P-1021

Kumaraguru College of Technology

Department of Computer Science and Engineering
Coimbatore– 641006.
April 2003

INTEGRATED LOGISTICS SOFTWARE

Project work done at

DEXTERITY BUSINESS ANALYST (P) LTD., Chennai.

PROJECT REPORT

Submitted in partial fulfillment of the
Requirements for the award of the degree of

Master of Computer Applications

Bharathiar University, Coimbatore

Submitted by

SARAVANAN.K
Reg.No: 0038M1062

Internal Guide

Mr. M. MANIKANTAN., M.C.A.,
Dept. of Computer Science & Engineering
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External Guide

Ms. R.VIDHYA
Projects Manager
Dexterity Business Analyst (P) Ltd.,
Chennai

Certificate

CERTIFICATE

This is to certify that this project work entitled

"Integrated Logistics Software"

submitted to

KUMARAGURU COLLEGE OF TECHNOLOGY
(Affiliated to Bharathiyar University)

in partial fulfillment of the requirements for the award of the Degree of

MASTER OF COMPUTER APPLICATIONS

is a record of work done by

Mr. K.SARAVANAN.
(Reg.No. 0038M1062)

during his period of study in the Department of Computer Science and Engineering, Kumaraguru College of Technology, Coimbatore-641006, under my supervision and guidance and this project work has not formed the basis for the award of any Degree/Diploma/Associateship/Fellowship or similar title to any candidate of any University

Professor and Head

Internal Guide

Submitted for University Examination held on 16/4/2003

Internal Examiner

External Examiner

Dexterity Business Analysts (P) Ltd.

ining Software
ions Worldwide

ISO 9001 Registered

March 27, 2003

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Saravanan. K** currently pursuing his M.C.A at Kumaraguru College of Technology was involved in the project titled "Integrated Logistics Software" from December 2002 to March 2003.

Saravanan has executed the module "Liner and Consolidator", in the above mentioned project. Ms. Vidya. R (Systems Analyst) was the technical guide on behalf of Dexterity Business Analysts (P) Ltd.

The technical environment for this project was Visual Basic and MS SQL Server 2000.

During this period, we found Saravanan to be technically sound, hardworking and committed. The project has been efficiently completed to our satisfaction.

For Dexterity Business Analysts (P) Ltd.

Rakhee Khemka

Rakhee Khemka
Executive - HR

D-95, Annanagar (East), Chennai - 600 102. Tamilnadu, India.

Declaration

DECLARATION

I here by declare that the project work entitled

"Integrated Logistics Software"

done at

Dexterity Business Analyst (P) Ltd,

Chennai.

and submitted to

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Kumaraguru college of Technology, Coimbatore-641006

Under the supervision of
Mr.MANIKANTAN, M.C.A

Name of the candidate	**Register Number**	
SARAVANAN.K	**0038M1062**	**Signature of the candidate**

Date : 07.04.2003

Place : Coimbatore

Acknowledgement

ACKNOWLEDGEMENT

At the outset, I would like to remember the efforts made by two people, who have all along been with me, and who are responsible for what I am today-**My Parents.**

I would like to express my gratitude to our beloved Principal **Dr.K.K.Padmanabhan B.Sc., M.Tech., Ph.D.**, Kumaraguru College of Technology, Coimbatore, for his constant encouragement throughout my course.

I wish to thank **Dr.S.Thangasamy Ph.D.**, Head of the Department, Computer Science and Engineering, KCT, Coimbatore, for his invaluable guidance and suggestions that encouraged me to complete this project successfully.

I admit my heartfelt thanks to **Mr.A.Muthukumar M.C.A., M.Phil.**, Course Coordinator, Master of Computer Applications, KCT, Coimbatore for being supportive throughout the tenure of my project.

I wish to place on my record my profound and valuable gratitude to **Mr.M.Manikantan M.C.A** Lecturer, Department of Computer Science and Engineering, for his valuable guidance and support thank him for the timely suggestion and constant encouragement that boosted up my morale and led to the accomplishment of this project.

I have great pleasure in expressing my gratitude to **Mr.K.Palanivel**, CEO, Dexterity Business Analyst (P) Ltd, for reducing my burden through his efforts in all respects, and my whole hearted thanks to **Ms.R.Vidya**, Project Manager and **Miss.M.Menakai**, Project Leader who was always ready to help me to reach my task. I thank them for their encouragement, fullest cooperation.

I'm grateful to **Mr.S.Pravin**, CTO, Dexterity Business Analyst (P) Ltd, and **Mr.K.M.Dilip, Mr.S.Jambulingam** for providing an opportunity to pursue this venture and for their valuable guidance towards the successful completion of this project work. I wish to thank all my friends and colleagues in DBA (P) Ltd, for their encouragement and whole-hearted support to complete this project.

I also take this opportunity to extend my sense of gratitude to all the faculty members, non-teaching staffs of the Computer Science Department, KCT, Coimbatore, for their guidance and co-operation rendered throughout my course.

Synopsis

Synopsis

The Project entitled "**Integrated Logistics Software**" is developed at Dexterity Business Analyst (P) Ltd, Chennai. This Project provides a comprehensive software package for the Logistics industry, aiming to aid the Forwarding segment initially as an all in one package and to enable the Forwarder maintain all transactions in an integrated software environment for easy maintenance and enable paperless work.

The software provides logistics operations as an IT enabled service to be used by logistics companies. The software would include all operations from booking a shipment to its delivery, the various steps carried out by the Forwarder, Consolidator, Liner and different activities involved while the transshipment takes place.

This project covers the entire chain of logistics operations like Sea / Air shipment booking, Freight Forwarding, Liner activities (Shipping / Container), Cargo Consolidation, International Trade Documentation, Port Data, Routing information etc.

The shipment is done based on the Shipper's Letter of Instruction (SLI). The SLI gives the shipment details like shipper details, consignee details, load and destination ports, details about the goods to be transferred etc. The shipper gives the SLI (Shipper's Letter of Instruction) to the Forwarder. This is the inception of the shipment. The forwarder will enter all the details from SLI.

As far as the scope of this software is concerned it can be extended to provide some more service to the logistics company.

CONTENTS

Introduction

1.1. Company Profile

Dexterity Business Analysts (P) Ltd. was incorporated in 1999 with corporate headquarters located in Chennai, India. The company was founded by an experienced management with rich international experience in building business application software. With a focus on the European market and domain expertise on Market research, Logistics, Transportation and Retail sectors, the company soon grew three-fold in the first two years of operations, expanding globally with its international offices in Germany and USA. Dexterity has earned recognition as a leading technology company providing a wide range of services to the Market Research, Logistics, Retail, Manufacturing and Health Care segments not only in Europe & USA but also in Japan, Thailand, UAE and Malaysia.

1.1.1 Nature of services

The Company provides timely, cost effective and comprehensive information technology solutions to its customers by integrating the latest techniques and tools with the domain expertise of its professionals. The services set standards in customer satisfaction, service-level commitments, time to market and end-to-end solutions.

DBA possesses multi-lingual capabilities, catering to the US, European and South-East Asian markets. Its emphasis on quality and strict adherence to quality standards has made it an ISO 9001:2000 company. All the processes are documented and the entire software development life cycle is documented, reviewed and tracked. The company follows strict security and confidentiality procedures in all its operations, thus maintaining a high-level of ethics and values.

1.1.2 Expertise

DBA offers solutions to its clients by providing a wide range of services in Market Research, Logistics, Health Care, IT, Consultancy, Manufacturing and so on. Those services include customized software development, software enhancement and maintenance, re-engineering, conversion/migration projects, production support and general consulting services. DBA has its disposal a dedicated team of professionals with expertise in Java, C, C++, Visual Basic, Delphi, Power Builder, Oracle, SQL server, Informix, IIS, Java Beans, EJB and Web logic.

1.1.3 Customers

The company has clients such as

- ABIS AG, Germany

- ACNielsen, Germany, Switzerland, UK, Italy
- Bangna Tapioca Flour Co. Ltd., Bangkok, Thailand
- Bangna Engineering and Construction Co. Ltd., Bangkok, Thailand
- Getwell Pediatrics, NewYork, USA
- Kombi Verkehr GmbH, Germany
- Hermelin, Sweden
- Ocean World Lines, Germany
- Spac Tapioca Products, India
- Trans Temp Cargo Co. Ltd., Thailand

1.2. Problem Definition:

The main objective of this project is to provide a comprehensive software package for the Logistics industry, aiming to aid the Forwarding segment initially as an all in one package and to enable the Forwarder maintain all transactions in an integrated software environment for easy maintenance and enable paperless work.

The software provides logistics operations as an IT enabled service to be used by logistics companies. The software would include all operations from booking a shipment to its delivery, the various steps carried out by the Forwarder, Consolidator, Liner and different activities involved while the transshipment takes place.

This project covers the entire chain of logistics operations:

- Sea / Air shipment booking
- Freight Forwarding
- Liner activities (Shipping / Container)
- Cargo Consolidation
- International Trade Documentation,
- Port Data
- Routing information

The shipment is done based on the Shipper's Letter of Instruction (SLI). The SLI gives the shipment details like shipper details, consignee details, load and destination ports, details about the goods to be transferred etc. The shipper gives the SLI (Shipper's Letter of Instruction) to the Forwarder. This is the inception of the shipment. The forwarder will enter all the details from SLI.

1.2.1. Sea / Air Shipment booking:

The booking transaction is used to enter the information available in the SLI that the shipper will give to confirm the business. The Booking can be by anyone of the following.

- ✓ Sea Booking
- ✓ Air Booking

1.2.2.Freight Forwarding:

When a shipper requests for air/ocean tariff, this application helps the forwarder to retrieve the tariff based on the weight/volume category and sends him a quotation by mentioning origin, destination and Cargo details together with the shipment rate as mail or fax.

The shipper gives the SLI (Shipper's Letter of Instruction) to the Forwarder. This is the inception of the shipment. The forwarder will enter all the details from SLI.

Once the SLI information has been entered, the forwarder will check for the buy rate from the Consolidator or the Liner and gives the sell rate to the shipper for the shipment booked. It can be sent to the shipper by mail/fax.

By referring the SLI Number, the forwarder can make arrangement for the trucking. The trucking details like Truck and driver details are stored. Trucking depends on the shipper whether he has asked for.

The Freight Forwarder will confirm with the Consolidator or the Liner, the Vessel schedule, receipt of goods, container numbers, seal numbers, etc. These data are needed to prepare the Bill of Lading and other relevant documents. So once the forwarder has entered all the shipment related details by getting wherever necessary, he can print/mail/fax the BL.

Whenever the forwarder incurs some charges for a shipment, he will note it by mentioning the name of the expense and amount by referring the SLI Number / Job order number.

1.2.3.Consolidator and Liner Activities:

The Consolidator will enter the details of the shipment when the Forwarder approaches him for booking the container space. The Forwarder will approach the Consolidator, after getting SLI from the Shipper, and only in the case of LCL shipment.

Usually the consolidator will be having some containers, reserved to the Liner for a particular Vessel. So the Forwarder may approach the Consolidator to transport their shipment by putting into those containers. This will be the case only for the small size of shipment.

If the shipment's size is enough to fill a container, then the Forwarder will directly approach the Liner by mentioning their container size.

If the size of the shipment is very small, but the shipper wants to do that as FCL shipment so that to separate their shipment from others, then the Forwarder may approach the Liner for the specified container.

Liner collects the info regarding the shipper, consignee, cargo details, container specification and other necessary details from the forwarder and enters into the screen for FCL.

1.2.4. Port Data:

This module will give the details of the ports i.e.) both Seaports and Airports. New ports can be added or any existing ports can be deleted or modified for a particular country. Seaports and Airports are added separately so that there is no relationship between them. The type of goods allowed inside the particular port must also specified during the specification of the port itself. Some ports may allow dangerous goods and some may not allow dangerous goods and some may allow partly dangerous goods. When dangerous goods are allowed, the cargo should be identified with special care so that by avoiding any dangerous circumstances. So, for a particular country any number of ports can be created according to the necessacity. Thus port data is maintained.

1.2.5.Routing Information:

Routing information is a significant one, since it affects in the delivery of the products. The same destination place can be reached through different ways or different routes. So we want to send our goods through optimum route or the shortest route from the origin place to destination place. So we can use the shortest routes, which are already present, or we can create new routes by having the available ports in the corresponding country. Flight routes will entirely differ from Sea routes. Thus routing information is maintained in a separate database.

1.2.6.Equipment Details:

Equipment details deals with maintenance, container leasing and container returning, service of equipments.

Equipment maintenance deals with maintaining various charges, which are incurred during some servicing or repairing the equipment or some purchases.

Consolidator either hires or leases the container from the Liner for providing the facility of LCL Shipment. Container leasing can be done in two ways i.e.) container leasing-getting and container leasing-giving. The first one is the type of leasing in which containers are leased from outside companies and the second one is the type of leasing in which containers are leased to outside companies.

System Study and Analysis

3.System Study and Analysis

3.1. Existing System:

The existing system is a manual work. All the details are maintained manually. It requires high manpower and it is a time consuming process. Maintenance of the documents consumes more cost and effort. Reference of the details cannot be made easy. Moreover the computerization helps the Companies to be IT perfect.

3.2. Proposed System:

The software is self contained and independent. The software is proposed to provide logistics operations as an IT enabled service to be used by logistics companies.

The software would include all operations from booking a shipment to its delivery, the various steps carried out by the Forwarder, Consolidator, Liner and Liner Agency and different activities involved while the transshipment takes place.

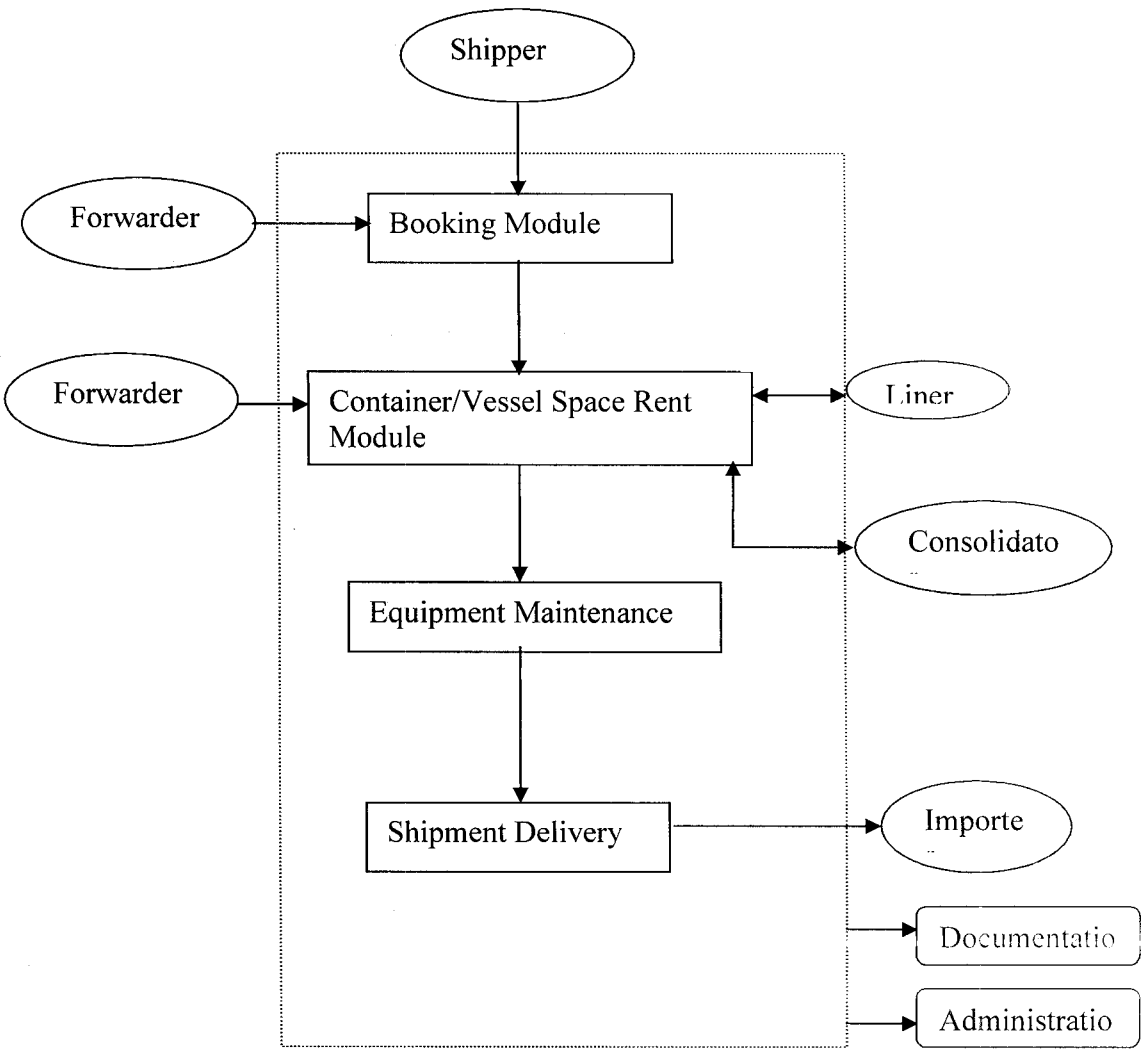
The software is now designed to meet the needs of forwarding segment in the Logistics Industry. Further additional modules to cater to the needs of Liner, warehouse and Liner Agency services are proposed to be developed as plug in modules later.

All users of the proposed software are expected to have basic knowledge in computers. The users are assumed to have an overall knowledge of the Logistics operations so as to know how best the proposed software can be used. The users would need a training session on how to use this software in different cases, which might arise when Logistics activities are taking place.

The proposed software has an extensive Administration module, which takes care of restricting the users based on their login and functionality provided for the specific login. Password encryption will be provided for the system. Users will be restricted to view, delete details not pertaining to their area of functionality.

The proposed software is a fresh installation and any existing data will have to be entered manually through the data entry screens provided in the software.

OVERVIEW OF THE PROPOSED SYSTEM



3.3. Functional Requirements:

3.3.1. Hardware Specification:

Processor	Intel Pentium Processor
RAM	128 MB
CPU Clock	400 MHz
Cache Memory	512 K
Display Mode	VGA / CGA
Hard Disk	2 GB
Keyboard	Standard Keyboard with 104 Keys
Mouse	Compaq
Printer	HP Laser Jet 4

3.3.2. Software Specification:

Operating System	Windows 98
Front End	Visual Basic 6.0
Back End	SQL Server 2000
Database Connectivity	ADO Connectivity
Reports	Crystal Reports
Component	True DBGrid 7.0
In case of any text handling	MSWord, Word Pad.

3.3.3. Software Utilization:

In 1991, Microsoft released Visual Basic. This led the programmers to visualized the design of the user interface effectively and then to concentrate on coding.

Visual Basic as a Front End Tool:

Visual basic is a GUI (Graphical User Interface) based windows application development platform with a strong combination of a front-end tool and a programming language. The ease of the Visual approach coupled with the power of programming and the straightforward Basic language syntax makes programming easy. By using Visual basic, the programmer can create powerful, full featured applications that exploit the key feature of the MS-Windows, including Multiple Document Interface (MDI), Object linking and Embedding (OLE), Dynamic Data Exchange (DDE), Graphics and many more. Visual basic can be extended by adding custom controls and by calling procedures in Dynamic Link Libraries (DLL's).

The Multiple Document Interface (MDI) allows the programmer to create an application that maintains multiple forms within a single container form. Application such as Windows Program Manager, File Manager, Excel and word for windows has Multiple Document Interface.

An MDI application allows the user to display multiple documents at the same time, with each document displayed in this own window. Document windows are contained in a parent window, which provides a workspace for all the document windows in the application.

Using MDI in visual basic.

Visual basic application can have only one MDI form, which contains all the applications child form. A child form is an ordinary form that has its MDI-Child property set to true. The application can include many MDI-Child forms. At run time, child forms are displayed within the internal area of the MDI form. When a child form is minimized, its icon appears on the MDI form instead of appearing on the desktop.

Visual basic is also supported by custom control created by third party vendors and the control can be created for specific use. The context sensitive help that is provided by visual basic and windows, can also be obtained from the visual basic application. Thus it stands as a cent percent real windows application with GUI.

Elements of visual basic:

A visual basic interface consists of the following elements.

Toolbar.

Provides quick access to commonly used commands in the programming environment. An icon in the tool bar can be clicked to carry out the action represented by that icon.

Toolbox

Provides a set of tools that can be used at the design time to place controls on the form.

Menu bar

Displays the command that can be used to build am application

Form

Serves as a window that can be used to customize the interface of an application. Controls, graphics, and pictures can be added to a form to create the visual effect required by the user.

Project Window.

Lists the form, code module and custom control files that make up the current project. A project is the collection of the file that a programmer used to build up his application.

Property window.

Lists the property settings for the selected form or control. A property is the value of an object, such as size, caption or color.

Debug window.

The debug window automatically opens at run time, in break mode, one can use the debug window to execute individual lines of code, view or change values of variable and property and view watch expression. At run time it can be used to display data or message as the program runs. At design time, one can view previous output to the debug window, but code cannot be executed.

Steps to create a visual basic application:

1. Create the interface.
2. Set property.
3. Write code.

Additional features in visual basic 6.0:

Visual basic is categorized into two editions. One is the application edition and the other one is professional edition. Some special features are listed out with a brief description.

1. OLE Automation is an industry standard technology that application use to expose their OLE objects to develop tools, macro language and other applications that support OLE

automation When an application supports OLE Automation, the object is exposed can be accessed by visual basic. Visual basic can be used to manipulate these objects by involving methods on the objector by getting and setting the object's properties. The objects, functions, properties and methods supported by an application are usually defined in the application's object library.

2. To distinguish visual basic project files from source files used by other development tools, the file extension .VBP is used.
3. Object Browser is used for hierarchical display of classes, properties, and methods available to the application.
4. The 32-bit version of visual basic supports long file names.
5. Programmer can define classes, which are contained in visual basic class module. Class module is the one, which contains the definition of class, it's properties and definition
6. Enhanced object browser, auto list members feature and auto quick information feature is also provided.
7. ActiveX is a new buzzword that refers to technologies that previously may have been associated with the term OLE. ActiveX is Microsoft's name for technologies that are based on the component Object Model (COM). Visual basic lets you create ActiveX control, ActiveX Documents.
8. Visual basic's Internet capability allows one to create powerful applications hosted by standard browser.

Jet engine 6.0

1. Microsoft jet engine version 6.0 is used in visual basic -32-bit version.
2. Salient feature of Jet Engine 3.0
    a. Data Access Object (DAO) programming modes.
    b. Cascading update and delete.
    c. Pragmatic access to referential integrity.
3. In Microsoft Jet Database Engine, the security setting can be created and modified through MS access
4. Jet database 6.0. Supports
    a. Database Replication.
    b. Direct Manipulation of replicated Database is possible from visual basic code.

Visual SourceSafe 6.0(VSS):

Operations that VSS enables you to perform include:

- Add Files, Folders, and Projects

  To add a file or folder using drag and drop:

  1. Open VSS Explorer and resize it so you have enough room to display Windows Explorer.
  2. Open Windows Explorer and resize it so you have enough room to display VSS Explorer.
  3. Select one or more files or folders from the list view (on the right pane) in Windows Explorer.
  4. Drag the selected files or folders onto VSS Explorer. Files are added to the VSS project. Folders are added as subprojects of the project.

- Check In and Check Out Files

  To make changes to a file we must first check it out of the VSS database. When we **check out** an item, VSS places a writable copy in our working folder. A file that is checked out cannot be checked out by anyone else unless your installation of VSS has been set up to allow multiple checkouts; we can see our VSS administrator for more details. We can see who an item is checked out to in the User column of the file pane. We can check out one file, multiple files, or all files in a project depending on what item(s) We have selected when you perform the checkout operation.

  In addition to checking out an item, we can also **View** or **Get** the item. When a file is checked out, the following options are available:

  ✓ **Check In** your updated file or project, thus storing your changes in the current project in VSS.

- ✓ Undo your checkout, canceling your changes both in VSS and in your working folder — the file or project returns to the way it was before you checked it out.

