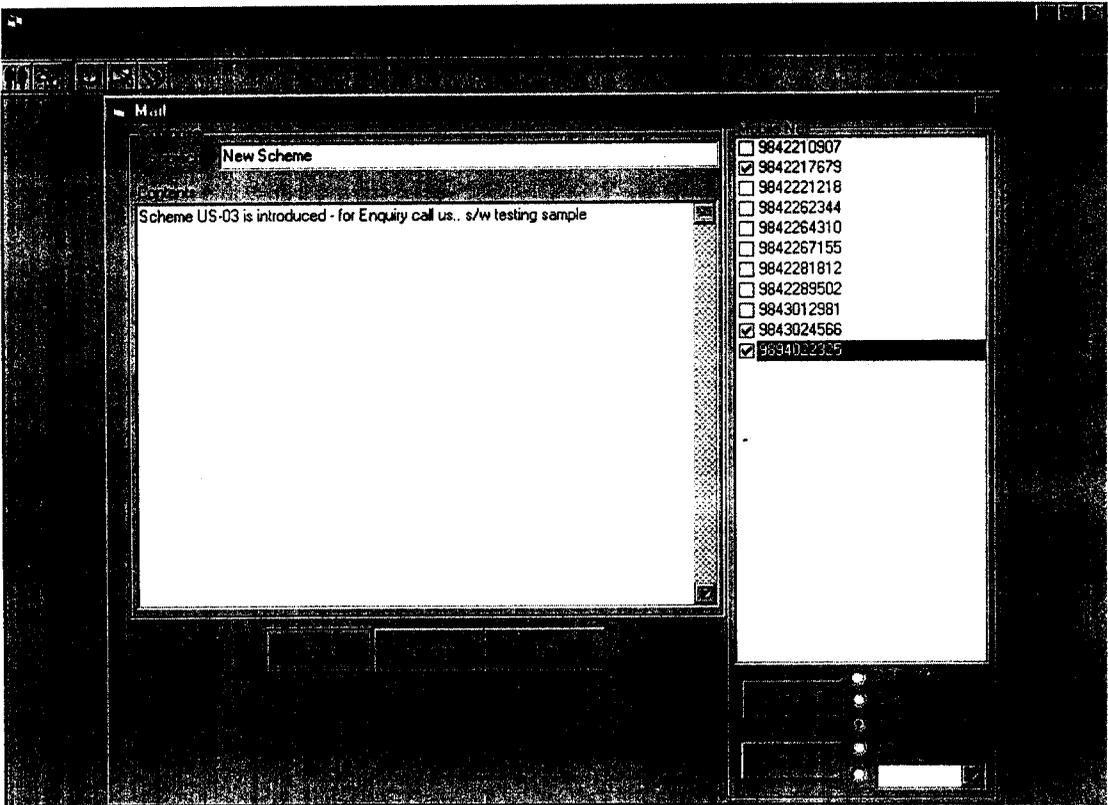


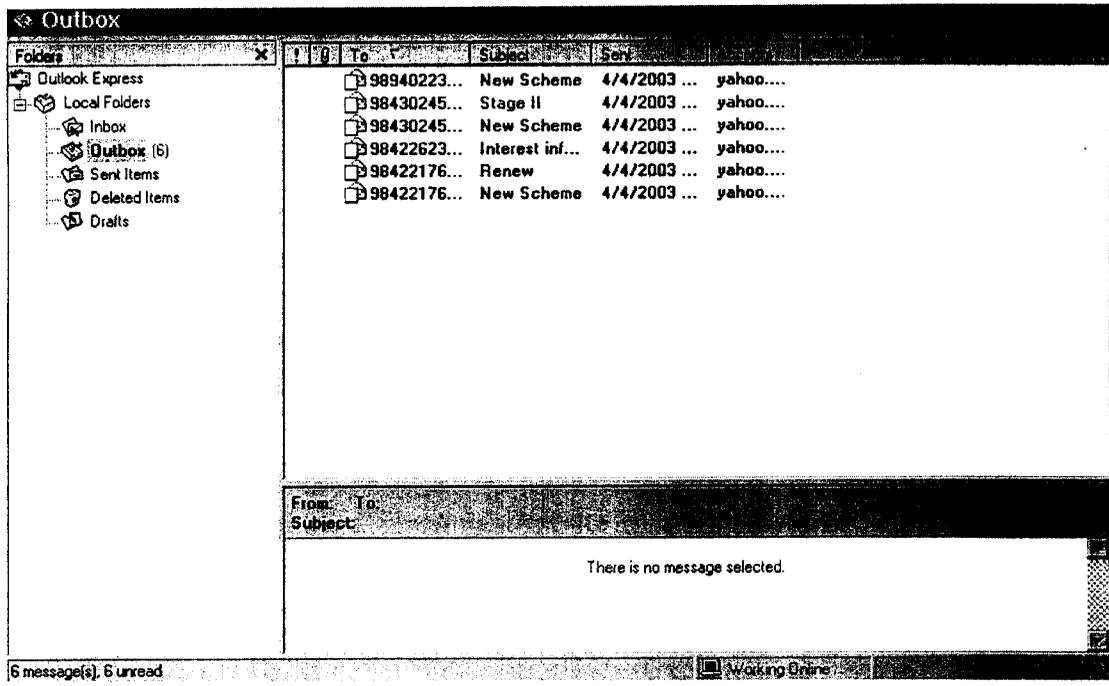
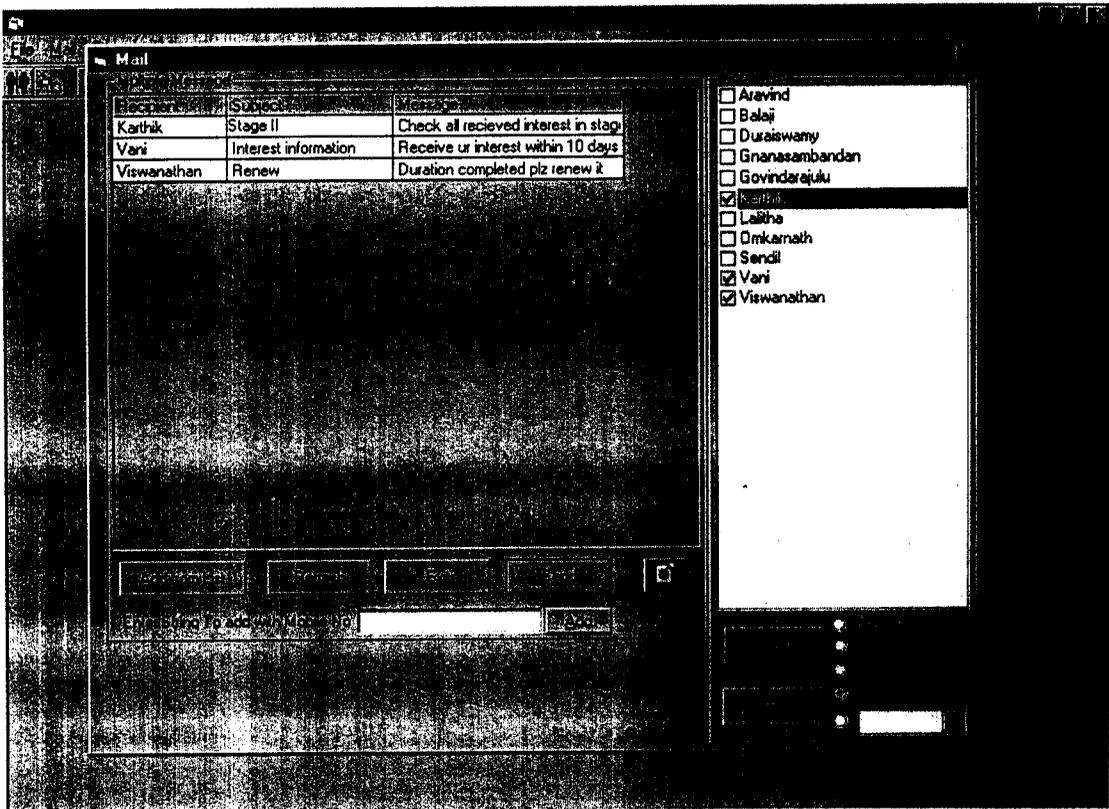
Customer

Mobile	9842262344
Name	Vani
Address	Vedavali
City	CBE
State	Tamil Nadu
Pincode	641043
Phone	0422-2422443
DOB	18/05/1981
Email	vani_pels@yahoo.com
Signature	G-Section

9843012981	9842217679
9842267155	
9894022325	
9842281812	
9842264310	
9843024566	
9842221218	
9842210907	
9842289502	