- Cloak Projects
- Create New Projects
- Customize the SS.INI and SRCSAFE.INI Files
- Customize VSS
- Delete and Recover Files and Projects
- Edit Files
- Get and View Files and Projects
- Label Files and Projects
- Merge Files
- Move Files and Projects
- Open/Close a Database
- Pin Files and Projects
- Rollback to Previous Versions
- Search for Files
- Set Working Folders
- Set Default File Types
- Set Passwords

Use the **Change Password** command to set and change our password. To change our password, we must first know what it is. If we forget our password, we want to ask our VSS administrator to change it.

Upon log in, VSS prompts for a password if the operating system prevents it from determining user identity. It will not prompt for a password if the VSS administrator has specified the user network name is the same as the user log in name.

- Use the Command Line
- Use the Options Dialog Box
- Version Control and History
- View or Modify File or Project Properties
- Work with Shadow Folders
- Work with Web Projects
- Writing Batch Files
- Use VSS Off-line

You can use VSS to work off-line in the following situations:

- ✓ When the network is down
- ✓ When working on a laptop
- ✓ When working from home, using RAS

True DBGrid Pro 7.0:

True DBGrid Pro 7.0 is a data-aware ActiveX grid control for Microsoft Visual Studio. Developed by Component One LLC, True DBGrid Pro 7.0 is the upgrade to the DBGrid control included in this product, as well as earlier versions of Microsoft Visual Basic and Visual C++.

True DBGrid Pro 7.0 allows end users to browse, edit, add, and delete data in a tabular format. Using the latest data binding technologies built into Visual Studio, including OLE DB, True DBGrid Pro 7.0 completely manages the database interface, allowing developers to concentrate on important application-specific tasks. True DBGrid Pro 7.0 can also be used in unbound or storage mode with a programmer's own data source.
True DBGrid Pro 7.0 was designed to be a powerful, versatile, and easy-to-use data presentation tool. Novice programmers can use True DBGrid Pro 7.0 to create a fully functional database browser without writing a single line of code. Professional developers can use the grid control's many properties and events to create sophisticated and user-friendly database front-end applications.
In addition to being the fastest database grid on the market, True DBGrid Pro 7.0 includes dozens of advanced data access, data presentation, and user interface features that enable developers to build intuitive, professional-looking applications

SQL Server 2000:

Microsoft® SQL Server™ 2000 is a set of components that work together to meet the data storage and analysis needs of the largest Web sites and enterprise data processing systems. The topics in SQL Server Architecture describe how the various components work together to manage data effectively.

Microsoft® SQL Server™ 2000 features include:

- Internet Integration.

  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.

- Scalability and Availability.

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.

- Enterprise-Level Database Features.

  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. SQL Server 2000 distributed queries allow you to reference data from multiple sources as if it were a part of a SQL Server 2000 database, while at the same time, the distributed transaction support protects the integrity of any updates of the distributed data. Replication allows you to also maintain multiple copies of data, while ensuring that the separate copies remain synchronized. You can replicate a set of data to multiple, mobile, disconnected users, have them work autonomously, and then merge their modifications back to the publisher.

- Ease of installation, deployment, and use.

  SQL Server 2000 includes a set of administrative and development tools that improve upon the process of installing, deploying, managing, and using SQL Server across several sites. SQL Server 2000 also supports a standards-based programming model integrated with the Windows DNA, making the use of SQL Server databases and data warehouses a seamless part of building powerful and scalable systems. These features allow you to rapidly deliver SQL Server applications that customers can implement with a minimum of installation and administrative overhead.

- Data warehousing.

  SQL Server 2000 includes tools for extracting and analyzing summary data for online analytical processing. SQL Server also includes tools for visually designing databases and analyzing data using English-based questions.

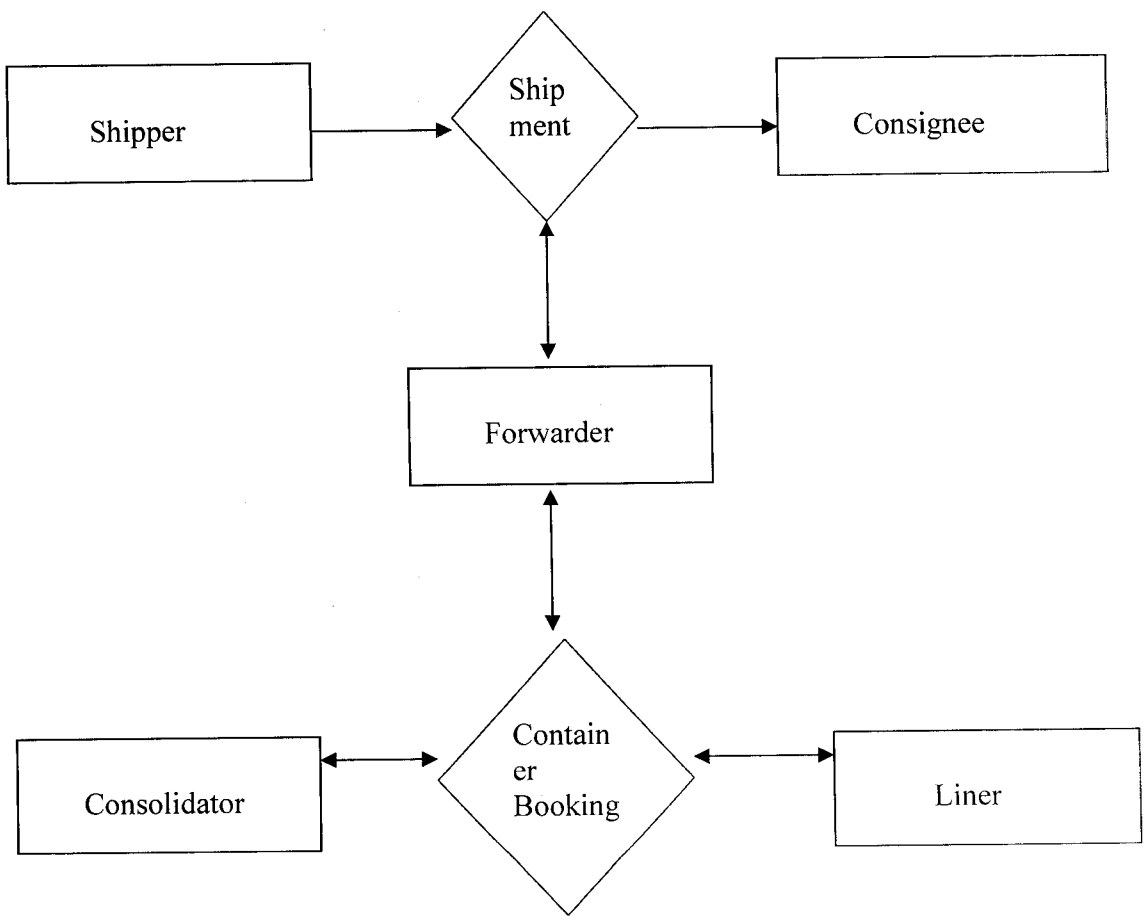
Microsoft® SQL Server™ 2000 is designed to work effectively as:

- A central database on a server shared by many users who connect to it over a network. The number of users can range from a handful in one workgroup, to thousands of employees in a large enterprise, to hundreds of thousands of Web users.
- A desktop database that services only applications running on the same desktop.

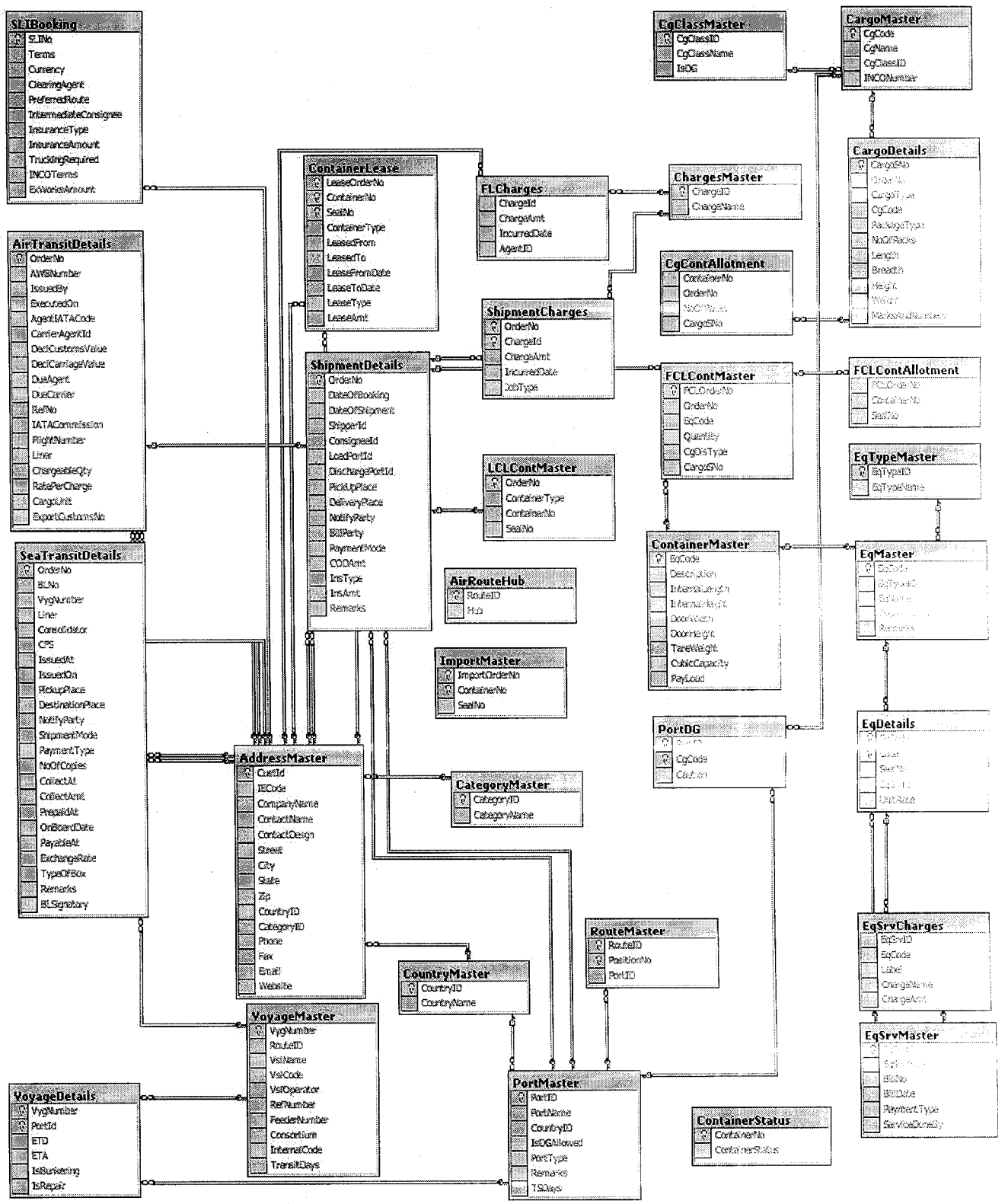
System Design

4.1 System Structure

4.1.1. Entity Relationship Diagram



4.1.2. Database design



ILS – User Maintenance:

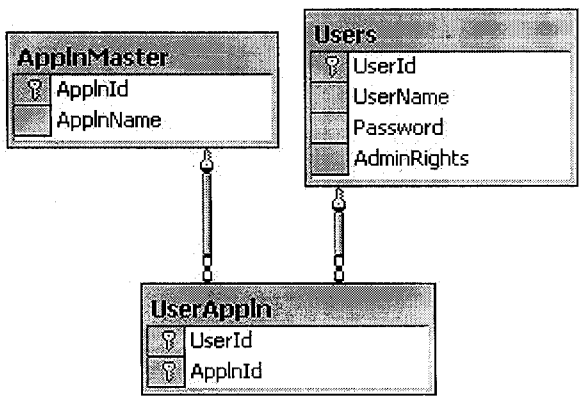


TABLE STRUCTURE

Address Master				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
CustId	numeric	9	PK	
IECode	varchar	50		
CompanyName	varchar	50		
ContactName	varchar	50		
ContactDesgn	varchar	50		
Street	varchar	50		
City	varchar	50		
State	varchar	50		
Zip	varchar	50		
CountryID	Char	2	FK ref. Country Master	
CategoryID	smallint	2	FK ref. Category Master	
Phone	varchar	30		
Fax	varchar	20		
Email	varchar	10		
Website	varchar	50		

Cargo Details				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
CargoSNo	Int	4	PK	
OrderNo	Varchar	10		ShipmentOrderNo ContainerSpaceBooking No.VesselSpaceBooking No. or ImportOrderNo
CargoType	Varchar	50		
CgCode	Char	10	FK ref.	

			Cargomaster	
PackageType	Varchar	50		
NoOfPacks	Int	4		
Length	Float	8		In meter
Breadth	Float	8		In meter
Height	Float	8		In meter
Weight	Float	8		In Kilogram
MarksAndNumbers	varchar	100		

AirRouteHub				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
RouteID	Char	10	FK ref. Route Master	ref. Route Master
Hub	Char	10	FK ref. PortMaster (PortId)	Port ID of Hub

AirTransitDetails				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
OrderNo	varchar	20	FK ref. SLIBooking	
AWBNumber	varchar	10	Unique	
IssuedBy	numeric	9	Fk ref AddressMaster (CustId)	
Executed On	datetime	8		
AgentIATACode	Char	10		
CarrierAgentId	numeric	9	FK ref. AddressMaster (CustId)	
DeclCustomsValue	numeric	9		
DeclCarriageValue	numeric	9		
DueAgent	numeric	9		
DueCarrier	numeric	9		
RefNo	varchar	20		
IATACommission	numeric	9		
FlightNumber	numeric	9		
Liner	numeric	9	FK ref. AddressMaster (CustId)	
Chargeable	numeric	9		

RatePerCharge	numeric	9		In Rs
CargoUnit	Char	1	V/W	V-Volume;W->Weight
ExportCustomsNo	varchar	20		

Category Master				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
CategoryID	smallint	2	PK	
CategoryName	varchar	50		

CgContAllotment				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
ContainerNo	varchar	20		
OrderNo	varchar	20	FK ref. ShipmentDetails	
NoOfPacks	Int	4		
CargoSNo	Int	4	FK ref. CargoDetails	

CargoMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
CgCode	Char	10	PK	
CgName	Varchar	50		
CgClassID	Int	4	FK ref. CgClassMaster	
INCONumber	Char	25		

CgClassMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
CgClassID	Int	4	PK	
CgClassName	Varchar	50		
IsDG	Char	1	Y/N	Y->Yes; N->No

ChargesMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
ChargeID	Int	4	PK	
ChargeName	Varchar	50		

Container Master				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
EqCode	Varchar	50	FK ref. EqDetails	
Description	Varchar	100		
Internal Length	Float	8		In meter
Internal Height	Float	8		In meter
Door Width	Float	8		In meter
Door Height	Float	8		In meter
Tare Weight	Float	8		In Kilogram

Cubic Capacity	Float	8		In meter
Payload	Float	8		In Kilogram

Country Master				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
CountryID	char	2	PK	
Country Name	varchar	100		

Container Lease				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
LeaseOrderNo	Int	4	PK	
ContainerNo	Varchar	20		
SealNo	Varchar	20		
ContainerType	Varchar	100	FK refers EqMaster(EqCode)	
LeasedFrom	Numeric	9	Fk refers AddressMaster(CustId)	
LeasedTo	Numeric	9	Fk refers AddressMaster(CustId)	
LeaseFromDate	Datetime	8		
LeaseToDate	Datetime	8		
LeaseType	Char	1	G/T	G->Give; T->Take
LeaseAmt	Numeric	9		

EqDetails				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
EqCode	Varchar	50	PK, FK ref. EqMaster	
Label	Varchar	20	PK	
SealNo	Varchar	20	Unique	
EqSrvId	Int	4	FK ref. EqSrvMaster	
UnitRate	Numeric	9		

EqSrvCharges				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
EqSrvId	Int	4	PK	
EqCode	varchar	50	FK ref. EqDetails	
Label	varchar	20	FK ref. EqDetails	
ChargeName	varchar	100		
ChargeAmt	numeric	9		

EqSrvMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
EqSrvID	Int	4	PK	
EqSrvType	Char	1		
BillNo	Varchar	20		
BillDate	Datetime	8		
PaymentType	Char	1	C/Q	C->Cash; Q->Cheque
ServiceDoneBy	Numeric	9	Fk refers AddressMaster (CustId)	

EqMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
EqCode	Varchar	50	PK	
EqTypeID	Int	4	FK ref. EqTypeMaster	
EqName	Varchar	100		
Depreciation	Numeric	9		
Remarks	Varchar	250		

EqTypeMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
EqTypeID	Int	4	PK	
EqTypeName	varchar	50		

FCLContAllotment				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
FCLOrderNo	Int	4	FK ref. FCLContMaster	
ContainerNo	Varchar	20		
SealNo	Varchar	20		

FLCharges				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
AccountId	Int	4	PK	
ChargeId	Int	4	FK ref. ChargesMaster	
ChargeAmt	Numeric	9		
IncurredDate	Datetime	8		
AgentID	Numeric	9	Fk refers AddressMaster(CustId)	

FCLContMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
FCLOrderNo	int	4	PK	
OrderNo	varchar	20	FK ref. ShipmentDetails (OrderNo)	
EqCode	varchar	50	Fk ref. EqMaster (EqCode)	
Quantity	numeric	9		
CgDisType	char	1	S/D	S->Similar; D->Dissimilar
CargoSNo	int	4	Fk ref. CargoDetails	List of CargoSNo separated by '|'

ImportMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
ImportOrderNo	Varchar	20	FK ref. ShipmentDetails(OrderNo)	
ContainerNo	Varchar	20		
SealNo	Varchar	20		

PortDG				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
PortID	Int	4	FK ref. PortMaster	
CgCode	Char	10	FK ref. CargoMaster	
Caution	Varchar	250		

LCLContMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
OrderNo	Varchar	20	FK ref SLIBooking	
ContainerType	Varchar	50		
ContainerNo	Varchar	20		
SealNo	Varchar	20		

RouteMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
RouteID	Int	4	PK	
PositionNo	Smallint	2	PK	
PortID	Int	4	FK ref. PortMaster	

PortMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
PortID	Int	4	PK	
PortName	Char	25		
CountryID	Char	2	FK ref. CountryMaster	
IsDGAllowed	Char	1	Y/N	Y->Yes; N->No
PortType	Char	1	S/A	S->Sea; A->Air
Remarks	Varchar	500		
TSDays	Numeric	9		

SeaTransitDetails				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
OrderNo	Varchar	20	PK; FK ref. ShipmentDetails	
BLNo	Varchar	20	Unique	
VygNumber	Varchar	20	FK ref. VoyageMaster	
Liner	Numeric	9	FK ref. AddressMaster (CustId)	
Consolidator	Numeric	9	FK ref. AddressMaster (CustId)	
Forwarder	Numeric	9	FK ref. AddressMaster (CustId)	
CFS	Varchar	50		
IssuedAt	Varchar	50		
IssuedOn	Datetime	8		
PickupPlace	Varchar	50		
DestinationPlace	Varchar	50		
NotifyParty	Varchar	100		
ShipmentMode	Char	1	L/F	L->LCL; F->FCL
PaymentType	Char	1	P/C	P->Prepaid; C->Collect

NoOfCopies	Int	4		
CollectAt	Varchar	50		
CollectAmt	Numeric	9		
PrepaidAt	Varchar	50		
OnBoardDate	Datetime	8		
PayableAt	Varchar	50		
ExchangeRate	Varchar	50		
TypeOfBox	Char	1	D/R	D->Direct; R->Rooted
Remarks	Varchar	200		
BLSignatory	Varchar	50		

Shipment Charges				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
OrderNo	Varchar	20	FK ref. SLIBooking	
ChargeId	Int	4	FK ref. ChargeMaster	
ChargeAmt	Numeric	9		
IncurredDate	Datetime	8		
PaymentType	Char	1	P/C	P->Prepaid; C->Collect

ShipmentDetails				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
OrderNo	Varchar	20	PK	
ShipmentType	Char	1	S/A/C/V	S->Sea Booking; A->Air Booking; C->Container Space Booking; V->Vessel Space Booking
DateOfBooking	Datetime	8		
DateOfShipment	Datetime	8		
ShipperId	Numeric	9	FK ref. AddressMaster (CustID)	
ConsigneeId	Numeric	9	FK ref. AddressMaster (CustID)	
LoadPortId	Int	4	FK ref. PortMaster	
DischargePortId	Int	4	FK ref. PortMaster	
PickUpPlace	Varchar	50		
DeliveryPlace	Varchar	50		
NotifyParty	Varchar	100		
BillParty	Varchar	100		
PaymentMode	Char	1	P/C	P->Prepaid; C->Collect
CODAmt	Numeric	9		
InsType	Varchar	20		
InsAmt	Numeric	9		
Remarks	Varchar	100		

Voyage Details				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
VygNumber	Varchar	20	FK ref. VoyageMaster	
PortId	Int	4	FK ref. PortMaster	
ETD	Datetime	8		
ETA	Datetime	8		
IsBunkering	Char	1	Y/N	Y->Yes; N->No
IsRepair	Char	1	Y/N	Y->Yes; N->No

VoyageMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
VygNumber	Varchar	20	PK	
RouteID	Int	4	FK ref. RouteMaster	
VslName	Varchar	50		
VslCode	Varchar	50		
VslOperator	Varchar	50	Fk ref. AddressMaster	
RefNumber	Varchar	50		
FeederNumber	Varchar	50		
Consortium	Varchar	50		
InternalCode	Varchar	50		
TransitDays	Int	4		

SLIBooking				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
SLINo	Varchar	20	PK	
Terms	Varchar	50		
Currency	Varchar	50		
ClearingAgent	Numeric	9	FK ref. AddressMaster (CustID)	
PreferredRoute	Int	4	FK ref. RouteMaster (RouteID)	
IntermediateConsignee	Varchar	100		
InsuranceType	Varchar	50		
InsuranceAmount	Numeric	9		
TruckingRequired	Char	1	Y/N	Y->Yes; N->No
INCOTerms	Varchar	50		
ExWorksAmount	Numeric	9		
IsSent	Char	1	Y/N	Y->Yes; N->No

ApplnMaster				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
ApplnId	Varchar	20	PK	
ApplnName	Varchar	100		

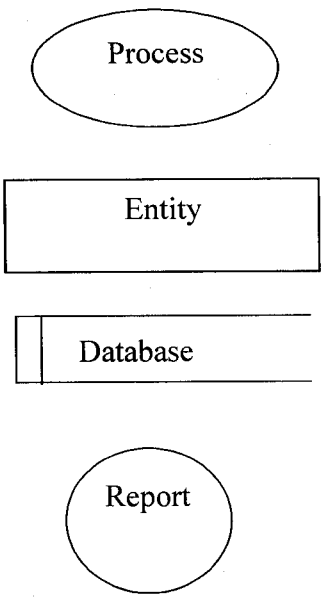
Users				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
UserId	Varchar	15	PK	
UserName	Varchar	50		
Password	Char	15		
AdminRights	Char	1	Y/N	Y->Yes; N->No

UserAppIn				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
UserId	Varchar	15	FK ref. Users	
ApplnId	Varchar	20	Fk ref. ApplnMaster	

ContainerStatus				
Field Name	**Data Type**	**Length**	**Constraints**	**Comments**
ContainerNo	Varchar	20		
ContainerStatus	Char	1	F/A	F->Free; A->Allocated

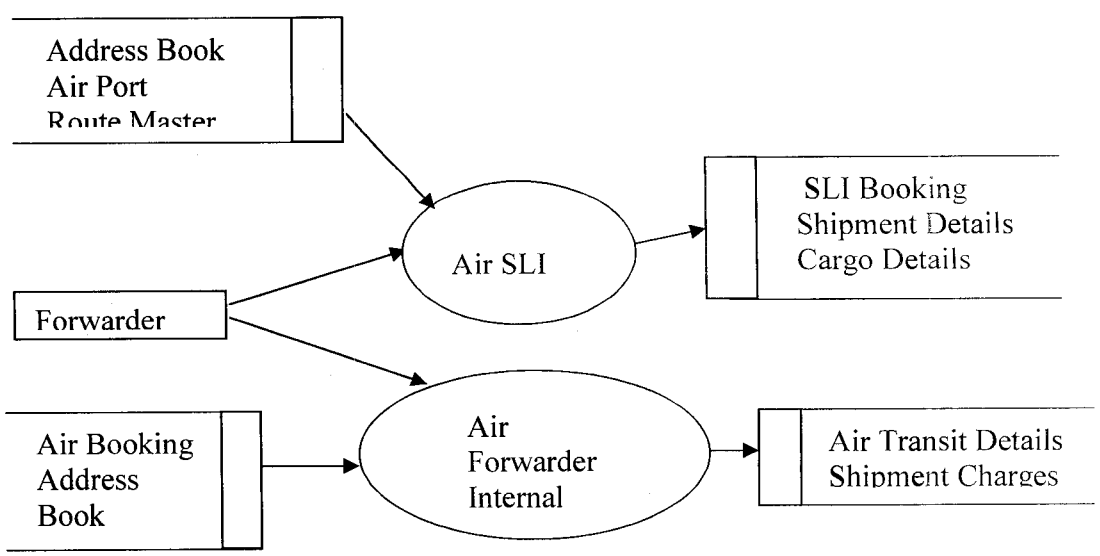
4.2.Logical Design

Symbols used in the Diagrams.

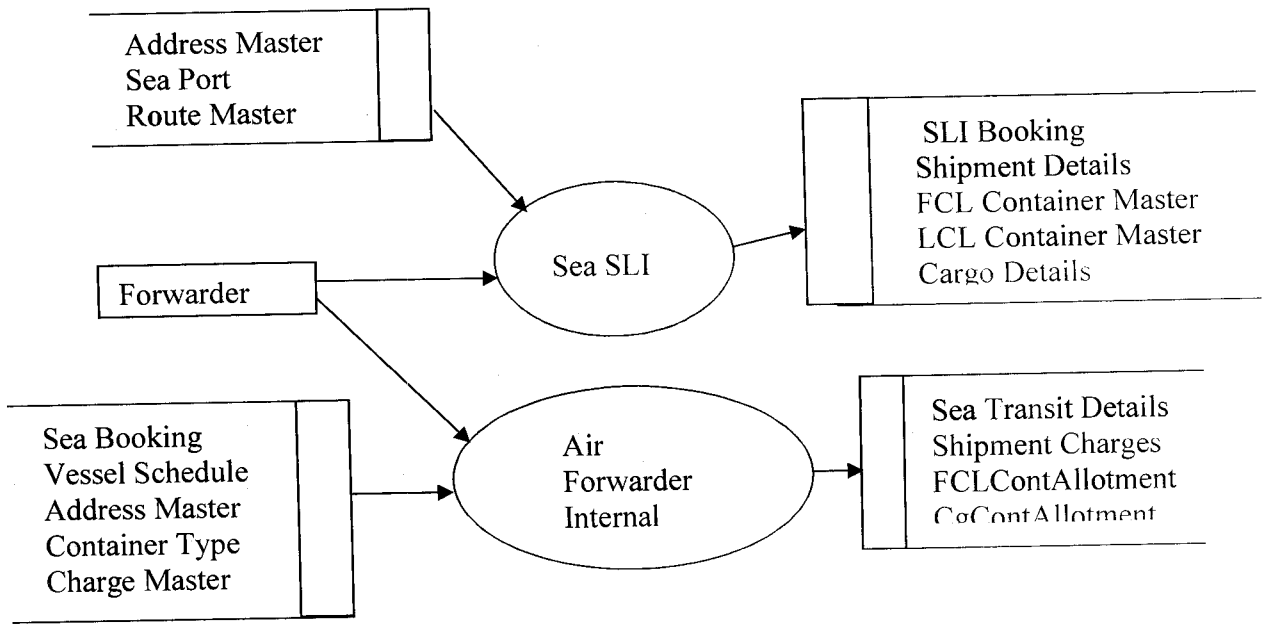


4.2.1. Data Flow Diagram

Air Freight Forwarding:



Sea Freight Forwarding:



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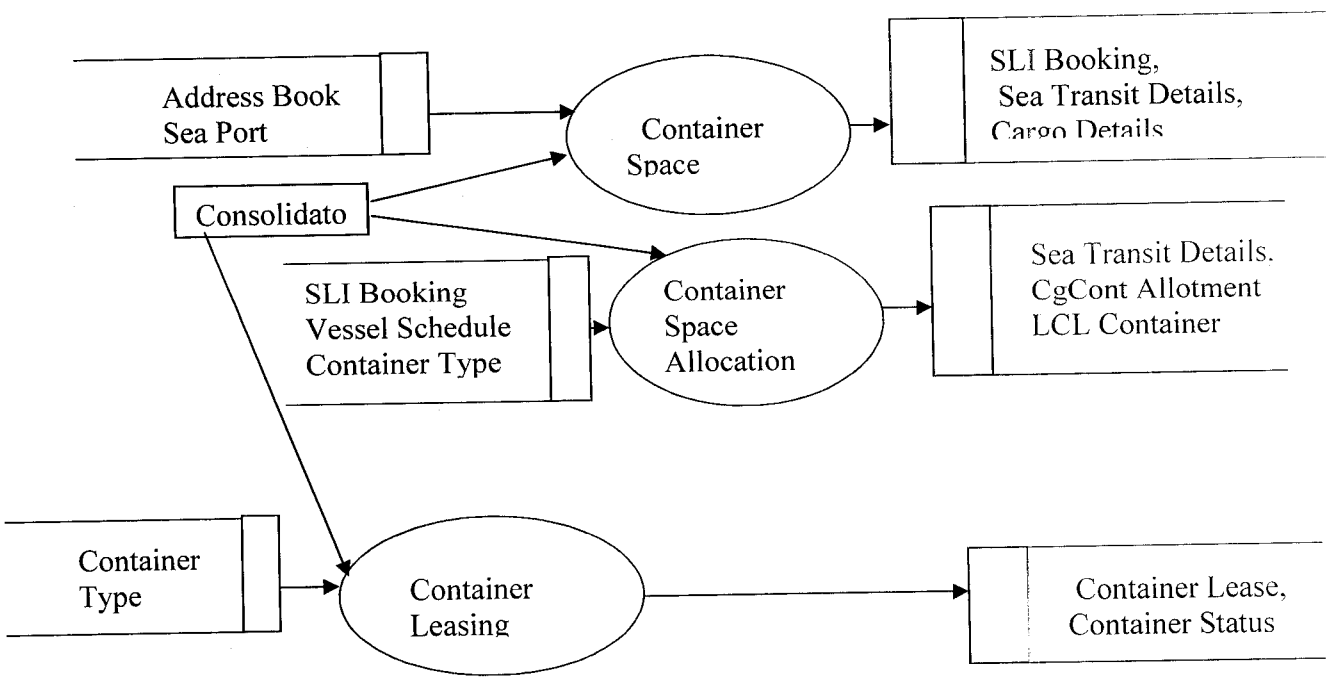

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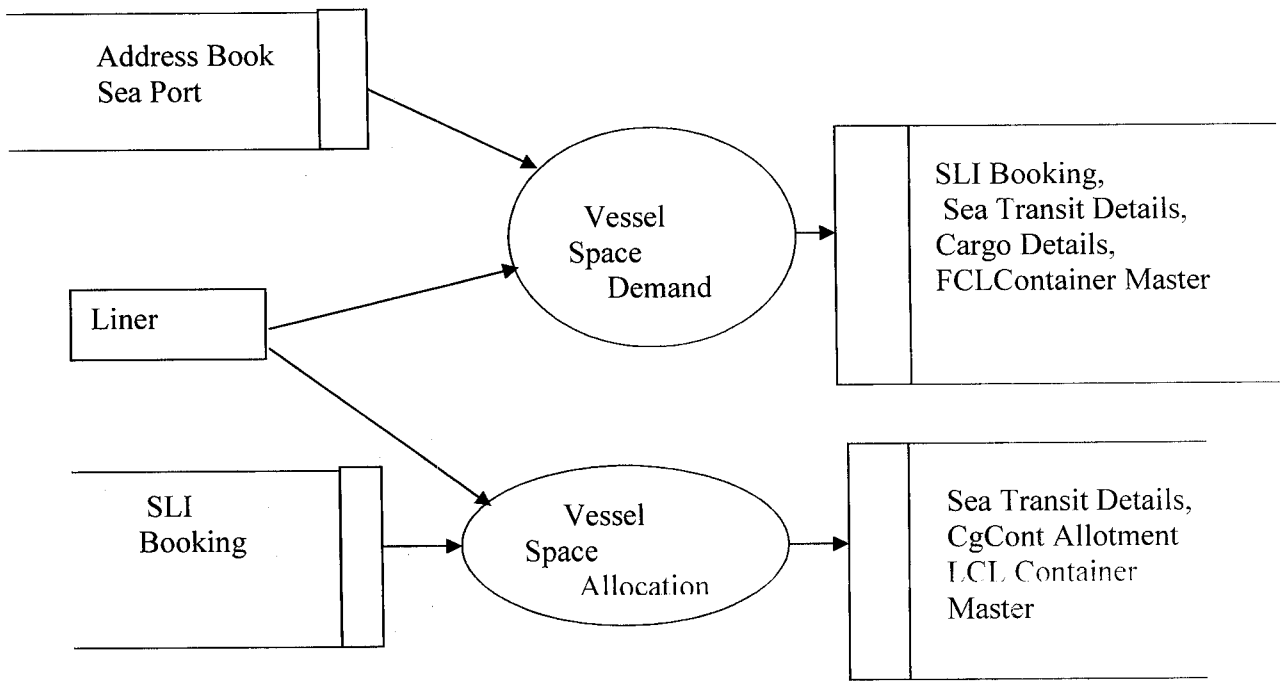

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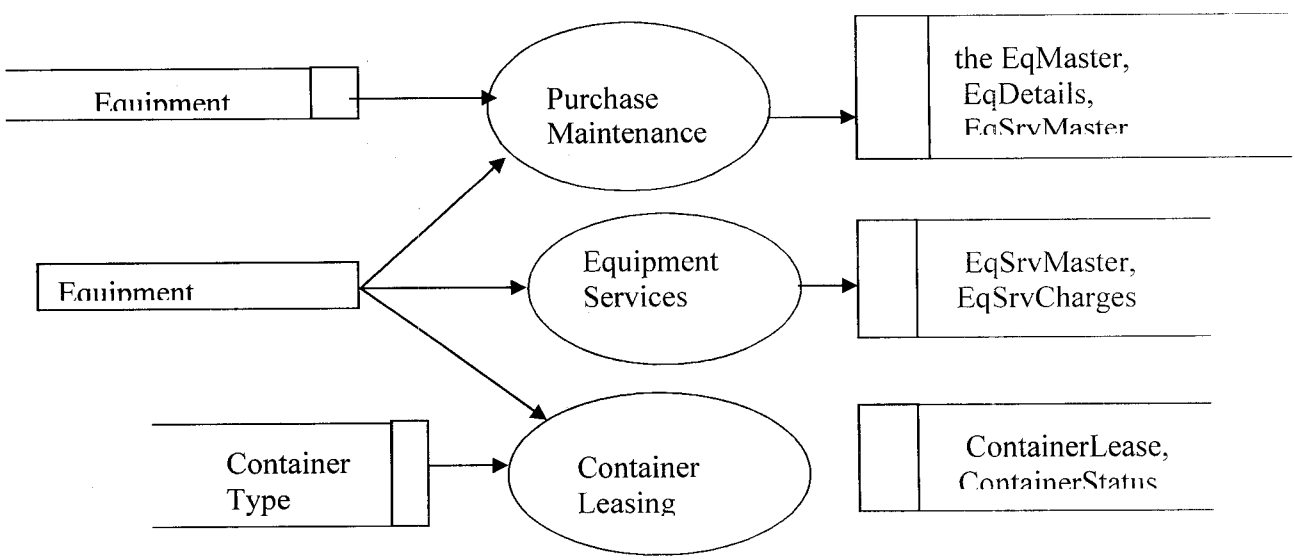
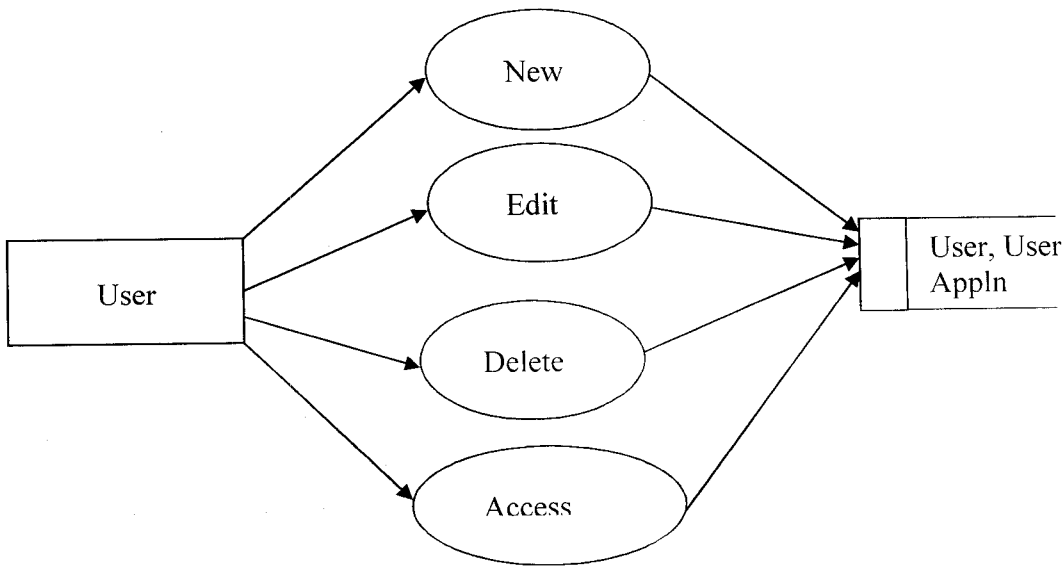


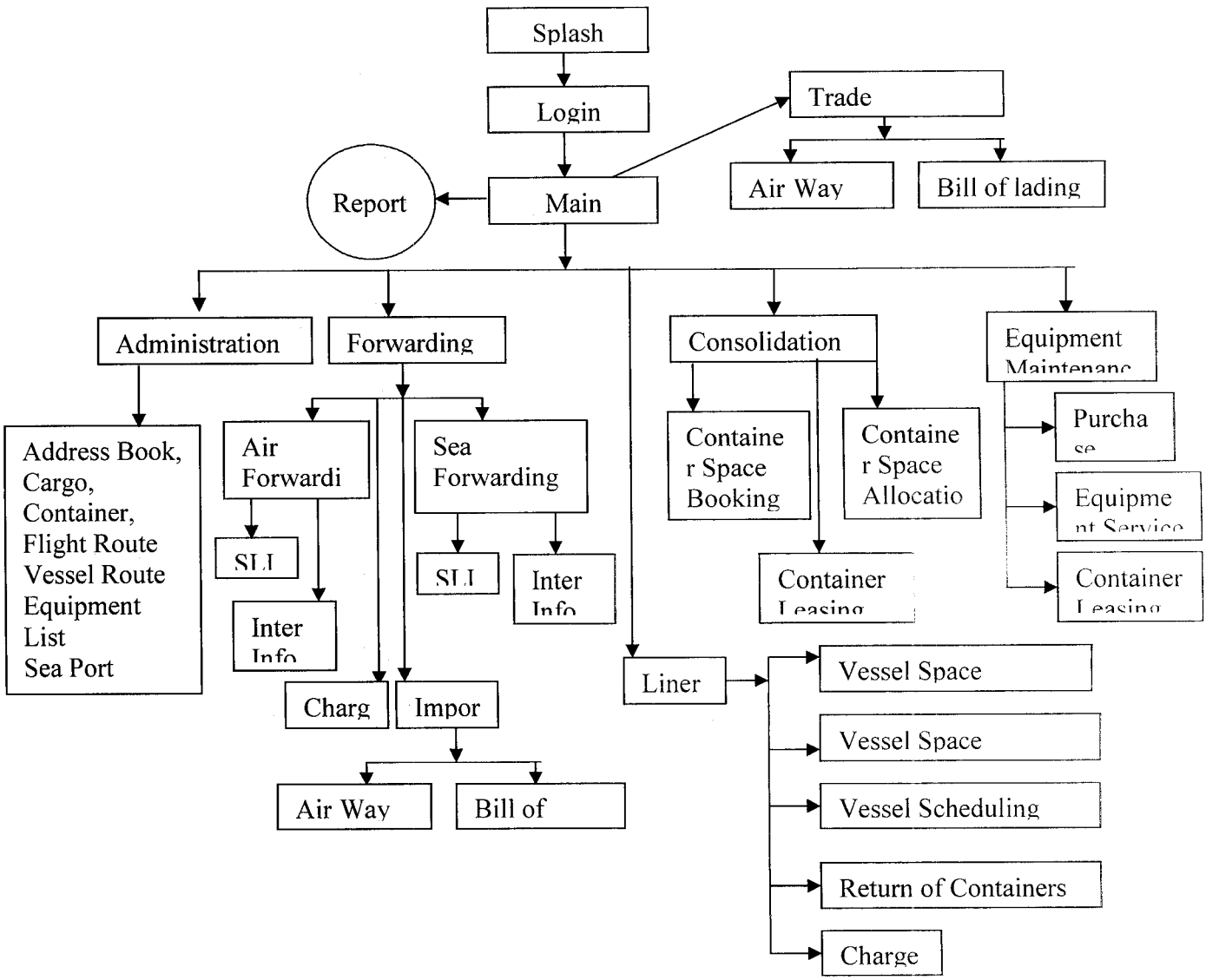
User:



4.2.2. Modular Description

ILS consists of following modules.

1. Air / Sea Shipment booking
2. Freight Forwarding
3. Consolidator activities
4. Liner activities



1.Air / Sea Shipment Booking

The booking transaction is used to enter the information available in the SLI that the Shipper will give to confirm the business. The Booking can be by any one of the following. With the SLI they will give the Packing List also. So the cargo details from the Packing List will be entered during booking.

a) Sea Booking
b) Air Booking

a) Sea Booking:

The booking of shipment is done through this module. According to the Shipper's Letter of Instruction, the shipment is booked. The general details about booking are entered in a form and the other details like preferred route, insurance etc are get by another form. The general details will have Order number, Shipment type, Shipment date, Booking date, Origin Country, Destination Country, load Port, destination Port, Shipper details, Consignee details, Notify Party etc. The shipper / Consignee details can be got from the address book or new one can be added by clicking the new button which is present by the side of the particular field. Same way load ports and discharge ports can be added newly.

The other form gives the details about preferred route, preferred service, insurance, payment mode, currency and the details about Cargo. The details of cargo includes cargo id, container type, number of containers, type of cargo, package type etc. Thus by entering all these details, booking can be done.

b) Air Booking:

Air booking is done through this module. According to the Shipper's Letter of Instruction, booking is done. The general details about booking are entered in a form and the other details like preferred route, insurance etc are get by another form. The general details will have Order number, Shipment type, Shipment date, Booking date, Origin Country, Destination Country, load Port, destination Port, Shipper details, Consignee details, Notify Party etc. The shipper / Consignee details can be got from the address book or new one can be added by clicking the new button which is present by the side of the particular field. Same way load ports and discharge ports can be added newly.

The other details like preferred service, preferred route, payment mode, and insurance risk, declared value for carriage, declared value for customs and details about cargo. The cargo details include container type, container no, number of containers, cargo type, package type etc.

2.Freight Forwarding

When a shipper requests for air/ocean tariff, this application helps the forwarder to retrieve the tariff based on the weight/volume category and sends him a quotation by mentioning origin, destination and Cargo details together with the shipment rate as mail or fax.

The shipper gives the SLI (Shipper's Letter of Instruction) to the Forwarder. This is the inception of the shipment. The forwarder will enter all the details from SLI. Once the SLI information has been entered, the forwarder will check for the buy rate from the Consolidator or the Liner and gives the sell rate to the shipper for the shipment booked. It can be sent to the shipper by mail/fax.

By referring the SLI Number, the forwarder can make arrangement for the trucking. The trucking details like Truck and driver details are stored. Trucking depends on the shipper whether he has asked for.

The Freight Forwarder will confirm with the Consolidator or the Liner, the Vessel schedule, receipt of goods, container numbers, seal numbers, etc. These data are needed to prepare the Bill of Lading and other relevant documents. So once the forwarder has entered all the shipment related details by getting wherever necessary, he can print/mail/fax the BL

Whenever the forwarder incurs some charges for a shipment, he will note it by mentioning the name of the expense and amount by referring the SLI Number / Job order number.

3.Consolidator

Container Space Booking:

The forwarder if he has LCL shipment, will give the shipment details in order to get container space. These details will be stored

Container Space Allocation:

For the orders (Container Space Booking) that he has received from outside Forwarders and for the SLI received by himself, he will allocate the container according to the shipment date, load and discharge port, cargo details and the availability of the space within the container. During allocation details about the container number, seal number, voyage number, liner and place & date of receipt of goods will be given to the Forwarder.

Transshipment Details

The liner can change the Vessel schedule, if required, and publishes the date and time of arriving at each port. On receiving the details, the consolidator will receive the details.

Routing Information:

Routing information is maintained as a separate form for flight and sea. Each route will be identified by its route id. All the ports falling in a route are identified and details are entered here forming a route from source to destination in a successive manner. A port, which acts as a Hub for the route is identified.

The route can be modified or deleted based on the route id. Deletion is possible only if the particular route has not been chosen in any other transaction.

The preview of the route is seen in the order in which the ports are selected.

Equipment Details:

Equipment details deals with maintenance, container leasing and container returning, service of equipments.

Equipment maintenance deals with maintaining various charges, which are incurred during some servicing or repairing the equipment or some purchases.

Consolidator either hires or leases the container from the Liner for providing the facility of LCL Shipment. Container leasing can be done in two ways i.e.) container leasing-getting and container leasing-giving. The first one is the type of leasing in which containers are leased from outside companies and the second one is the type of leasing in which containers are leased to outside companies.

4.Liner

Container Booking:

The forwarder in the case of FCL shipment, will give the shipment details in order to get containers, into which the shipper's cargo will be stuffed. These details are stored

Container Allotment:

For the orders (Container Booking) that he has received from outside forwarders and for the SLI received by himself, he will allocate containers according to the types of containers that the forwarders has asked. The same container cannot be allotted for two or more shipments.