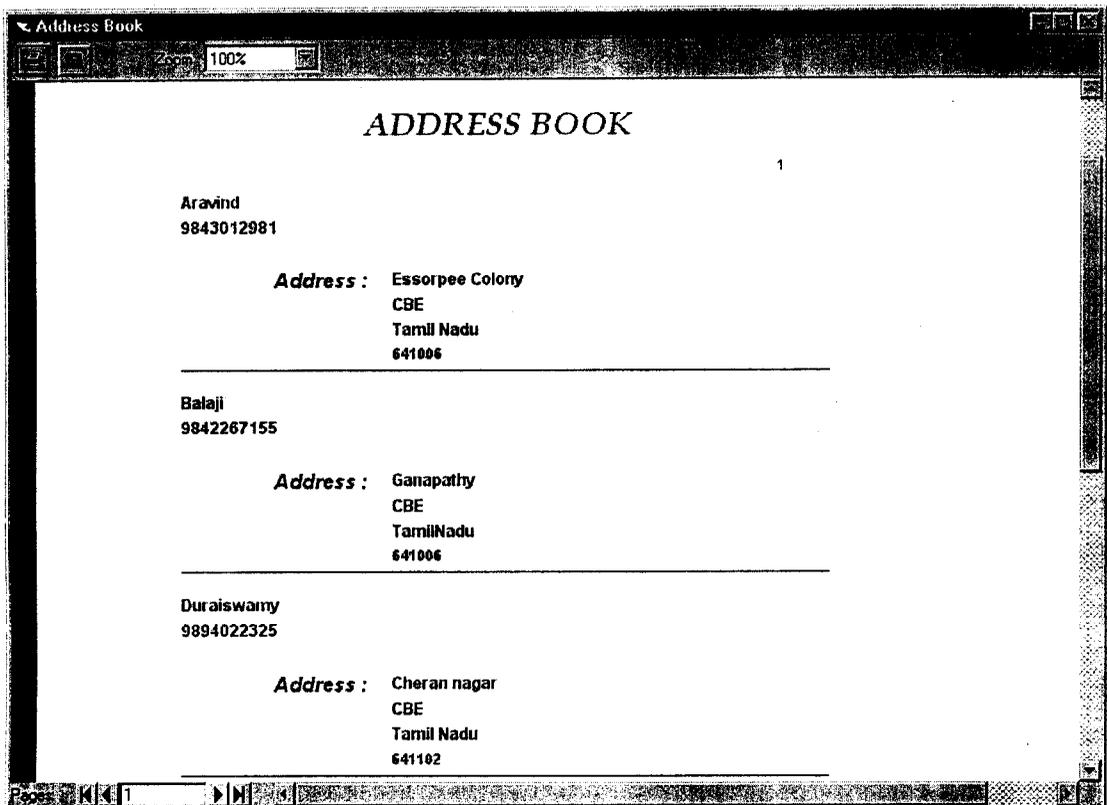






Reports

Reports:



TOTAL SMS SENT

100%

TRANSMITTED MESSAGES

1

Date	Name	Mobile	Content
4/4/2003	Viswanathan	9842217679	Scheme US-03 is introduced - for
4/4/2003	Karthik	9843024566	Scheme US-03 is introduced - for
4/4/2003	Duraiswamy	9894022325	Scheme US-03 is introduced - for
4/4/2003	Karthik	9843024566	Check all recieved interest in stage I
4/4/2003	Vani	9842262344	Receive ur interest within 10 days
4/4/2003	Viswanathan	9842217679	Duration completed plz renew it

TRANSMITTED MESSAGES

Name Viswanathan Date 4/4/2003
Mobile 9842217679

Content *Scheme US-03 is introduced - for Enquiry call
us.. s/w testing sample*

Name Viswanathan Date 4/4/2003
Mobile 9842217679

Content *Duration completed plz renew it*

STATUS REPORT

<i>Name</i>	<i>Mobile</i>
Viswanathan	9842217679
Omkarnath	9842210907
Gnanasambandan	9842281812
Duraiswamy	9894022325

3.3.5 HARDWARE & SOFTWARE INTERFACES WITH OTHER SYSTEM :

Product connects with modem for making an internet connection for the purpose of sending message. It is the only hardware interface used. The sequence of operation is Modem→ISP→MSP→Mobile.

Rest of the process is carried with pre-existing hardware and software interfaces so that when the product is to be implemented in any windows environment it is efficient in its performance. The product is globalized and can be readily made use of by any user oblivious of their magnitude (it can be big or small organization). Adaptability becomes more pronounced since it does not require any extra interface other than that, that's already mentioned. Hence the reluctancy to use the product by any user is eliminated.

Testing

3.4. Testing:

Software testing is an important element of software quality assurance and represents the ultimate review of specification, design, coding. The software testing process commences once the program is created and a working prototype with basic functionalities is available. Software testing is essential for correcting errors. A Project is set to be incomplete without proper testing.

Testing Objectives

The testing objectives are summarized in the following three steps:

1. Testing is the process of executing a program with the intent of finding an error.
2. A good test case is one that has high probability of finding an as yet undiscovered.
3. A successful test is one that uncovers an as-yet-undiscovered error.

When the software is developed, before it is given to the user, the software must be tested whether it is solving the purpose for which it is developed.

The three major quality control test performed are:

- **Basic Testing:**

Basic testing is concerned with the general validation of inputs given by the user.

- **Internal Testing:**

Internal testing is concerned with minimizing the lines of codes, repetition of loops etc.

- **Practical Testing**

Practical testing is concerned with checking the user-friendliness of the project.

4. Other Requirements

4.2 SITE ADAPTATION REQUIREMENTS :

Contingent adaptation of the product is expected when it is implemented or introduced. Some of the adaptability requirements are:

- e-Mobiler mainly deals with sending verbal messages to mobiles, in an effective manner. An additional optional feature given is for the list of email Id's. Hence the verbal messages can be sent to the mail Id's. This facilitates the recipient to receive the message in handset or the system.
- User must have an ISP for sending messages.

5. FUTURE ENHANCEMENT:

The project has been successfully completed with all the claimed requirements having been met. e-Mobiler is very flexible and feasible, since the product is built supporting only the delivery of short messages. The possibilities for renovation are infinite and scope for development is innumerable. For example, it can be enhanced to edit and attach messages with graphical message service (GMS) through WAP and Bluetooth. The future for the implementation of voice mails is very near, which paves the way for sending verbal voice short messages to the mobile handset using the e-Mobiler concept.

Conclusion

7. REFERENCES:

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