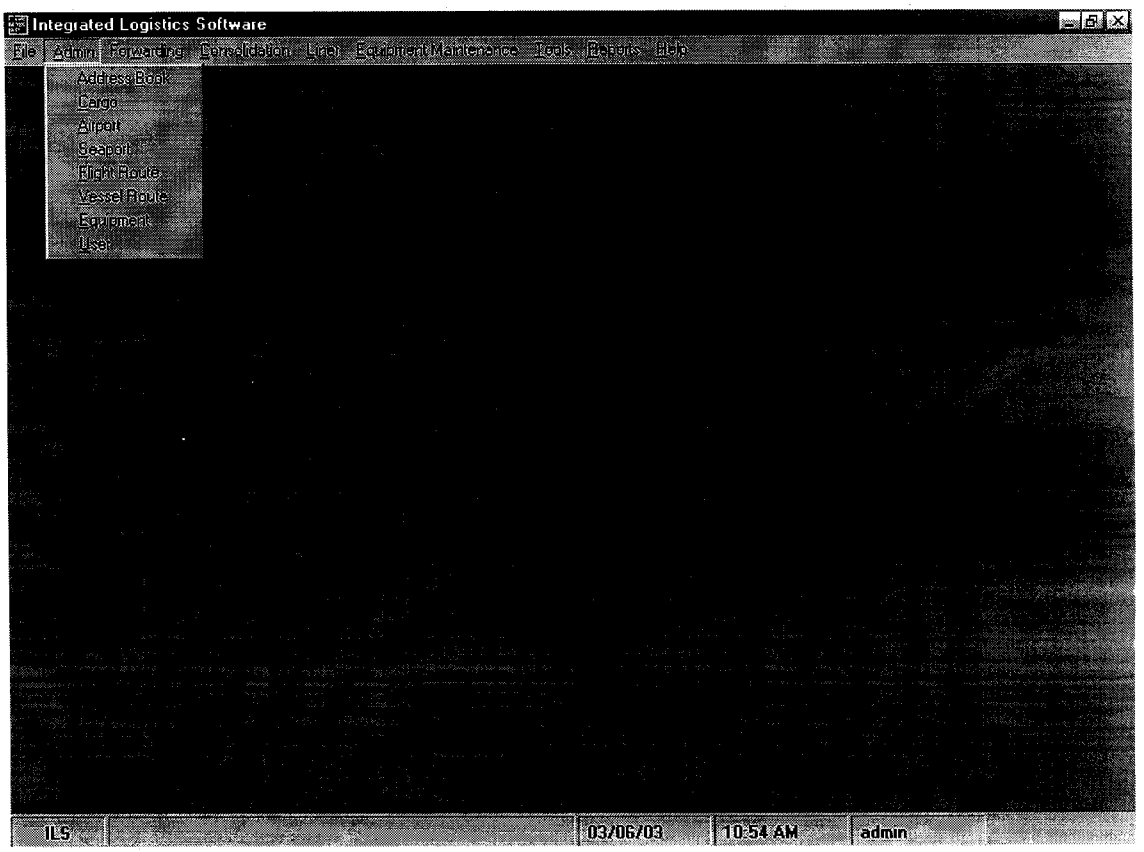
LCL Container Details:

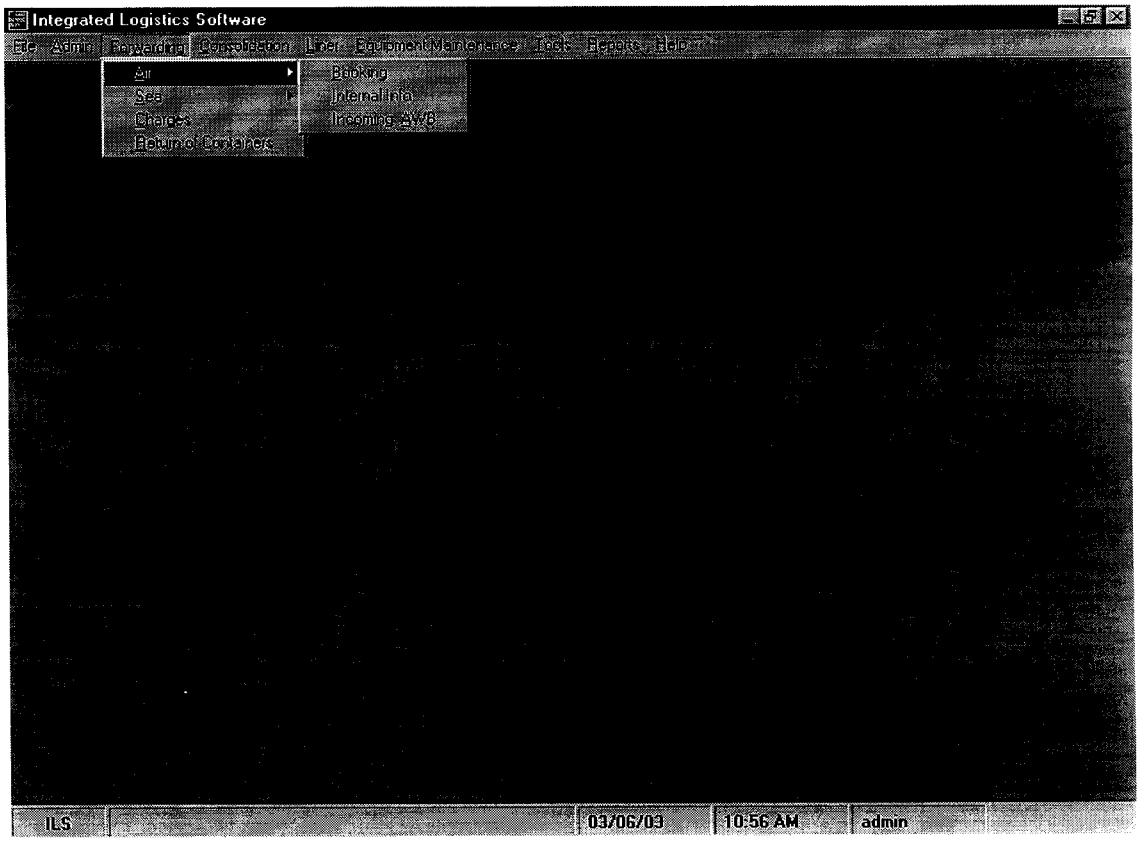
Independent of the shipment date, the consolidator usually gets containers from liners for leasing. Within the end of leasing period, the consolidator can use those containers to ship on the liner's vessel. Since a single container can have multiple shipments, the consolidator will give the details about all shipment to the liner.

System Development

5. System Development

5.1.ScreenLayouts

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Booking
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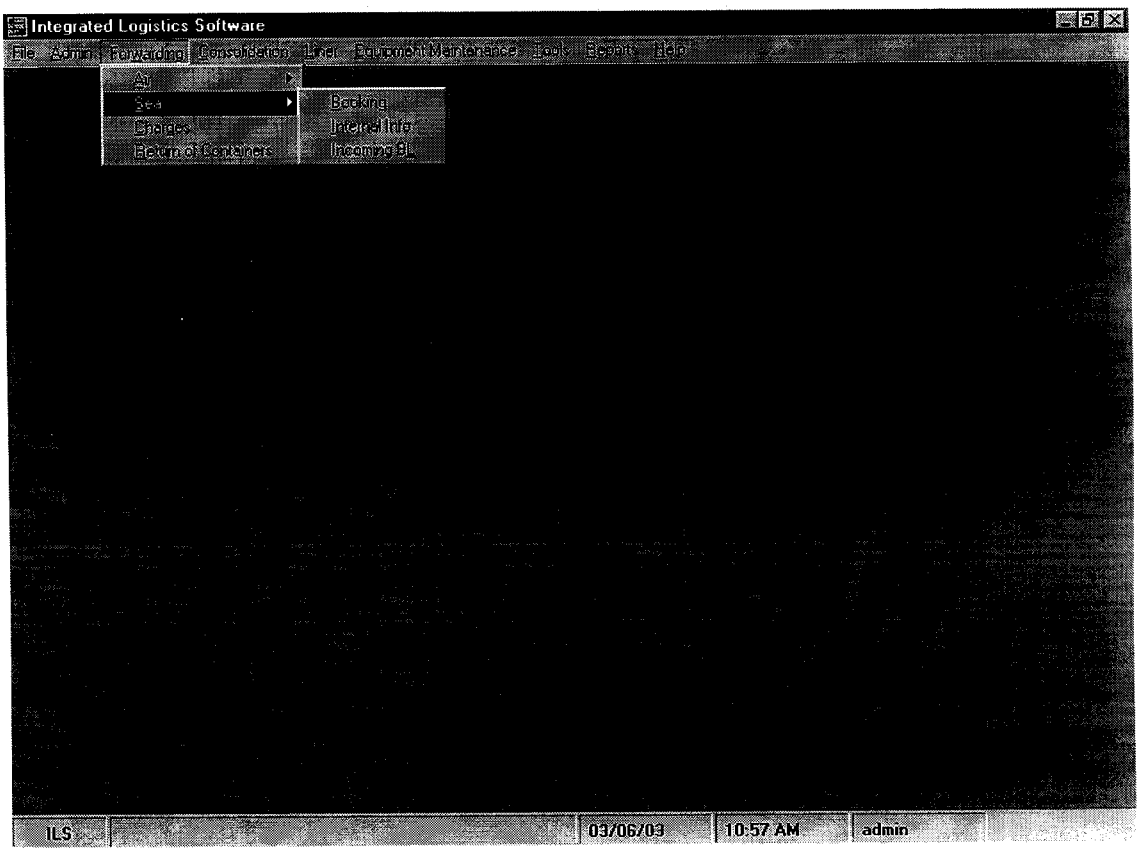
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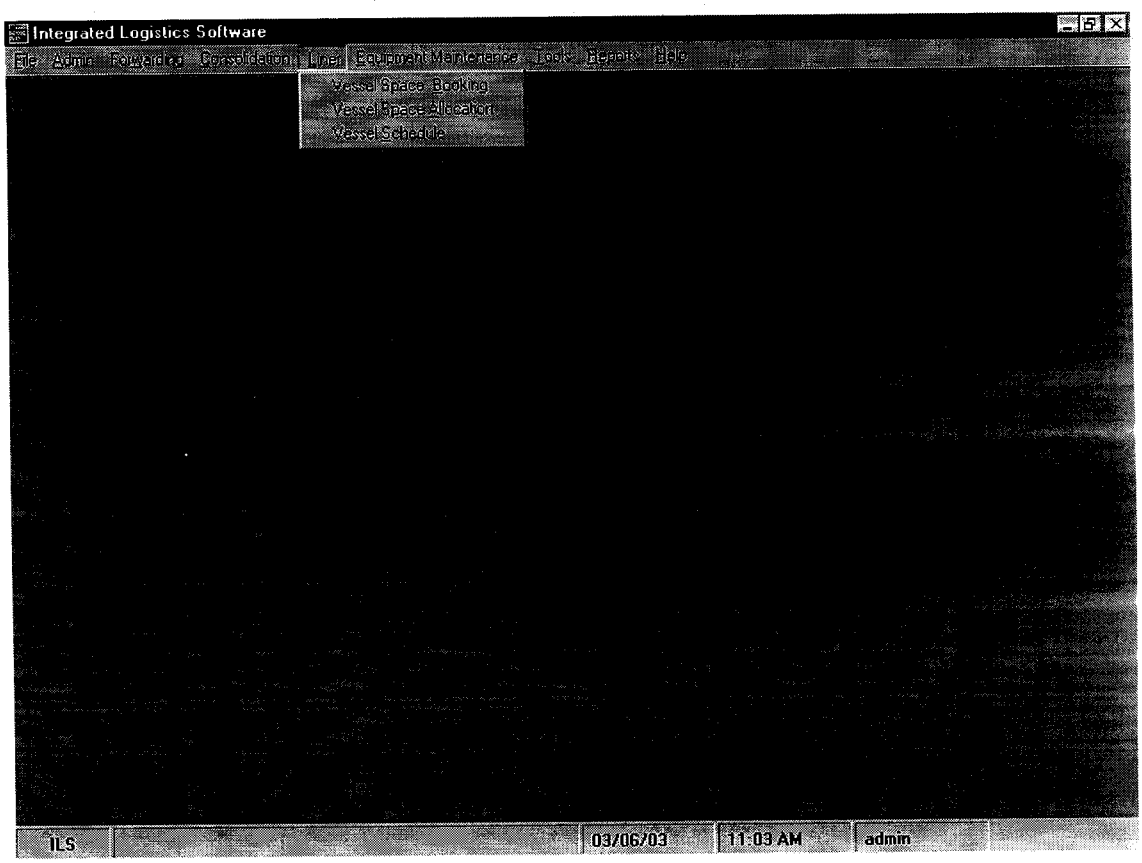
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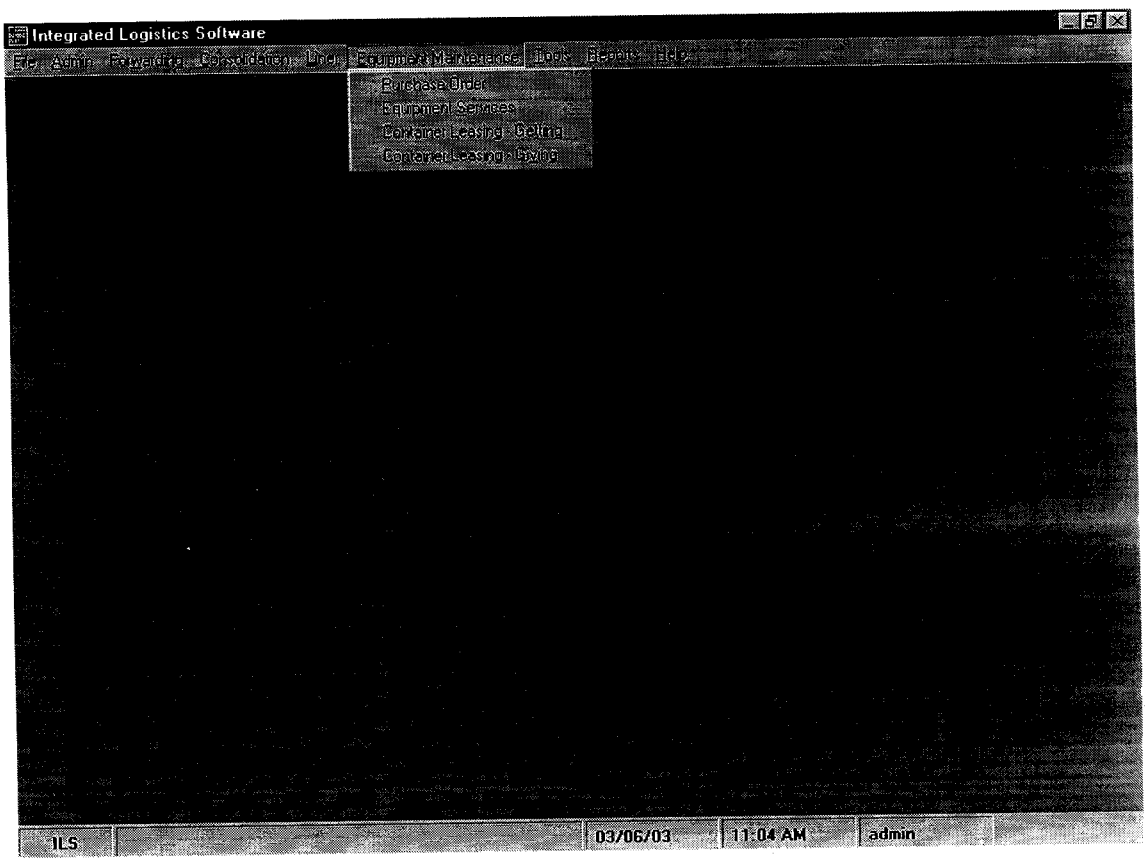
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BL Template
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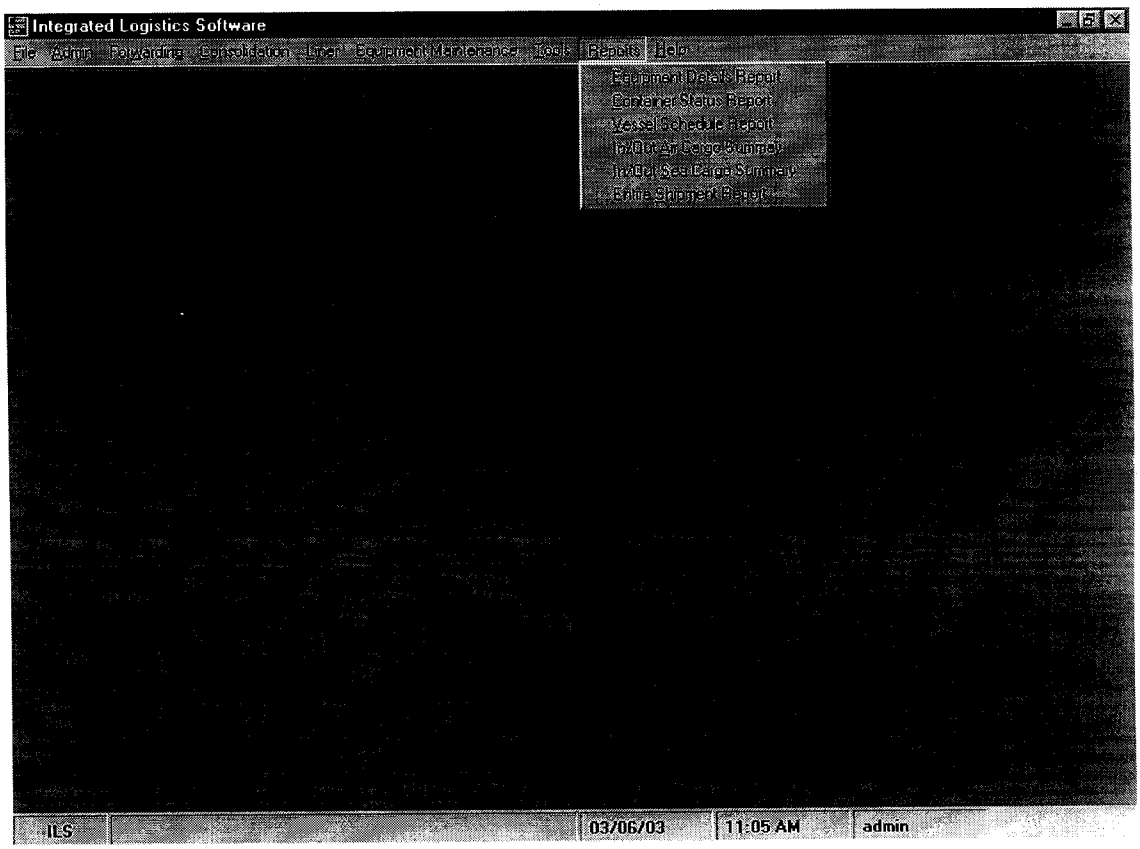
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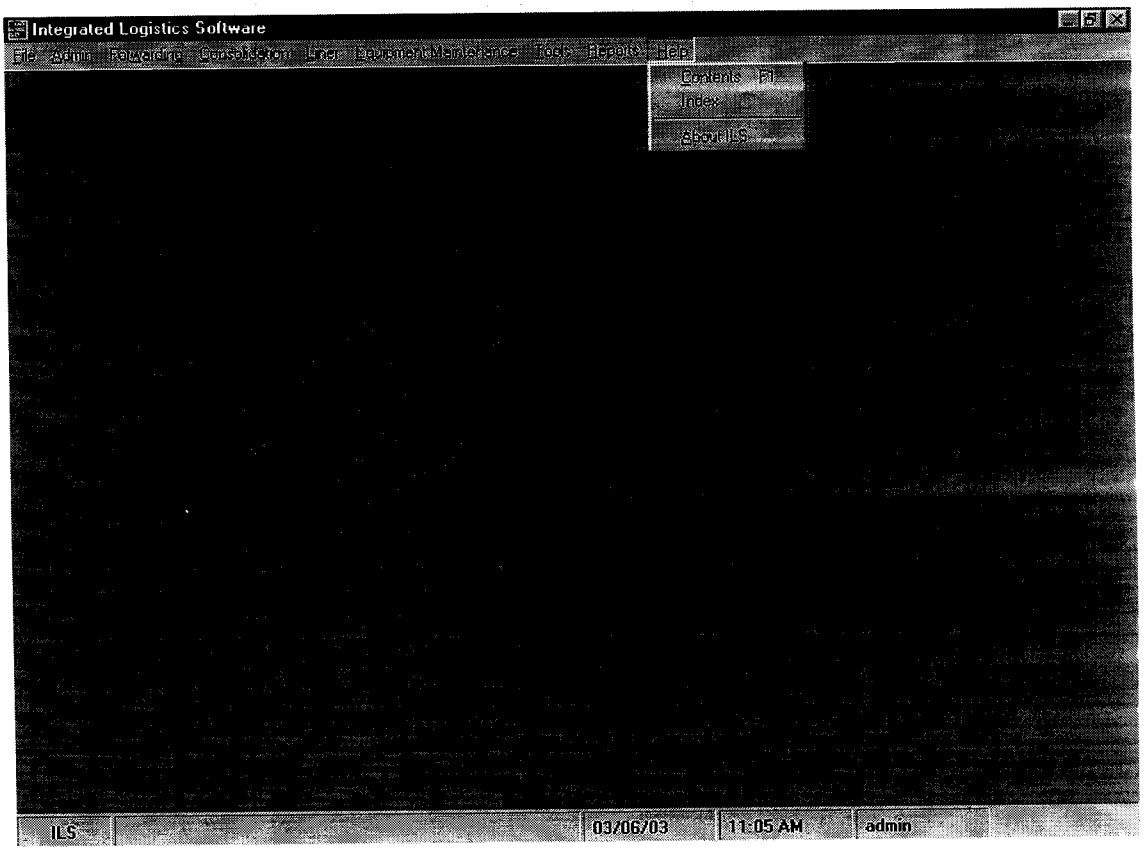
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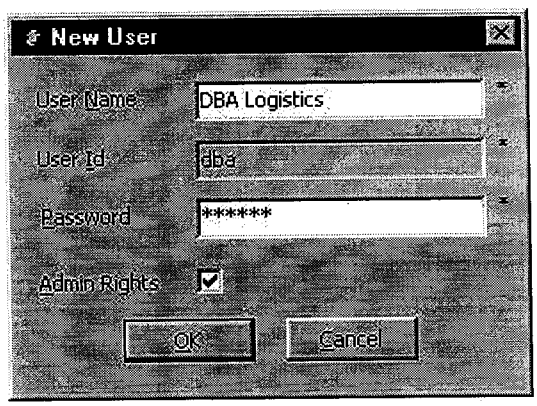
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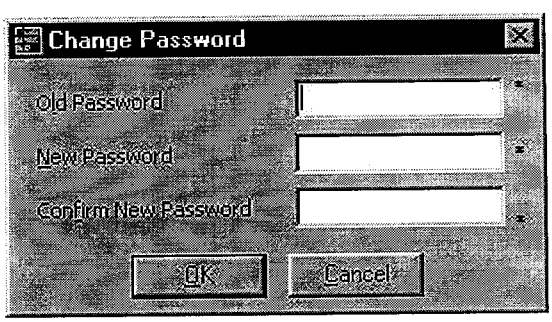
DBA Logistics
User Id
dba
Password
******
Admin Rights
OK
Cancel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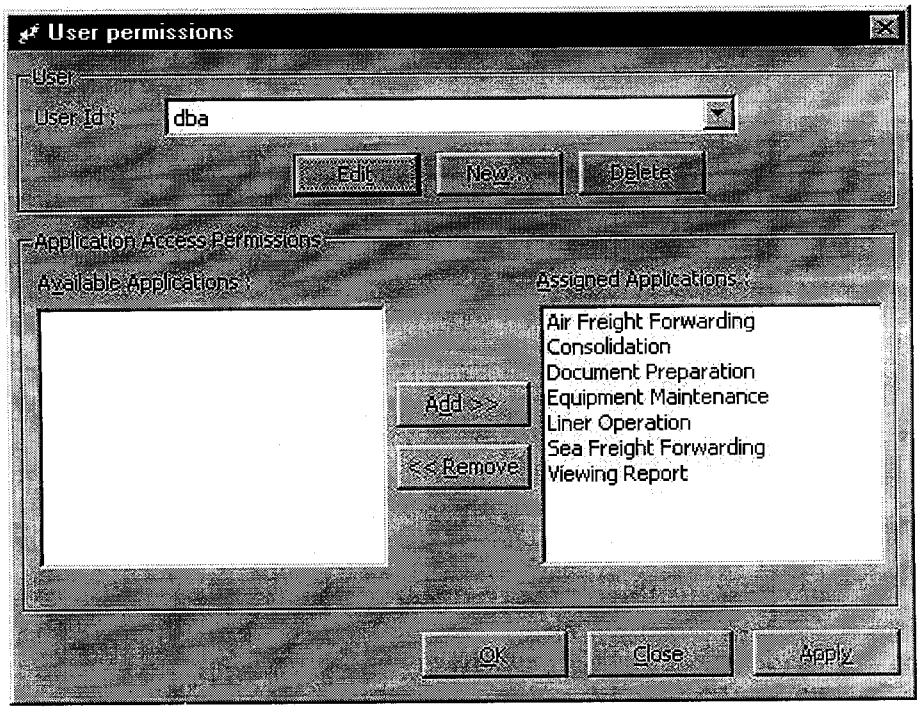
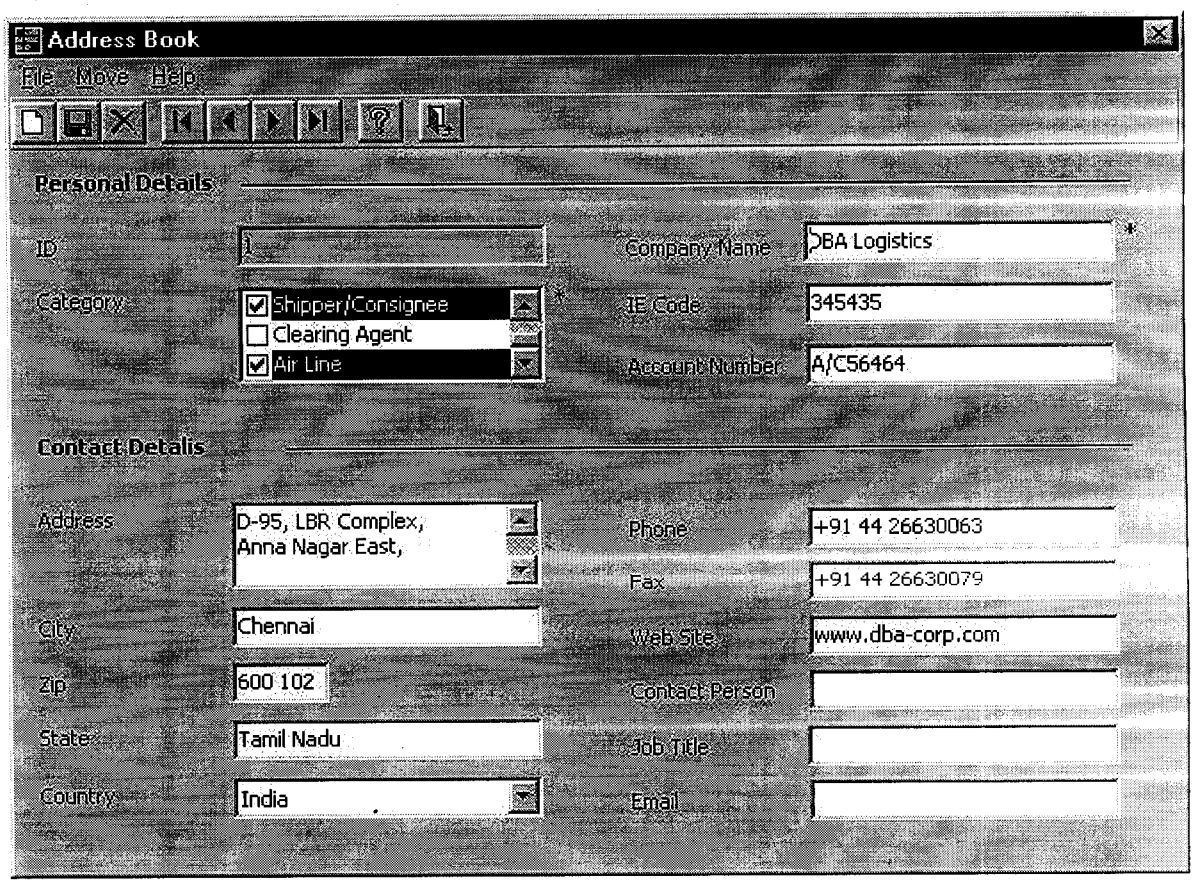
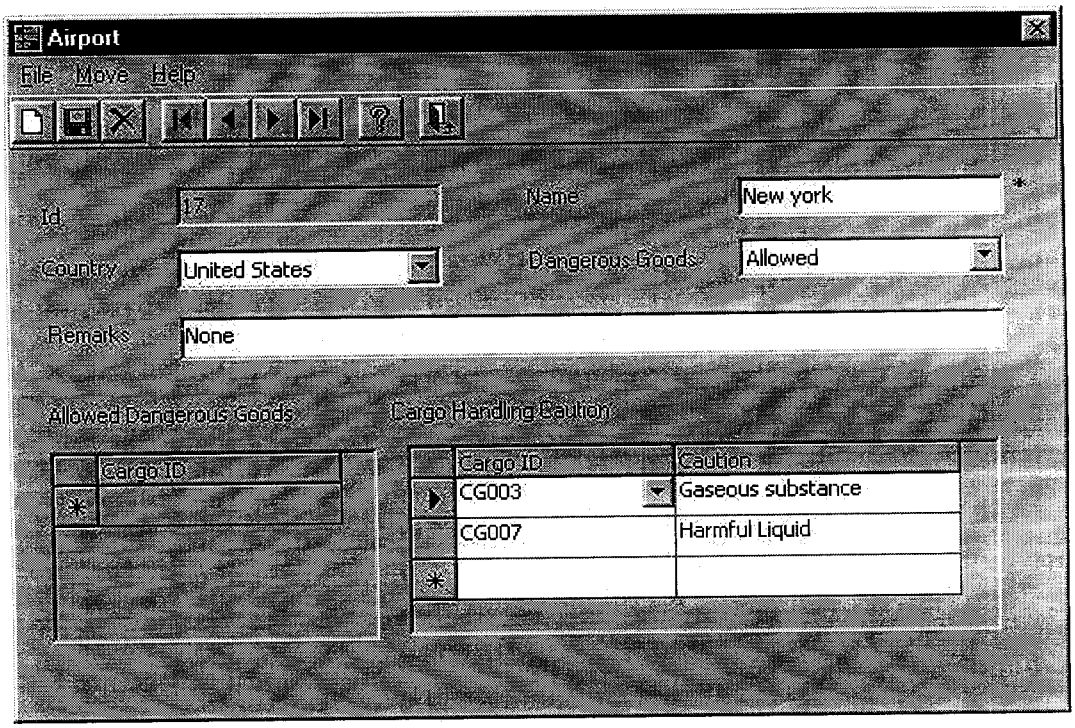
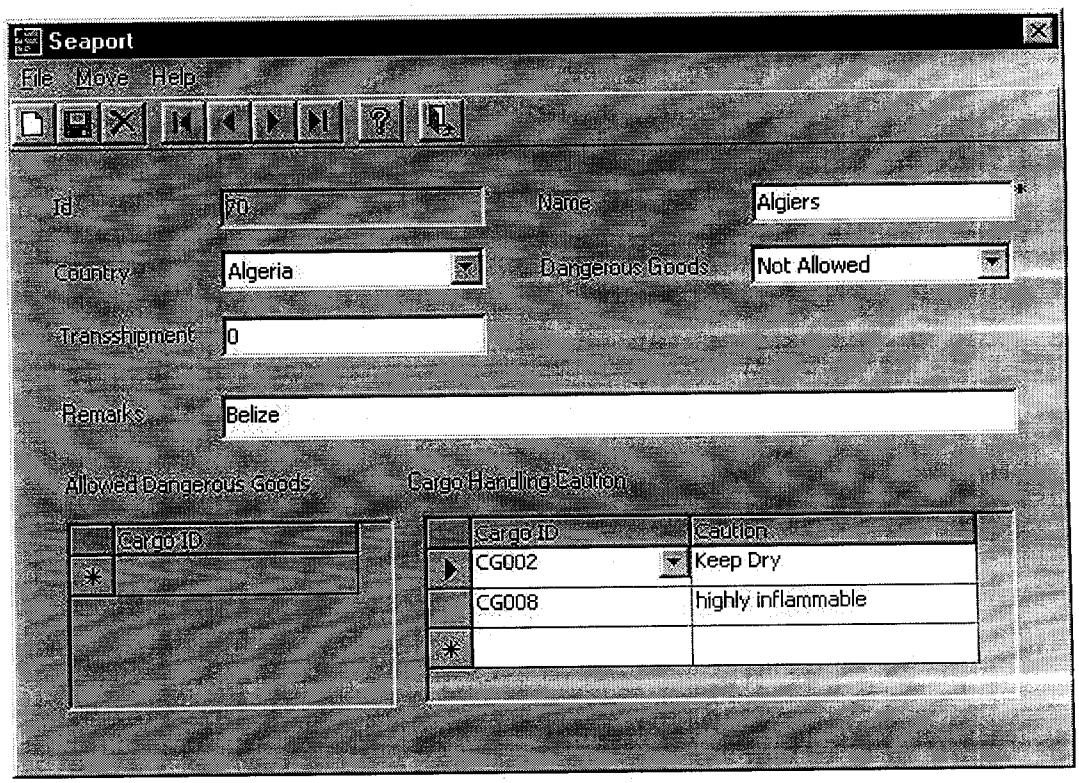
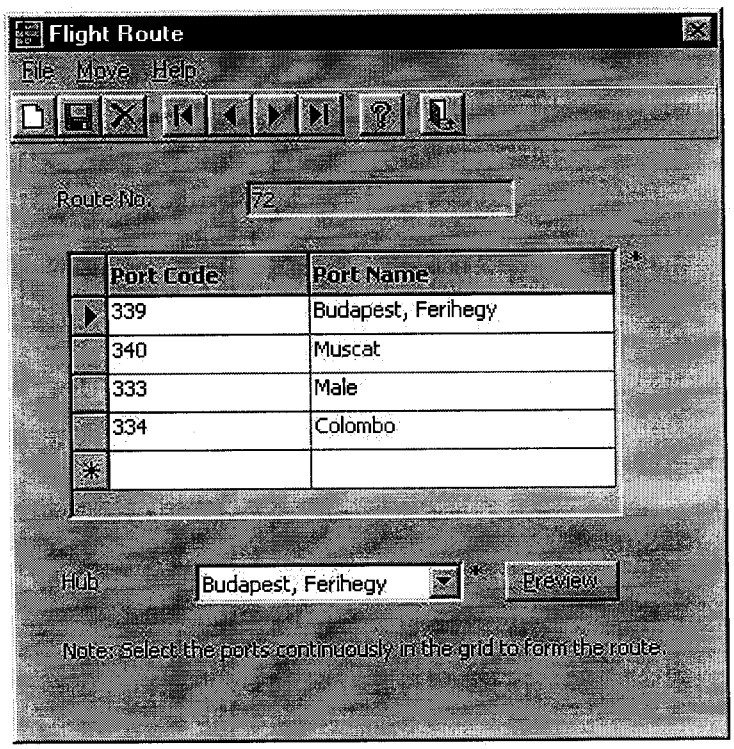
Old Password
New Password
Confirm New Password
OK
Cancel

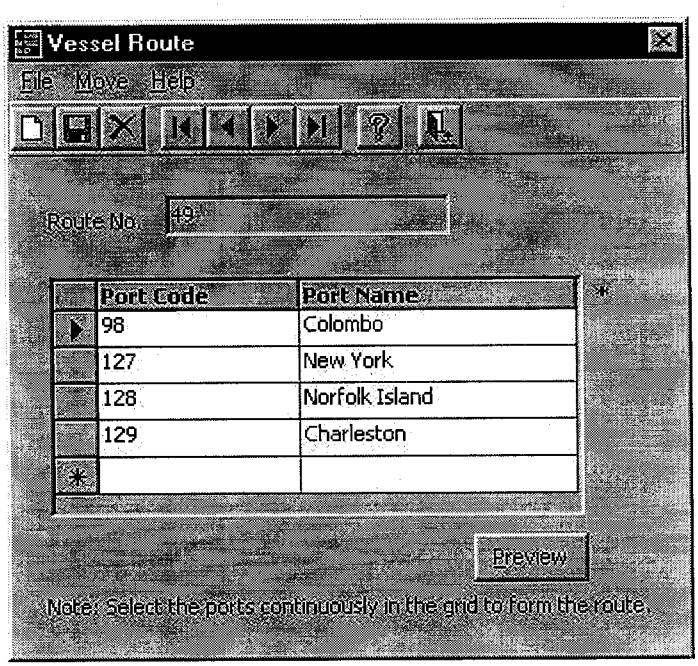

User permissions
User
User Id :
dba
Edit
New
Delete
Application Access Permissions
Available Applications :
Assigned Applications :
Air Freight Forwarding
Consolidation
Document Preparation
Equipment Maintenance
Liner Operation
Sea Freight Forwarding
Viewing Report
Add >>
<< Remove
Ok
Close
Apply

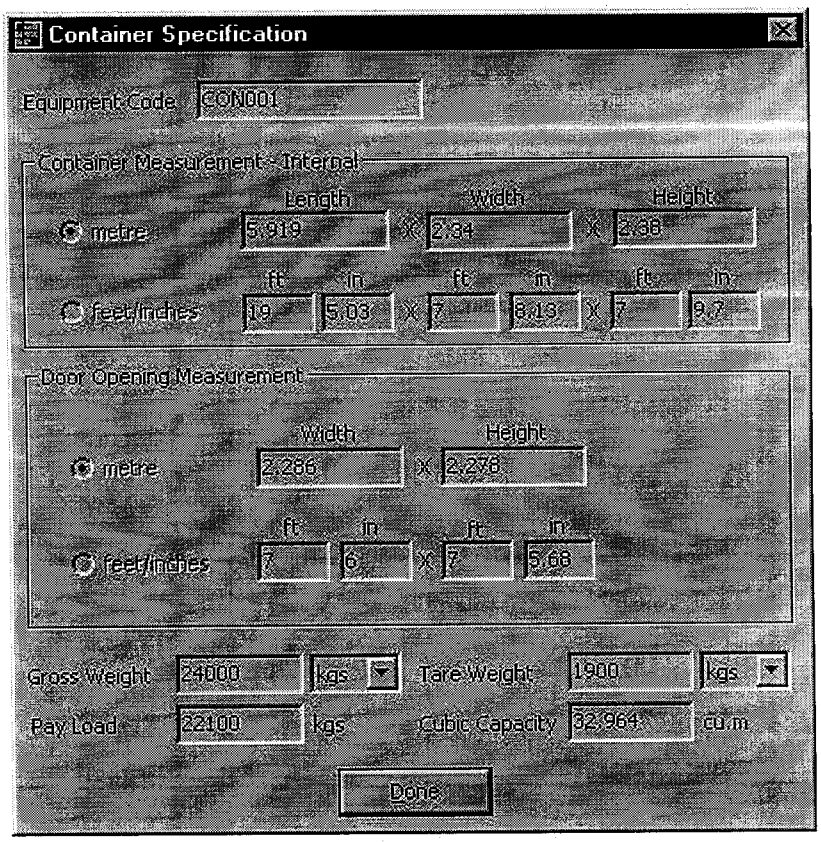

Address Book
File Move Help
Personal Details
ID
1
Category
Shipper/Consignee
Clearing Agent
Air Line
Company Name
DBA Logistics
IE Code
345435
Account Number
A/C56464
Contact Details
Address
D-95, LBR Complex,
Anna Nagar East,
City
Chennai
Zip
600 102
State
Tamil Nadu
Country
India
Phone
+91 44 26630063
Fax
+91 44 26630079
Web Site
www.dba-corp.com
Contact Person
Job Title
Email

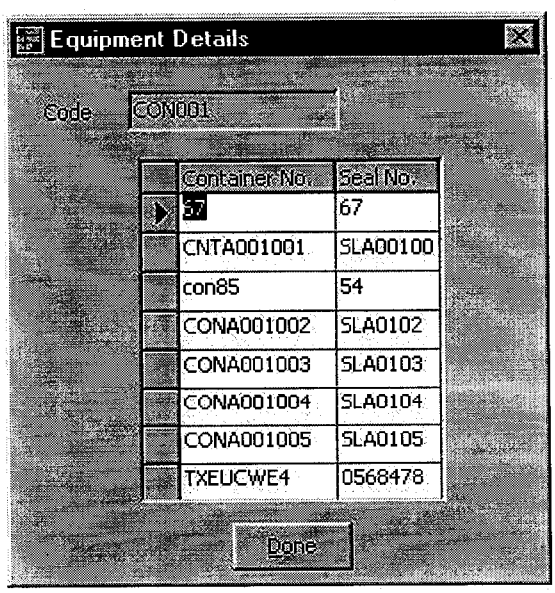

Airport
File Move Help
Id 17
Name New york
Country United States
Dangerous Goods Allowed
Remarks None
Allowed Dangerous Goods
Cargo ID
Cargo Handling Caution
Cargo ID Caution
CG003 Gaseous substance
CG007 Harmful Liquid

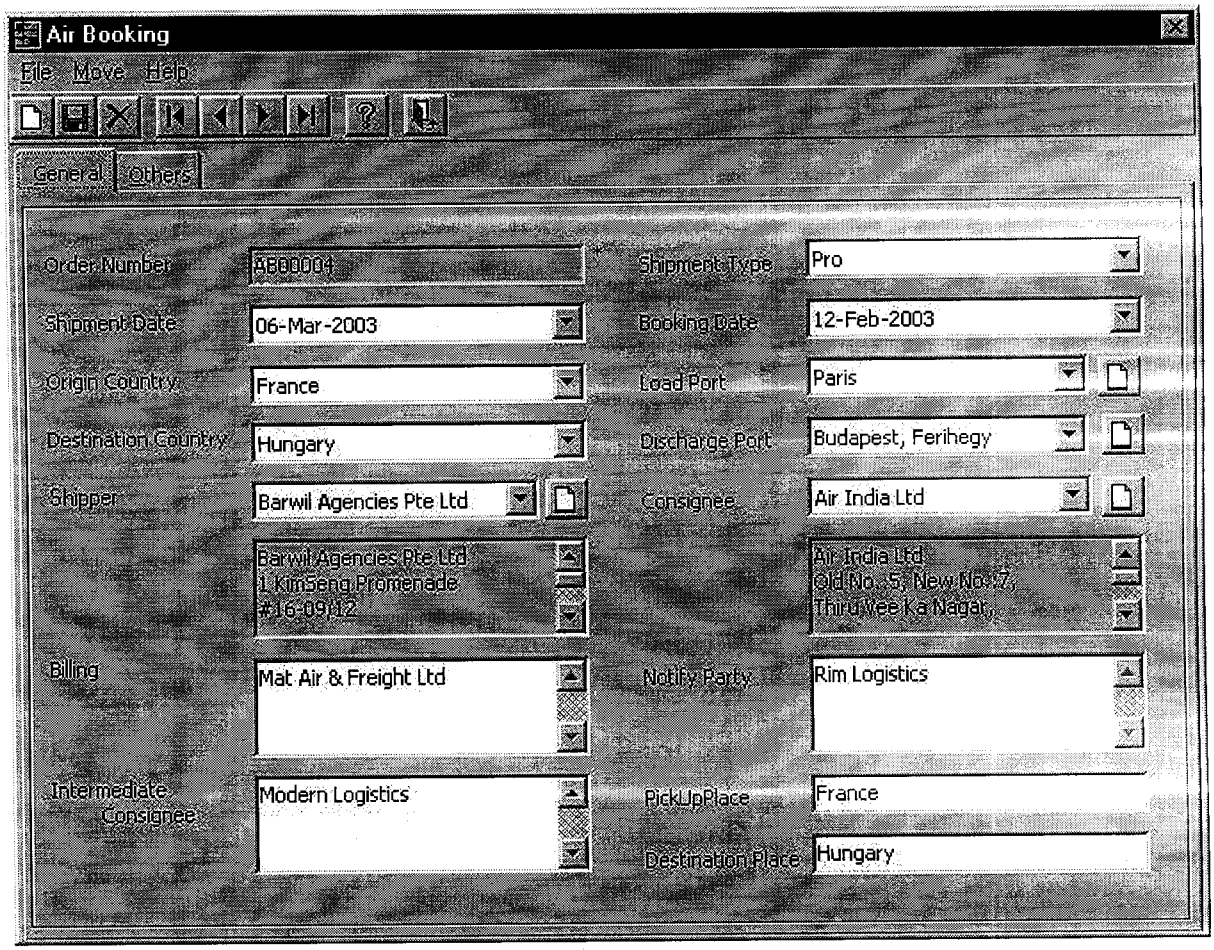

Seaport
File Move Help
Id 20
Name Algiers
Country Algeria
Dangerous Goods Not Allowed
Transshipment 0
Remarks Belize
Allowed Dangerous Goods
Cargo ID
Cargo Handling Caution
Cargo ID Caution
CG002 Keep Dry
CG008 highly inflammable

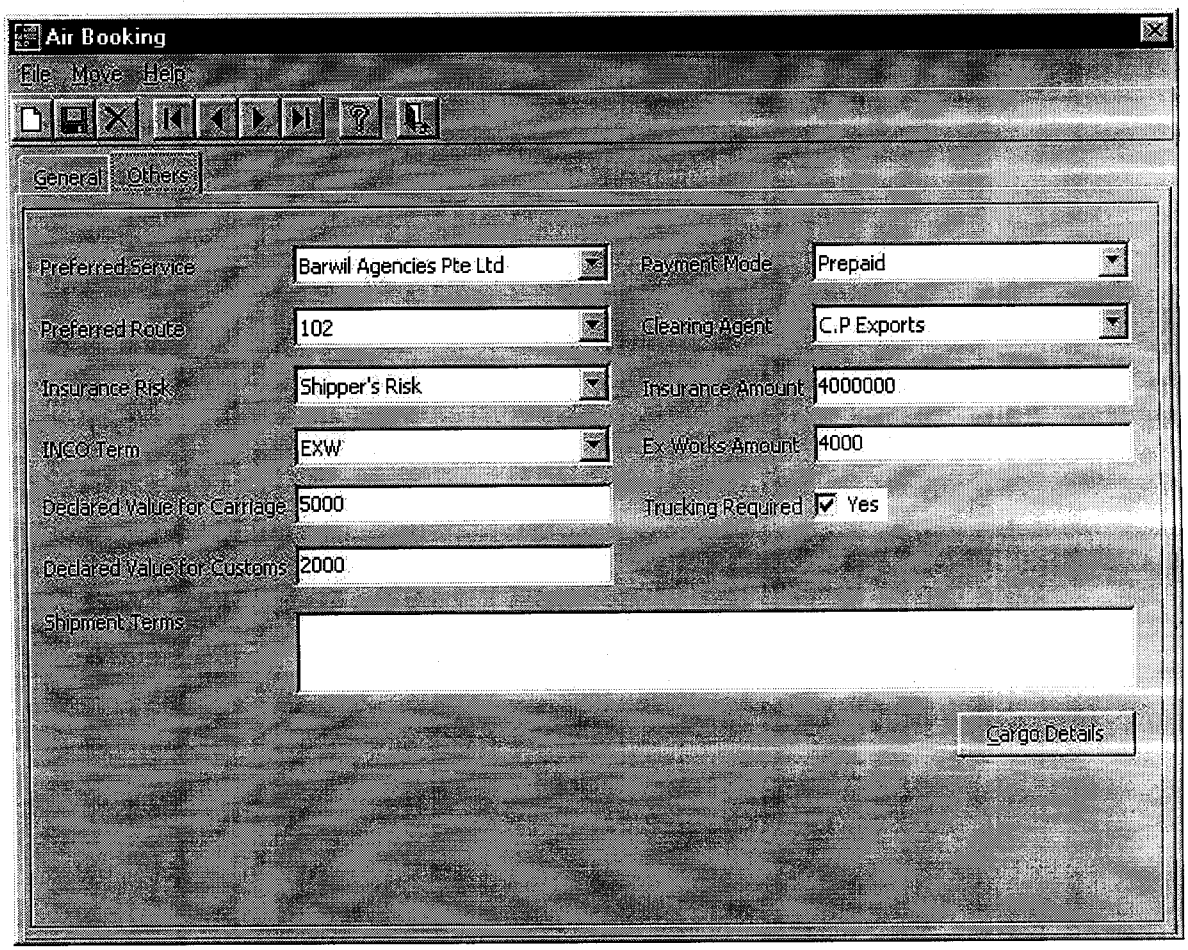

Flight Route
File Move Help
Route No. 72
Port Code
Port Name
339
Budapest, Ferihegy
340
Muscat
333
Male
334
Colombo
Hub
Budapest, Ferihegy
Preview
Note: Select the ports continuously in the grid to form the route.

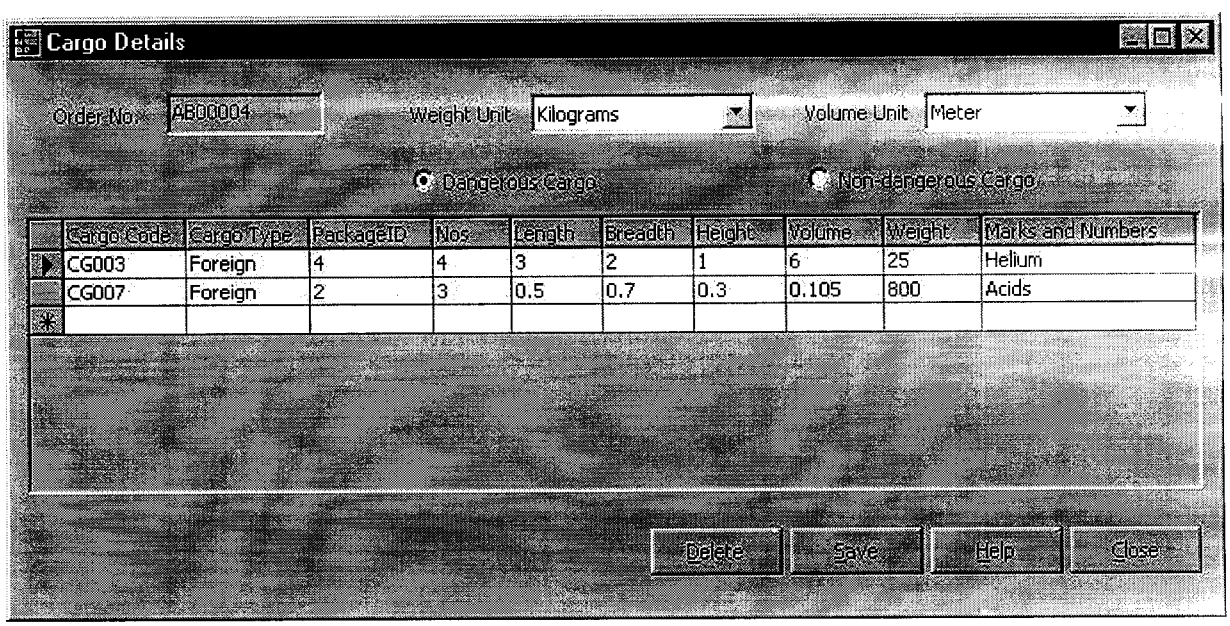

Vessel Route
File Move Help
Route No. 49
Port Code
Port Name
98
Colombo
127
New York
128
Norfolk Island
129
Charleston
Preview
Note: Select the ports continuously in the grid to form the route.

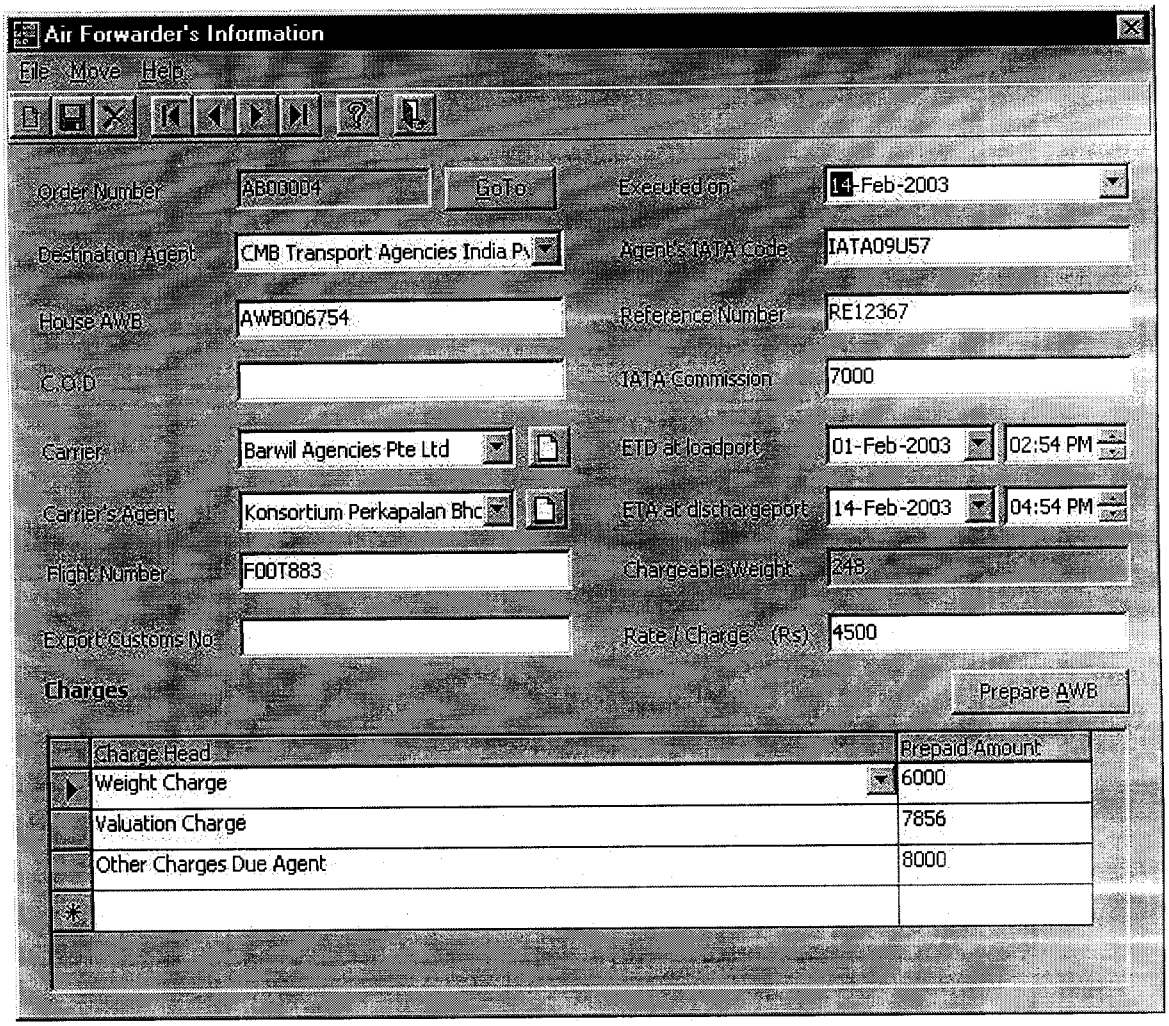

Container Specification
Equipment Code
CON001
Container Measurement - Internal
Length
Width
Height
metre
5.919
X
2.34
X
2.38
ft
in
ft
in
ft
in
feet/inches
19
5.03
X
7
8.13
X
7
9.7
Door Opening Measurement
Width
Height
metre
2.266
X
2.278
ft
in
ft
in
feet/inches
7
6
X
7
5.68
Gross Weight
24000
kgs
Tare Weight
1900
kgs
Pay Load
22100
kgs
Cubic Capacity
62.964
cu.m
Done

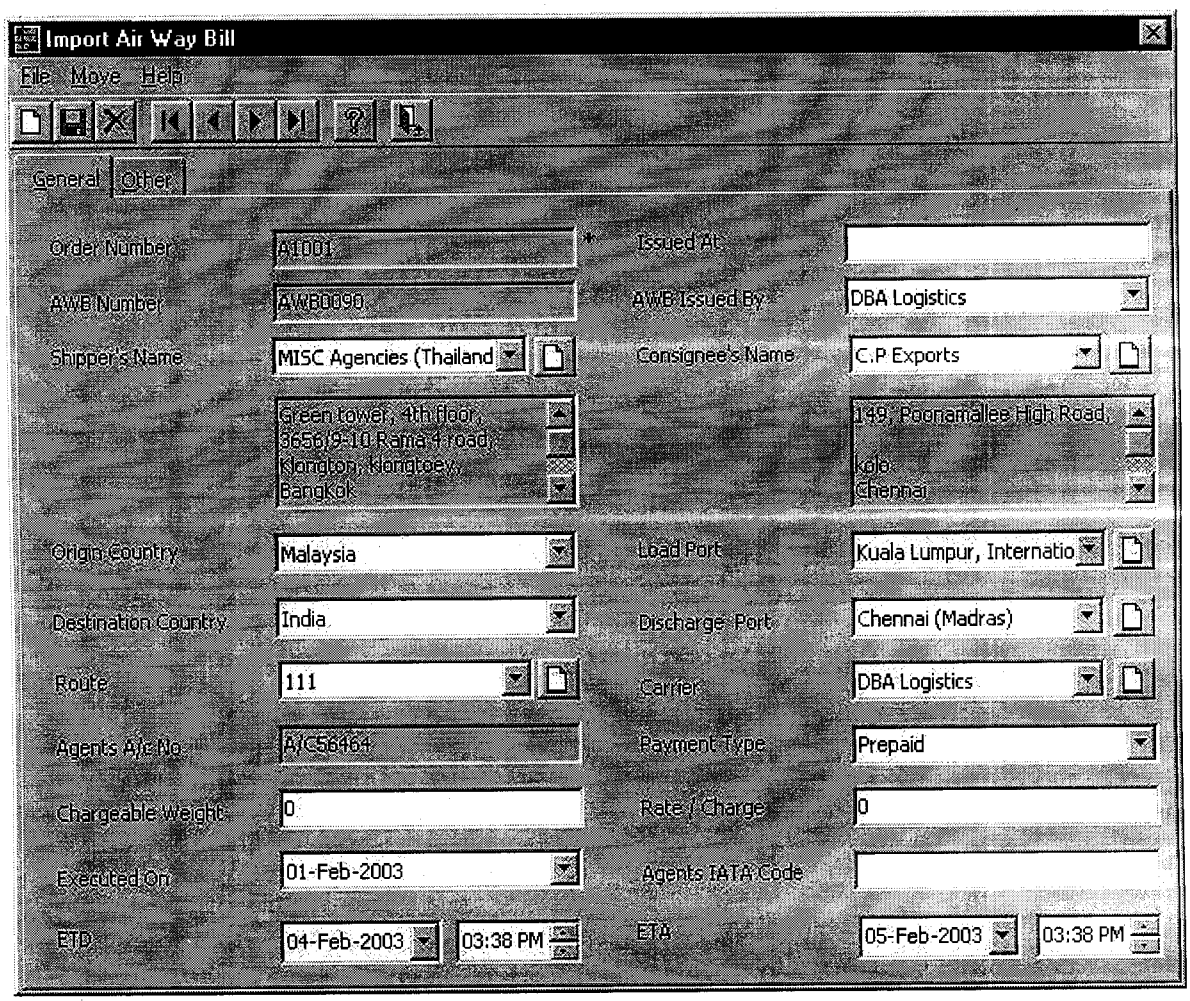

Equipment Details
Code
CON001
Container No.
Seal No.
67
67
CNTA001001
SLA00100
con85
54
CONA001002
SLA0102
CONA001003
SLA0103
CONA001004
SLA0104
CONA001005
SLA0105
TXEUCWE4
0568478
Done

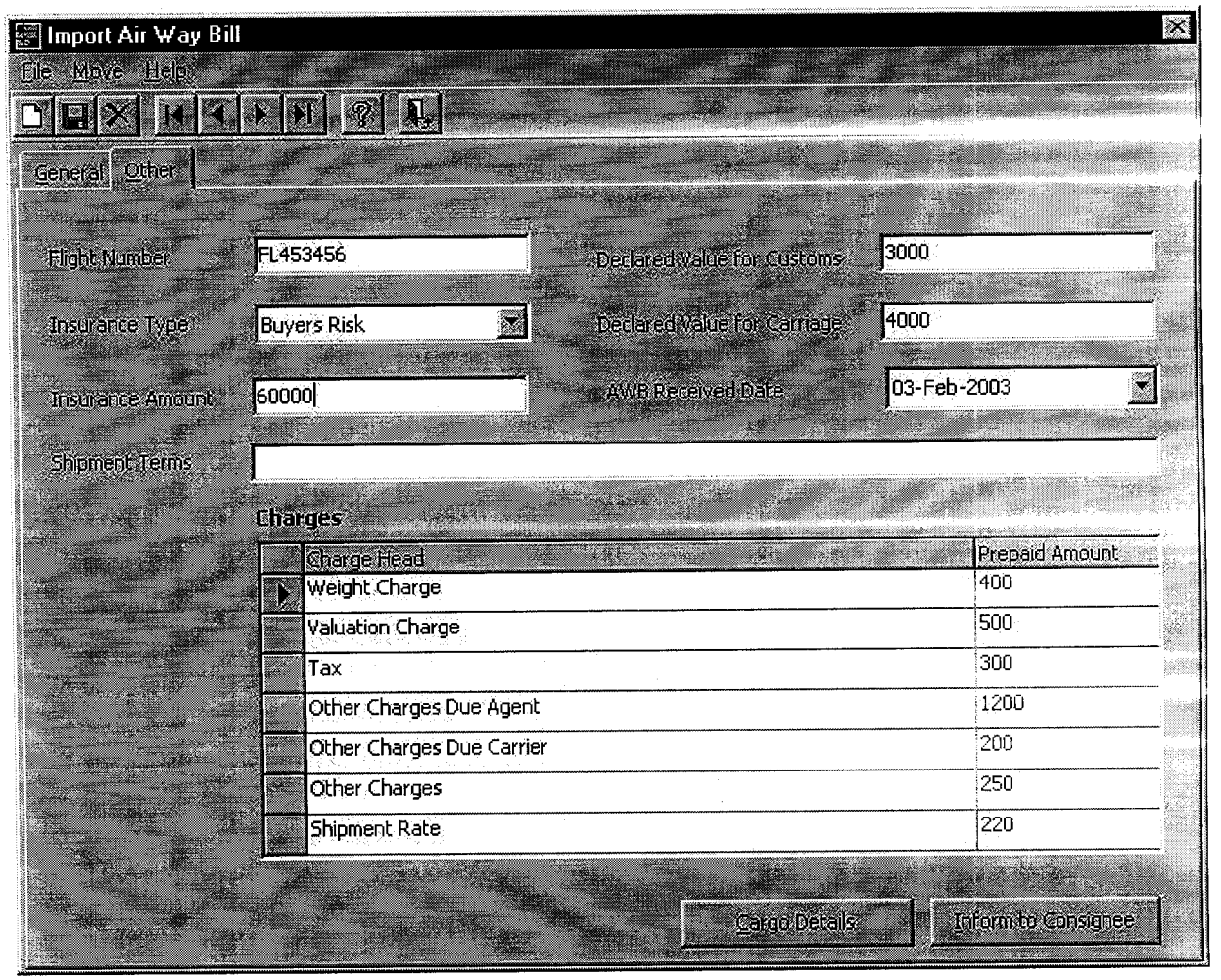

Air Booking
File Move Help
General Others
Order Number
AB00004
Shipment Type
Pro
Shipment Date
06-Mar-2003
Booking Date
12-Feb-2003
Origin Country
France
Load Port
Paris
Destination Country
Hungary
Discharge Port
Budapest, Ferihegy
Shipper
Barwil Agencies Pte Ltd
Consignee
Air India Ltd
Barwil Agencies Pte Ltd
1 KimSeng Promenade
#16-09/12
Air India Ltd
Old No. 5, New No. 7,
Thiru Vee Ka Nagar,
Billing
Mat Air & Freight Ltd
Notify Party
Rim Logistics
Intermediate Consignee
Modern Logistics
PickUpPlace
France
Destination Place
Hungary

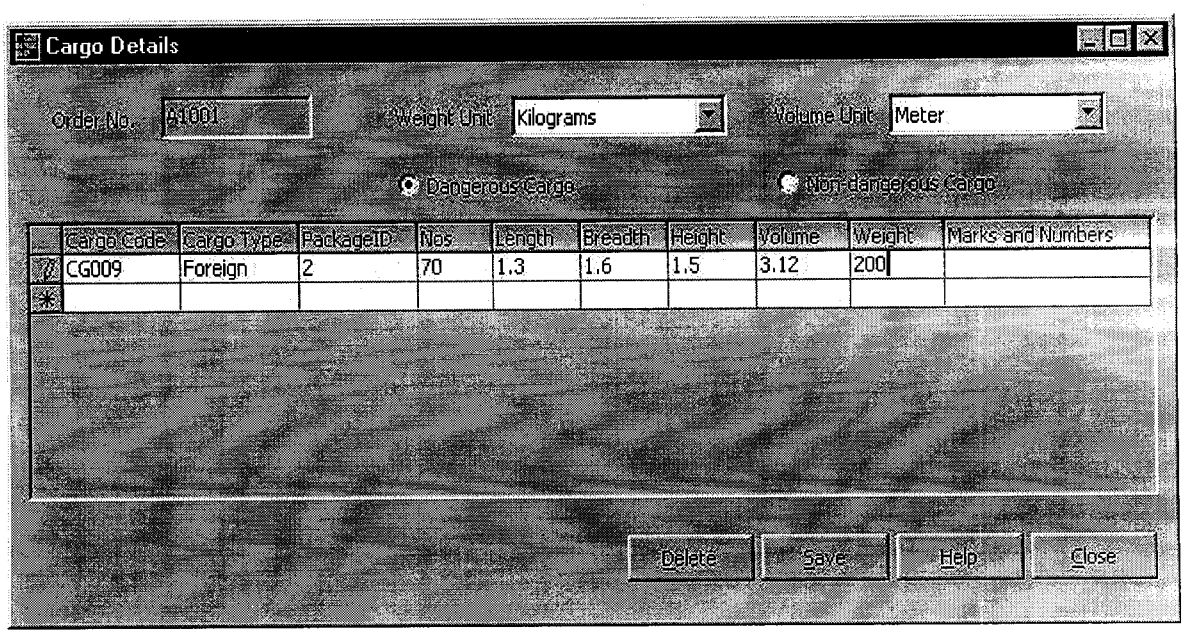

Air Booking
File Move Help
General Others
Preferred Service
Barwil Agencies Pte Ltd
Payment Mode
Prepaid
Preferred Route
102
Clearing Agent
C.P Exports
Insurance Risk
Shipper's Risk
Insurance Amount
4000000
INCO Term
EXW
Ex Works Amount
4000
Declared Value for Carriage
5000
Trucking Required
Yes
Declared Value for Customs
2000
Shipment Terms
Cargo Details

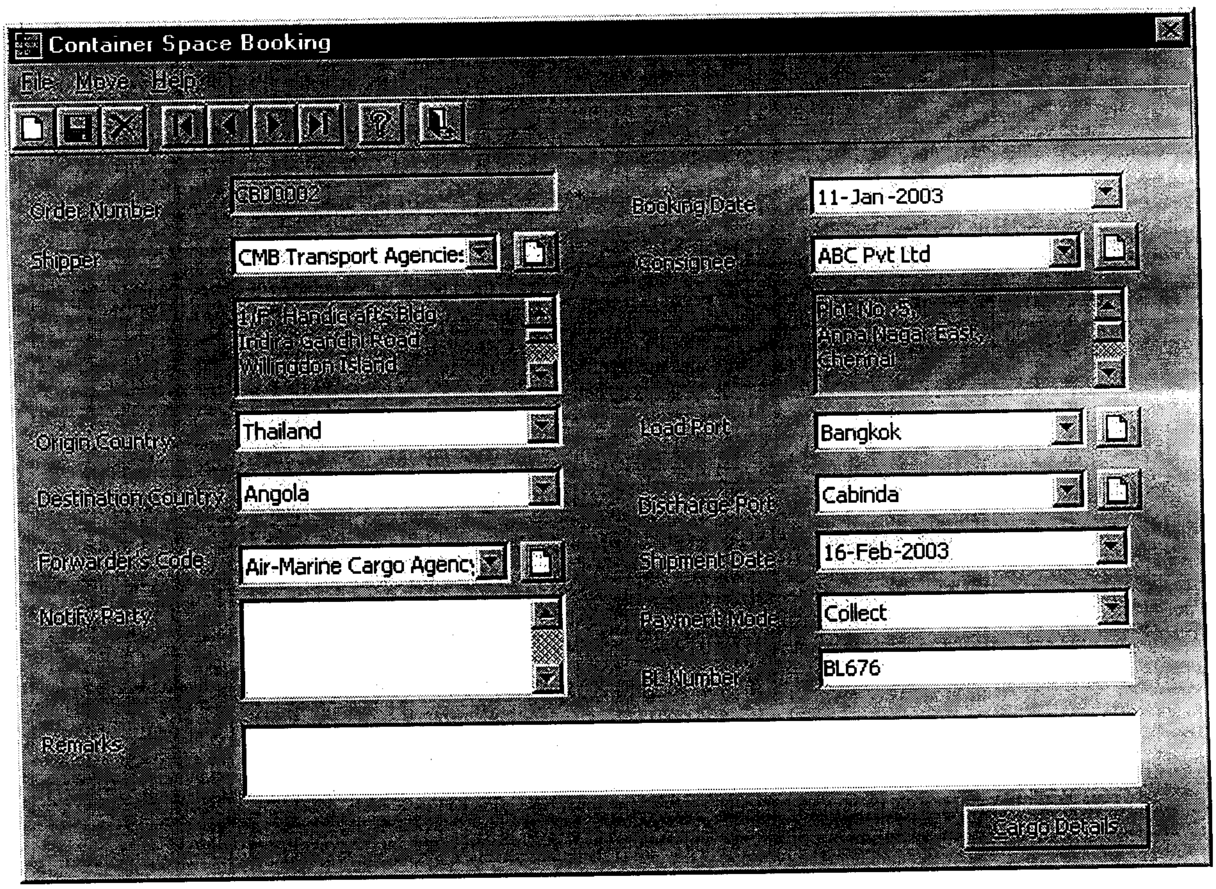

Cargo Details
Order No.
AB00004
Weight Unit
Kilograms
Volume Unit
Meter
Dangerous Cargo
Non-dangerous Cargo
Cargo Code
Cargo Type
PackageID
Nos
Length
Breadth
Height
Volume
Weight
Marks and Numbers
CG003
Foreign
4
4
3
2
1
6
25
Helium
CG007
Foreign
2
3
0.5
0.7
0.3
0.105
800
Acids
Delete
Save
Help
Close

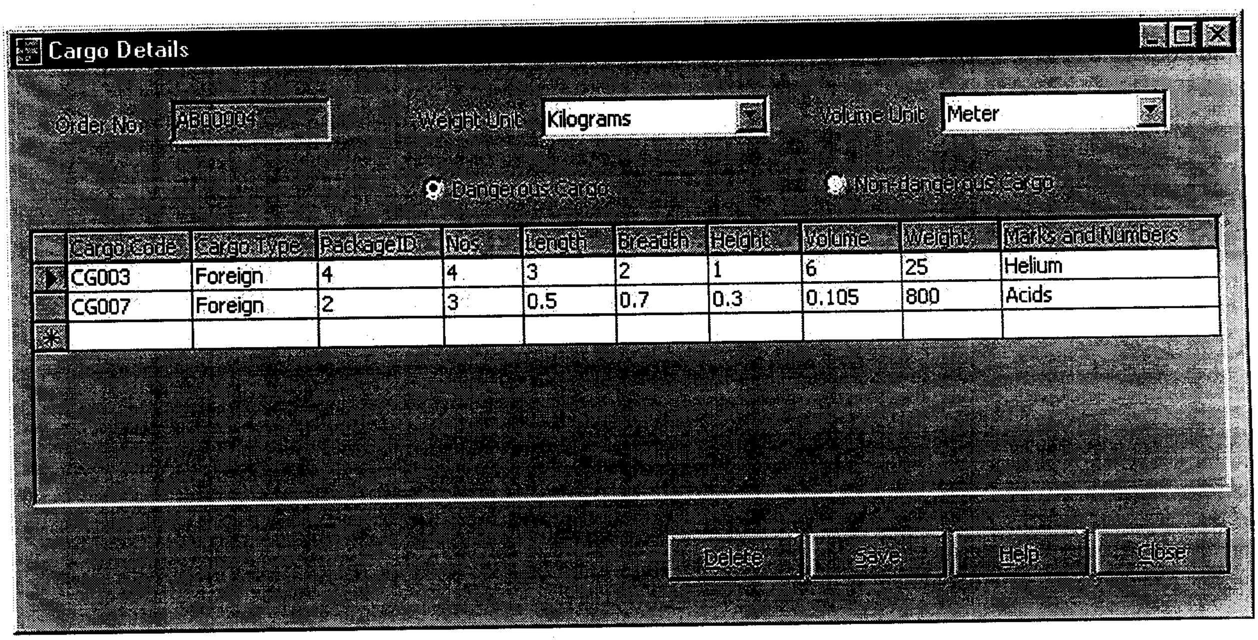

Air Forwarder's Information
File Move Help
Order Number
AB0000D4
GoTo
Executed on
14-Feb-2003
Destination Agent
CMB Transport Agencies India Pv
Agent's IATA Code
IATA09U57
House AWB
AWB006754
Reference Number
RE12367
C.O.D
IATA Commission
7000
Carrier
Barwil Agencies Pte Ltd
ETD at loadport
01-Feb-2003
02:54 PM
Carrier's Agent
Konsortium Perkapalan Bhc
ETA at dischargeport
14-Feb-2003
04:54 PM
Flight Number
F00T883
Chargeable Weight
248
Export Customs No
Rate / Charge (Rs)
4500
Charges
Prepare AWB
Charge Head
Prepaid Amount
Weight Charge
6000
Valuation Charge
7856
Other Charges Due Agent
8000

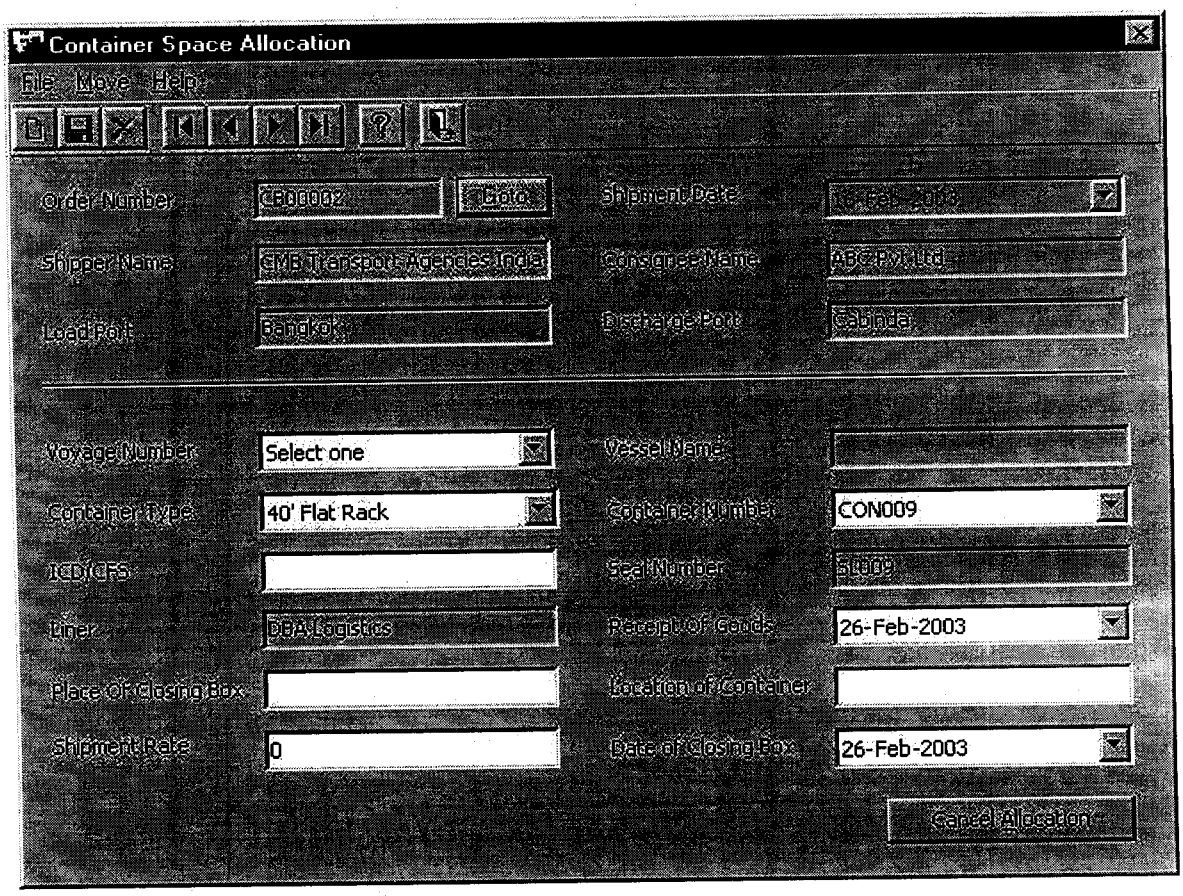

Import Air Way Bill
File Move Help
General Other
Order Number
A1001
AWB Number
AWB0090
Shipper's Name
MISC Agencies (Thailand
Green tower, 4th floor,
3656/9-10 Rama 4 road,
Klongton, Klongtoey,
Bangkok
Origin Country
Malaysia
Destination Country
India
Route
111
Agents A/c No
A/C56464
Chargeable Weight
0
Executed On
01-Feb-2003
ETD
04-Feb-2003
03:38 PM
Issued At
AWB Issued By
DBA Logistics
Consignee's Name
C.P Exports
149, Poonamallee High Road,
kolo
Chennai
Load Port
Kuala Lumpur, Internatio
Discharge Port
Chennai (Madras)
Carrier
DBA Logistics
Payment Type
Prepaid
Rate / Charge
0
Agents IATA Code
ETA
05-Feb-2003
03:38 PM

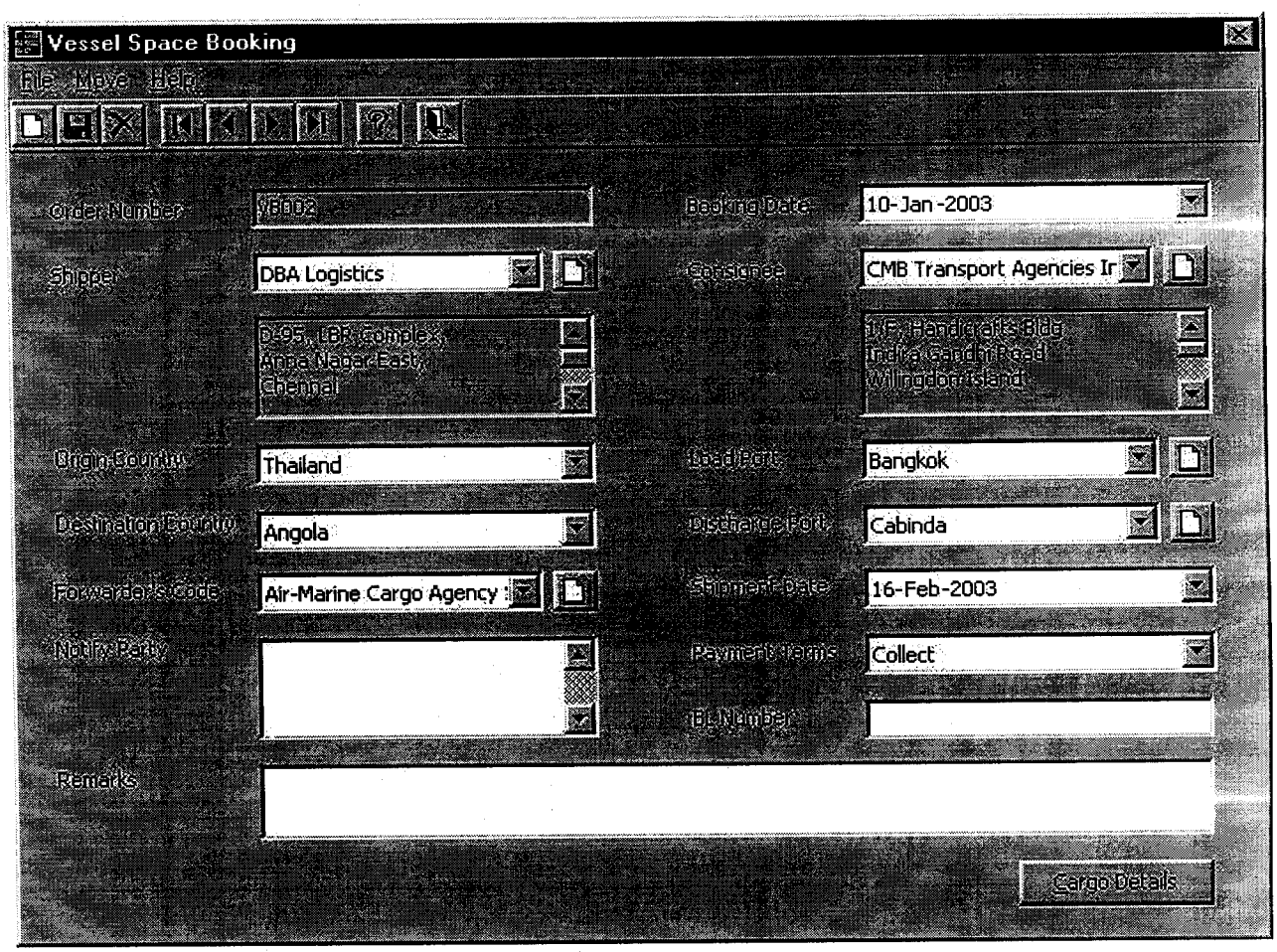

Import Air Way Bill
File Move Help
General Other
Flight Number
FL453456
Declared Value for Customs
3000
Insurance Type
Buyers Risk
Declared Value for Carriage
4000
Insurance Amount
60000
AWB Received Date
03-Feb-2003
Shipment Terms
Charges
Charge Head
Prepaid Amount
Weight Charge
400
Valuation Charge
500
Tax
300
Other Charges Due Agent
1200
Other Charges Due Carrier
200
Other Charges
250
Shipment Rate
220
Cargo Details
Inform to Consignee

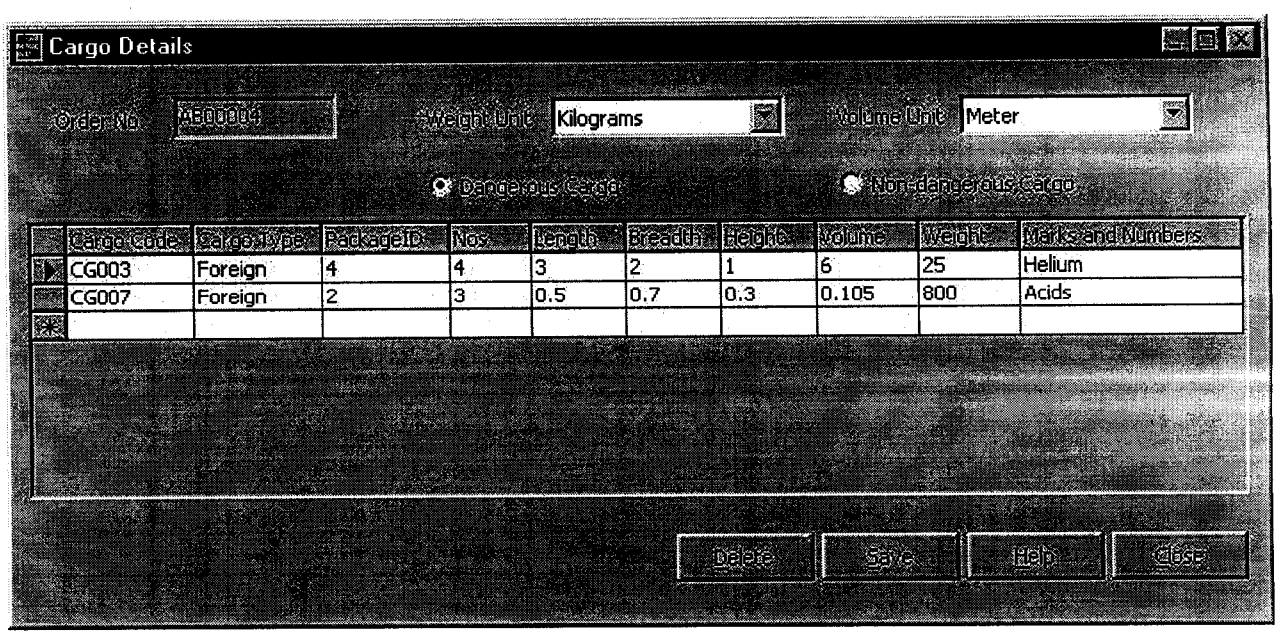

Cargo Details
Order No.
A1001
Weight Unit
Kilograms
Volume Unit
Meter
Dangerous Cargo
Non-dangerous Cargo
Cargo Code
Cargo Type
PackageID
Nos
Length
Breadth
Height
Volume
Weight
Marks and Numbers
CG009
Foreign
2
70
1.3
1.6
1.5
3.12
200
Delete
Save
Help
Close

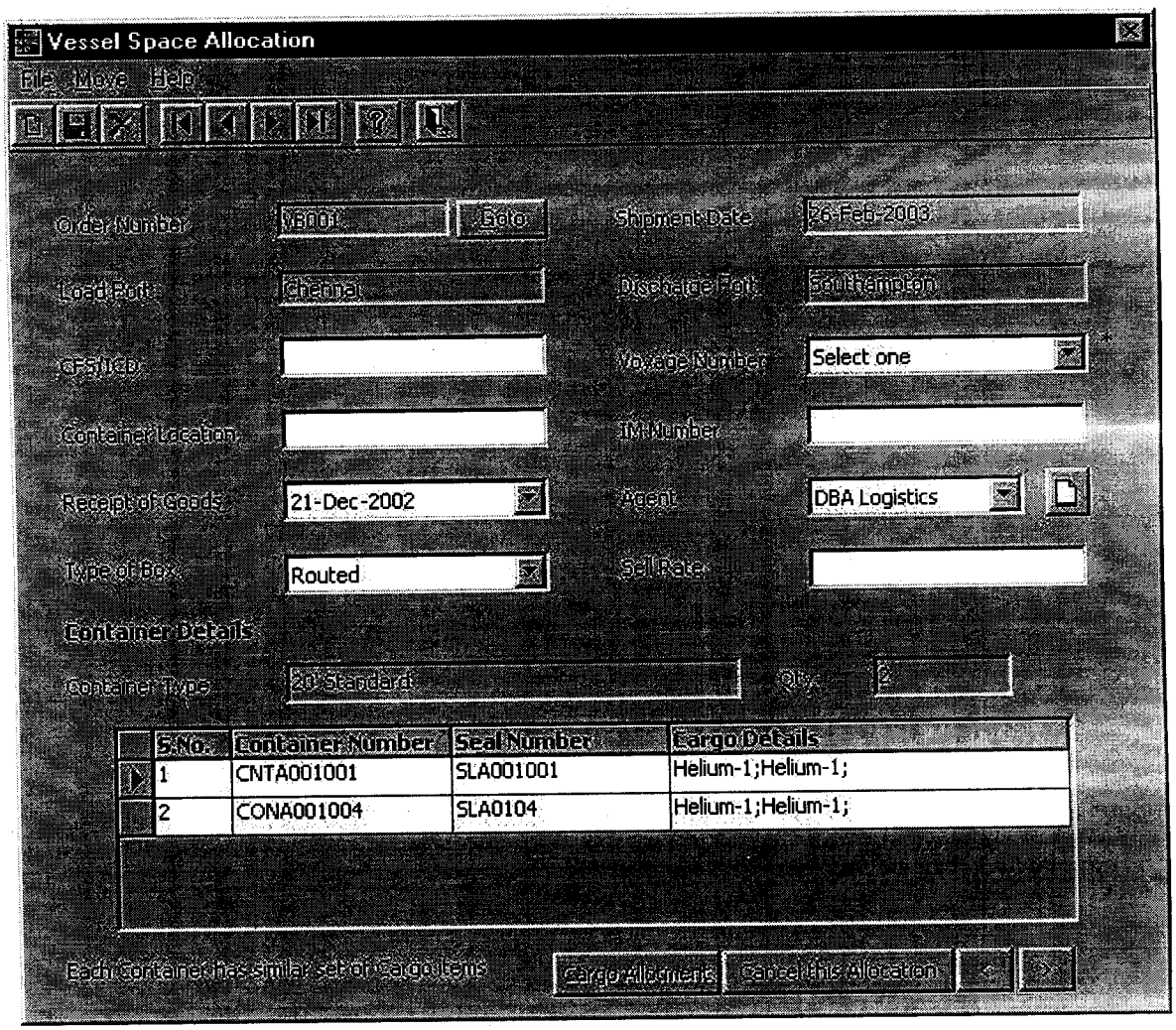

Container Space Booking
File Move Help
Order Number
Booking Date
11-Jan-2003
Shipper
CMB Transport Agencies
Consignee
ABC Pvt Ltd
Origin Country
Thailand
Load Port
Bangkok
Destination Country
Angola
Discharge Port
Cabinda
Forwarder's Code
Air-Marine Cargo Agency
Shipment Date
16-Feb-2003
Notify Party
Payment Mode
Collect
BL Number
BL676
Remarks
Cargo Details

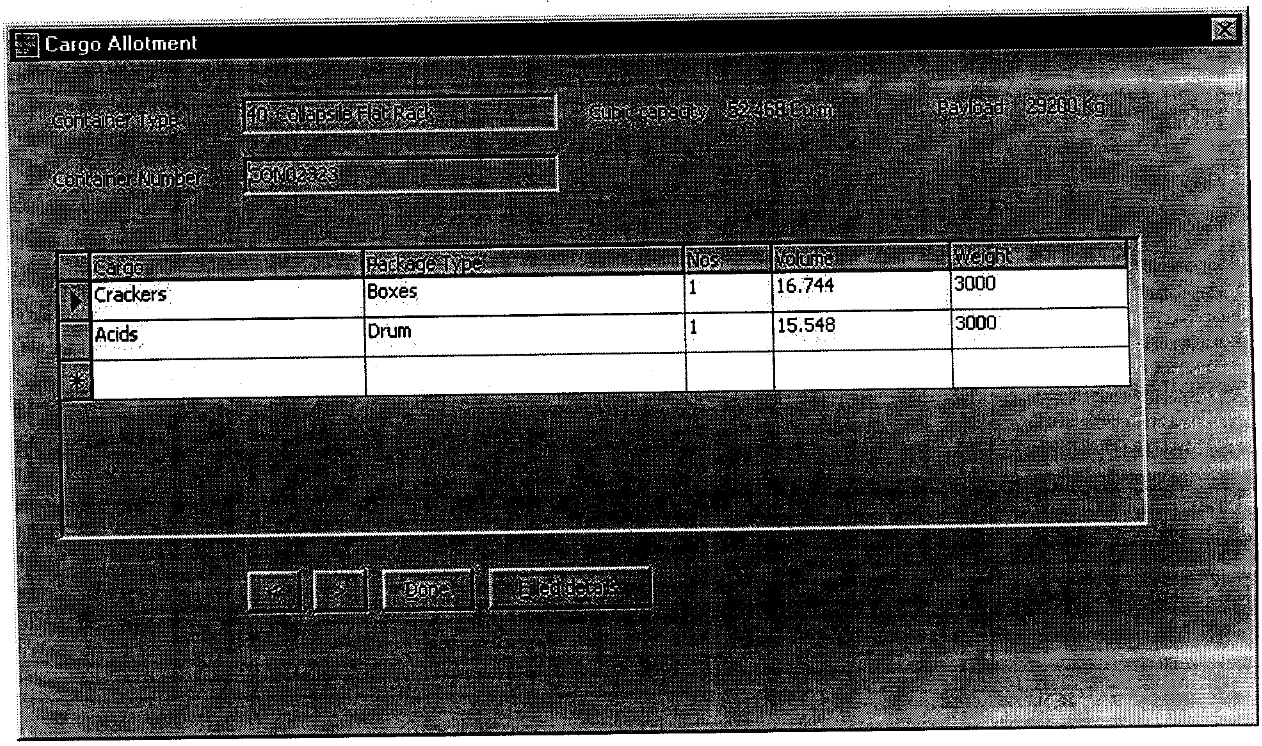

Cargo Details
Order No
Weight Unit
Kilograms
Volume Unit
Meter
Dangerous Cargo
Non-dangerous Cargo
Cargo Code
Cargo Type
PackageID
Nos
Length
Breadth
Height
Volume
Weight
Marks and Numbers
CG003
Foreign
4
4
3
2
1
6
25
Helium
CG007
Foreign
2
3
0.5
0.7
0.3
0.105
800
Acids
Delete
Save
Help
Close

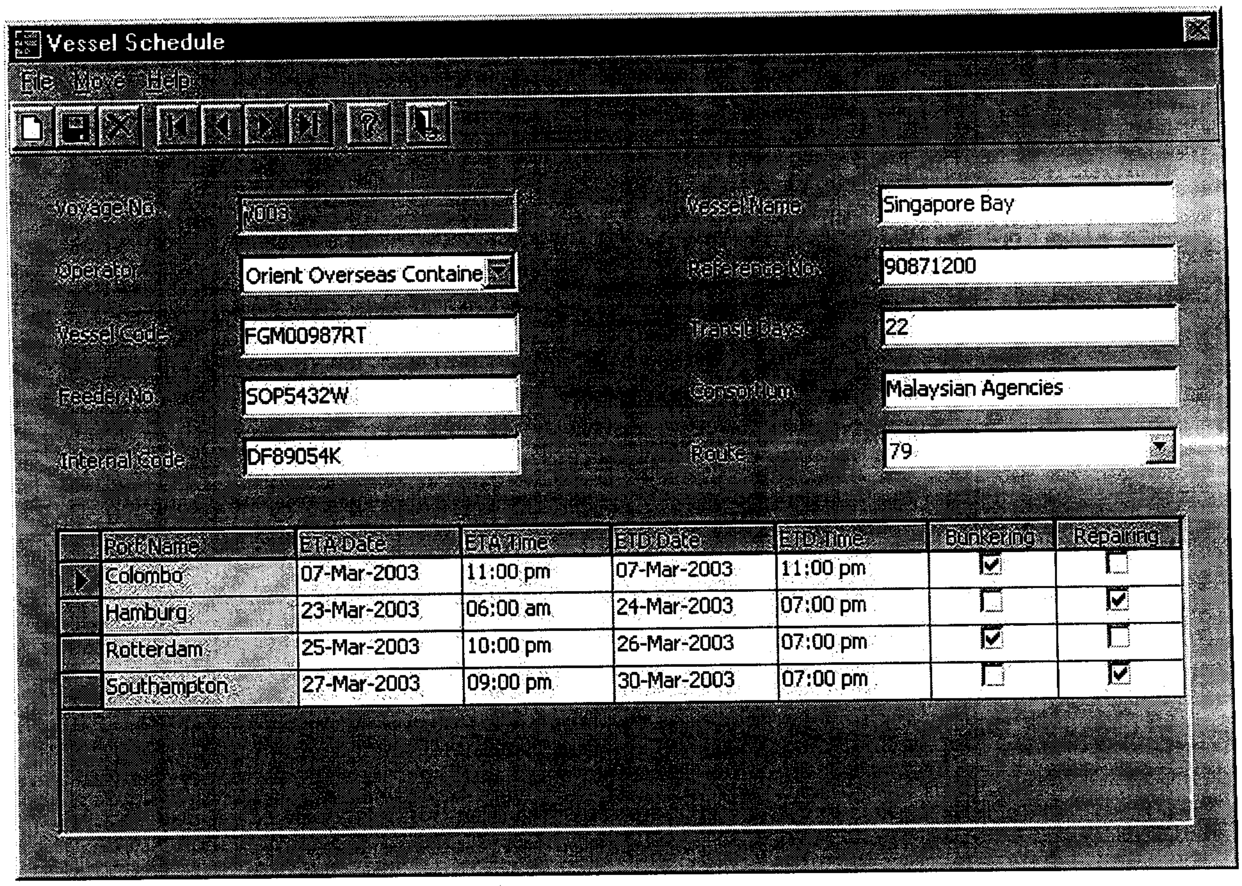

Container Space Allocation
File Move Help
Order Number
CB00002
Clear
Shipment Date
16-Feb-2003
Shipper Name
CMB Transport Agencies India
Consignee Name
ABC Pvt Ltd
Load Port
Bangkok
Discharge Port
Cabinda
Voyage Number
Select one
Vessel Name
Container Type
40' Flat Rack
Container Number
CON009
ICD/CFS
Seal Number
Liner
DBA Logistics
Receipt of Goods
26-Feb-2003
Place of Closing Box
Location of Container
Shipment Rate
0
Date of Closing Box
26-Feb-2003
Cancel Allocation

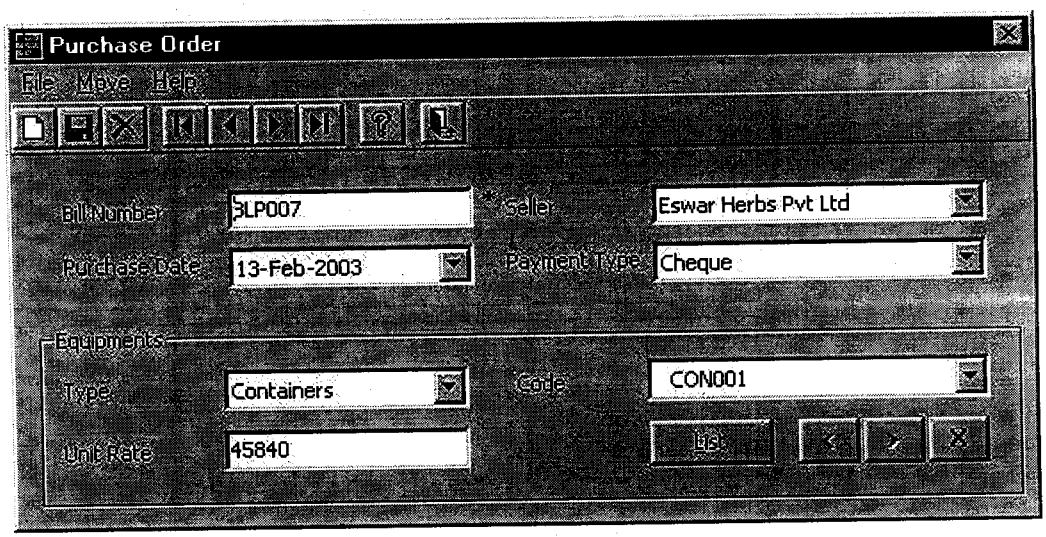

Vessel Space Booking
File Move Help
Order Number
Booking Date
10-Jan-2003
Shipper
DBA Logistics
Consignee
CMB Transport Agencies Ir
D-95, LBF Complex
Anna Nagar East
Chennai
Origin Country
Thailand
Load Port
Bangkok
Destination Country
Angola
Discharge Port
Cabinda
Forwarder's Code
Air-Marine Cargo Agency
Shipment Date
16-Feb-2003
Notify Party
Payment Terms
Collect
B/L Number
Remarks
Cargo Details

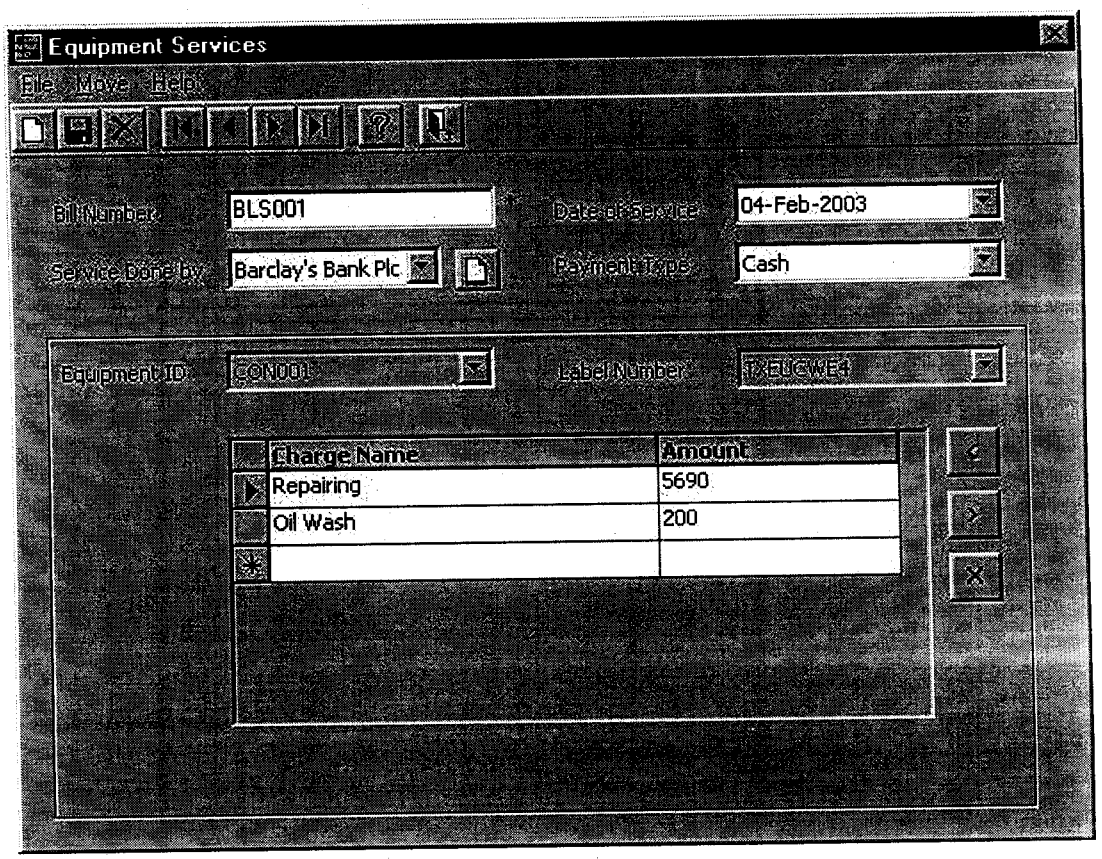

Cargo Details
Order No
AE00004
Weight Unit
Kilograms
Volume Unit
Meter
Dangerous Cargo
Non-dangerous Cargo
Cargo Code
Cargo Type
PackageID
Nos
Length
Breadth
Height
Volume
Weight
Marks and Numbers
CG003
Foreign
4
4
3
2
1
6
25
Helium
CG007
Foreign
2
3
0.5
0.7
0.3
0.105
800
Acids
Delete
Save
Help
Close

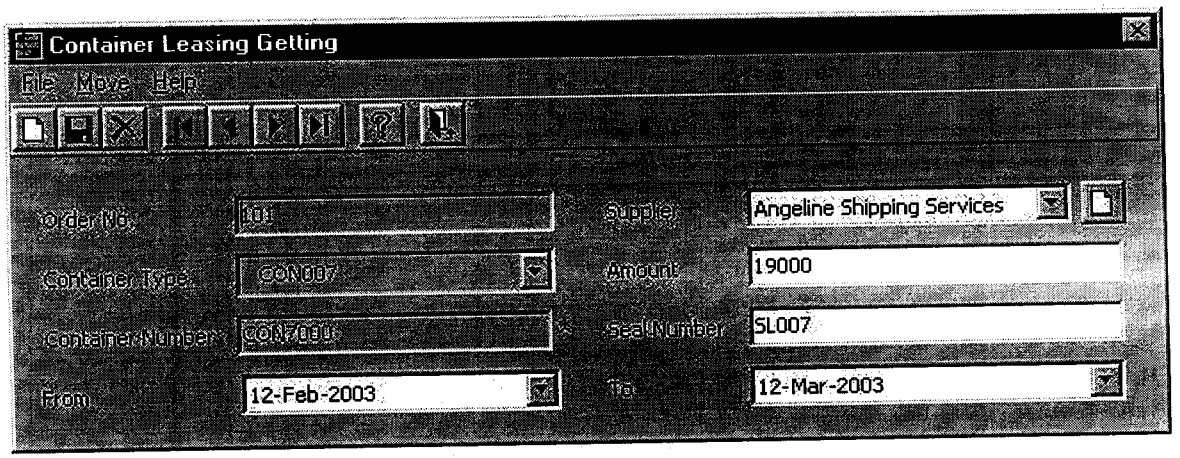

Vessel Space Allocation
File Move Help
Order Number
Goto
Shipment Date
26-Feb-2003
Load Port
Chennai
Discharge Port
Southampton
CFS I.D.
Voyage Number
Select one
Container Location
IM Number
Receipt of Goods
21-Dec-2002
Agent
DBA Logistics
Type of Box
Routed
Sail Date
Container Details
Container Type
20' Standard
Qty
S.No.
Container Number
Seal Number
Cargo Details
1
CNTA001001
SLA001001
Helium-1;Helium-1;
2
CONA001004
SLA0104
Helium-1;Helium-1;
Each Container has similar set of cargo items
Cargo Allotment
Cancel this Allocation

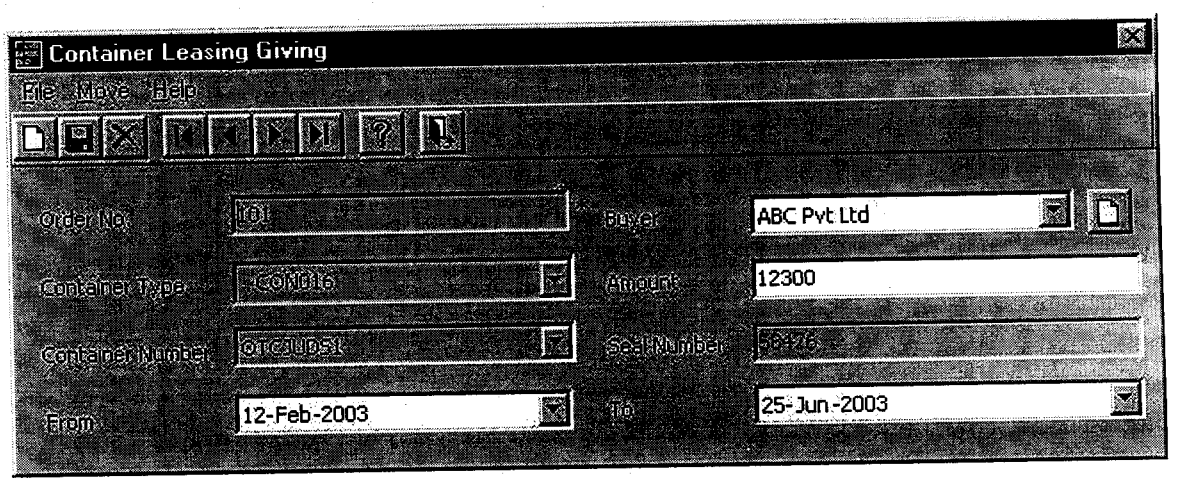

Cargo Allotment
Container Type
40' Colapsile Flat Rack
Cubic capacity 52.468 Cu.m
Payload 29200 Kg
Container Number
Cargo
Package Type
Nos
Volume
Weight
Crackers
Boxes
1
16.744
3000
Acids
Drum
1
15.548
3000
Done


Vessel Schedule
File Move Help
Voyage No.
Vessel Name
Singapore Bay
Operator
Orient Overseas Containe
Reference No.
90871200
Vessel Code
FGM00987RT
Transit Days
22
Feeder No.
SOP5432W
Consortium
Malaysian Agencies
Internal Code
DF89054K
Route
79
Port Name
ETA Date
ETA Time
ETD Date
ETD Time
Bunkering
Repairing
Colombo
07-Mar-2003
11:00 pm
07-Mar-2003
11:00 pm
Hamburg
23-Mar-2003
06:00 am
24-Mar-2003
07:00 pm
Rotterdam
25-Mar-2003
10:00 pm
26-Mar-2003
07:00 pm
Southampton
27-Mar-2003
09:00 pm
30-Mar-2003
07:00 pm

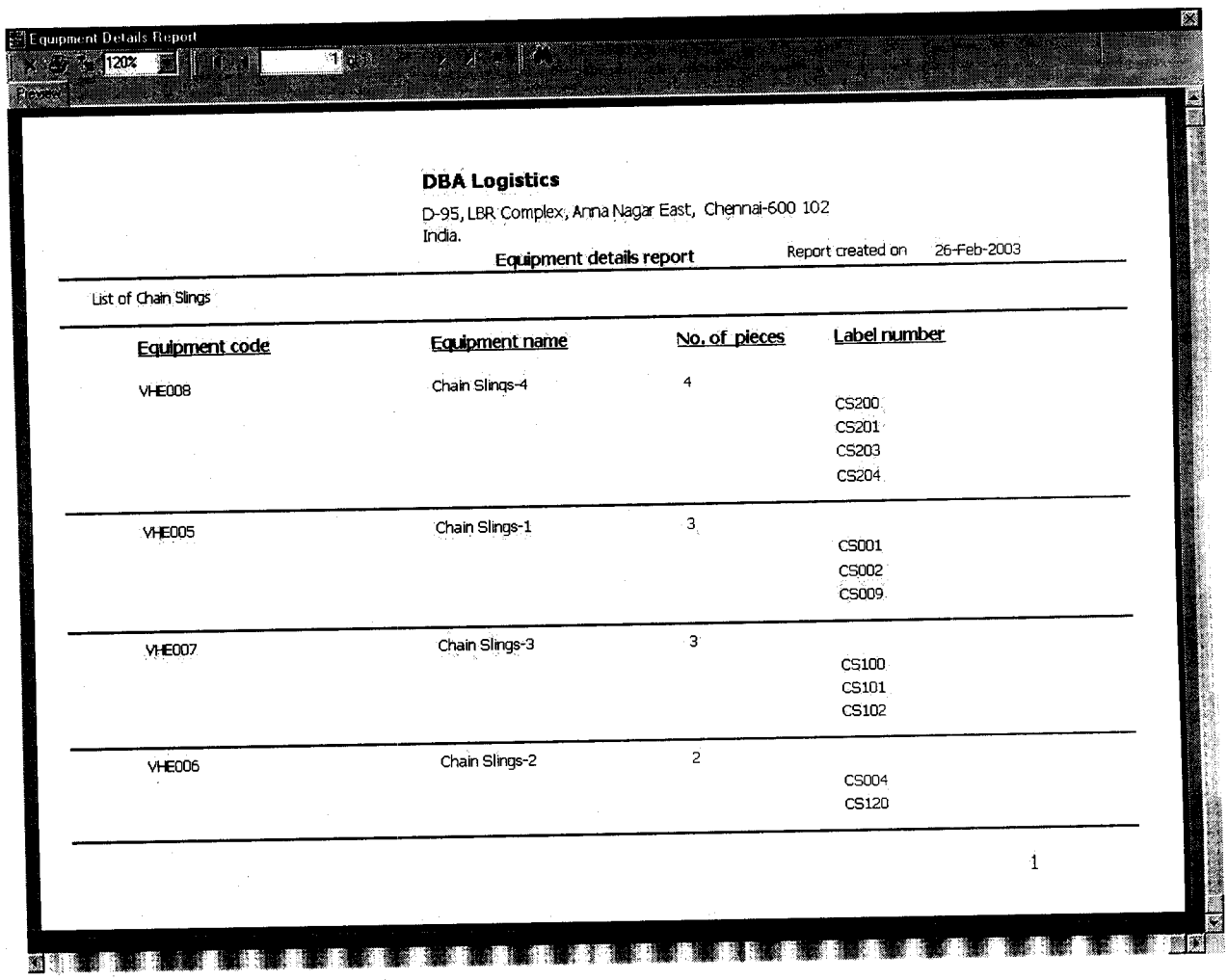

Purchase Order
File Move Help
Bill Number
BLP007
Seller
Eswar Herbs Pvt Ltd
Purchase Date
13-Feb-2003
Payment Type
Cheque
Equipments
Type
Containers
Code
CON001
Unit Rate
45840
List

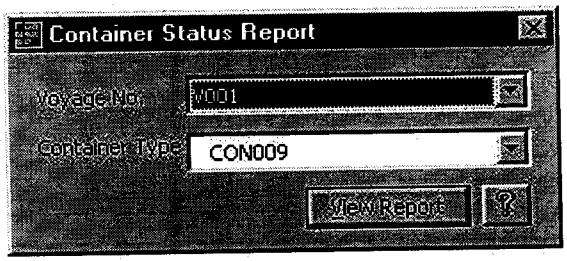

Equipment Services
File Move Help
Bill Number
BLS001
Date of Service
04-Feb-2003
Service Done by
Barclay's Bank Plc
Payment Type
Cash
Equipment ID
CON001
Label Number
Charge Name
Amount
Repairing
5690
Oil Wash
200

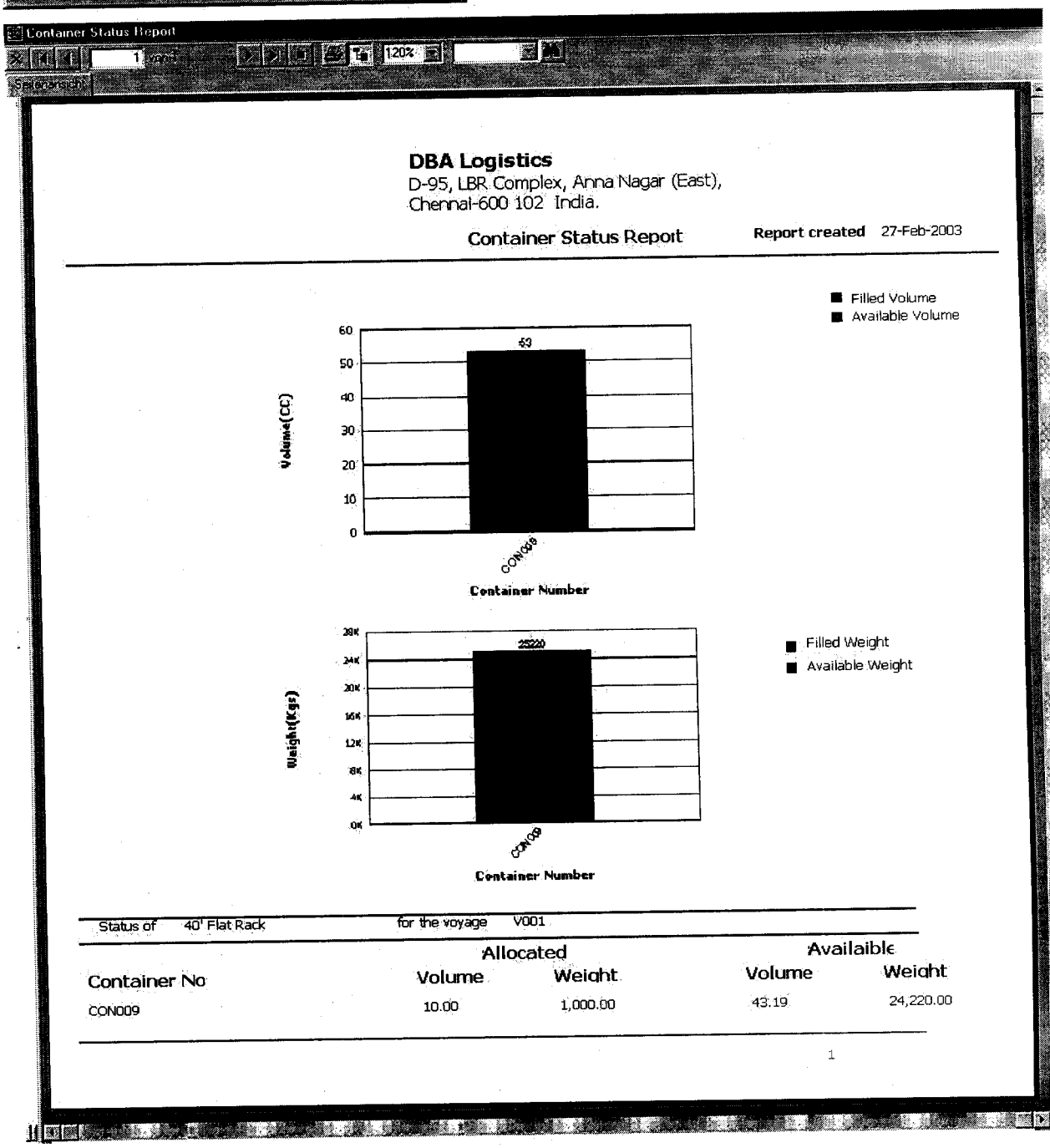

Container Leasing Getting
File Move Help
Order No:
01
Supplier
Angeline Shipping Services
Container Type:
CON007
Amount
19000
Container Number:
CON7001
Seal Number
SL007
From
12-Feb-2003
To
12-Mar-2003

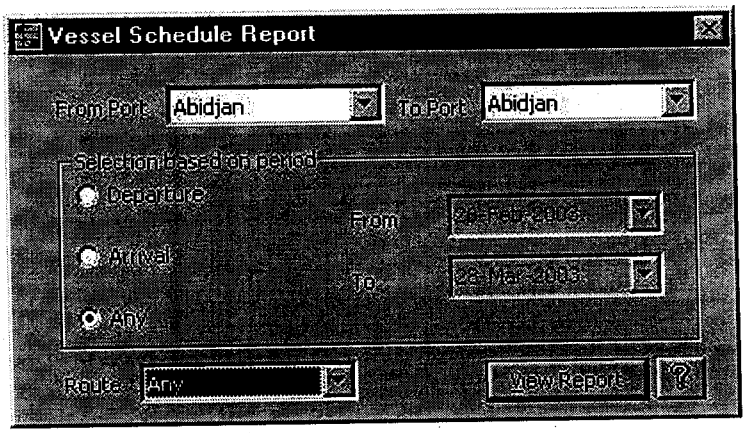

Container Leasing Giving
File Move Help
Order No:
01
Buyer
ABC Pvt Ltd
Container Type:
CON016
Amount
12300
Container Number:
Seal Number
From
12-Feb-2003
To
25-Jun-2003

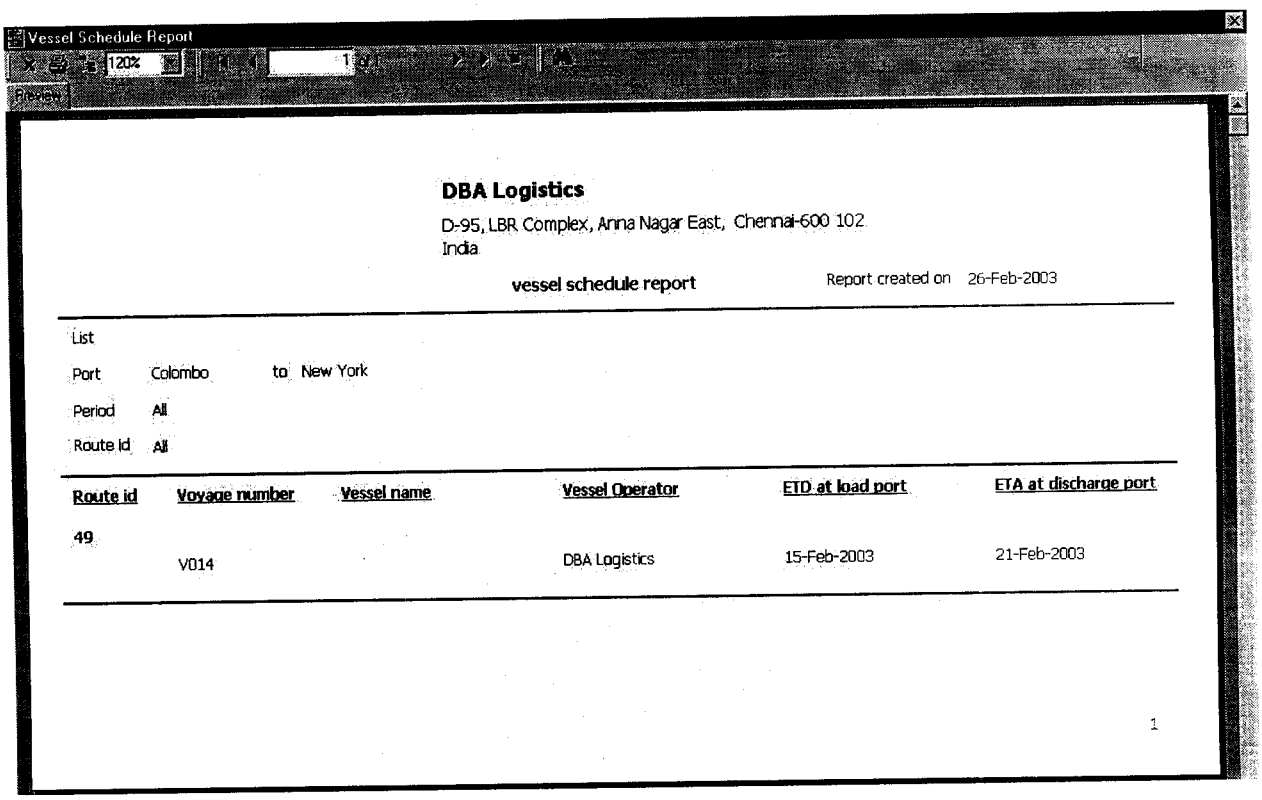
5.2. Reports

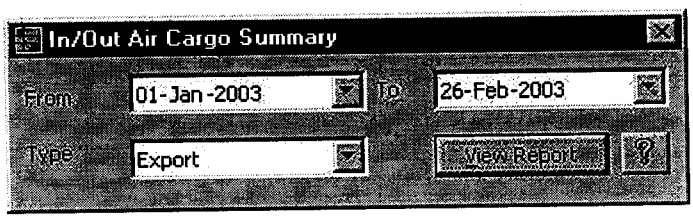

Equipment Details Report
120%
DBA Logistics
D-95, LBR Complex, Anna Nagar East, Chennai-600 102
India.
Equipment details report
Report created on 26-Feb-2003
List of Chain Slings
Equipment code
Equipment name
No. of pieces
Label number
VHE008
Chain Slings-4
4
CS200
CS201
CS203
CS204
VHE005
Chain Slings-1
3
CS001
CS002
CS009
VHE007
Chain Slings-3
3
CS100
CS101
CS102
VHE006
Chain Slings-2
2
CS004
CS120
1

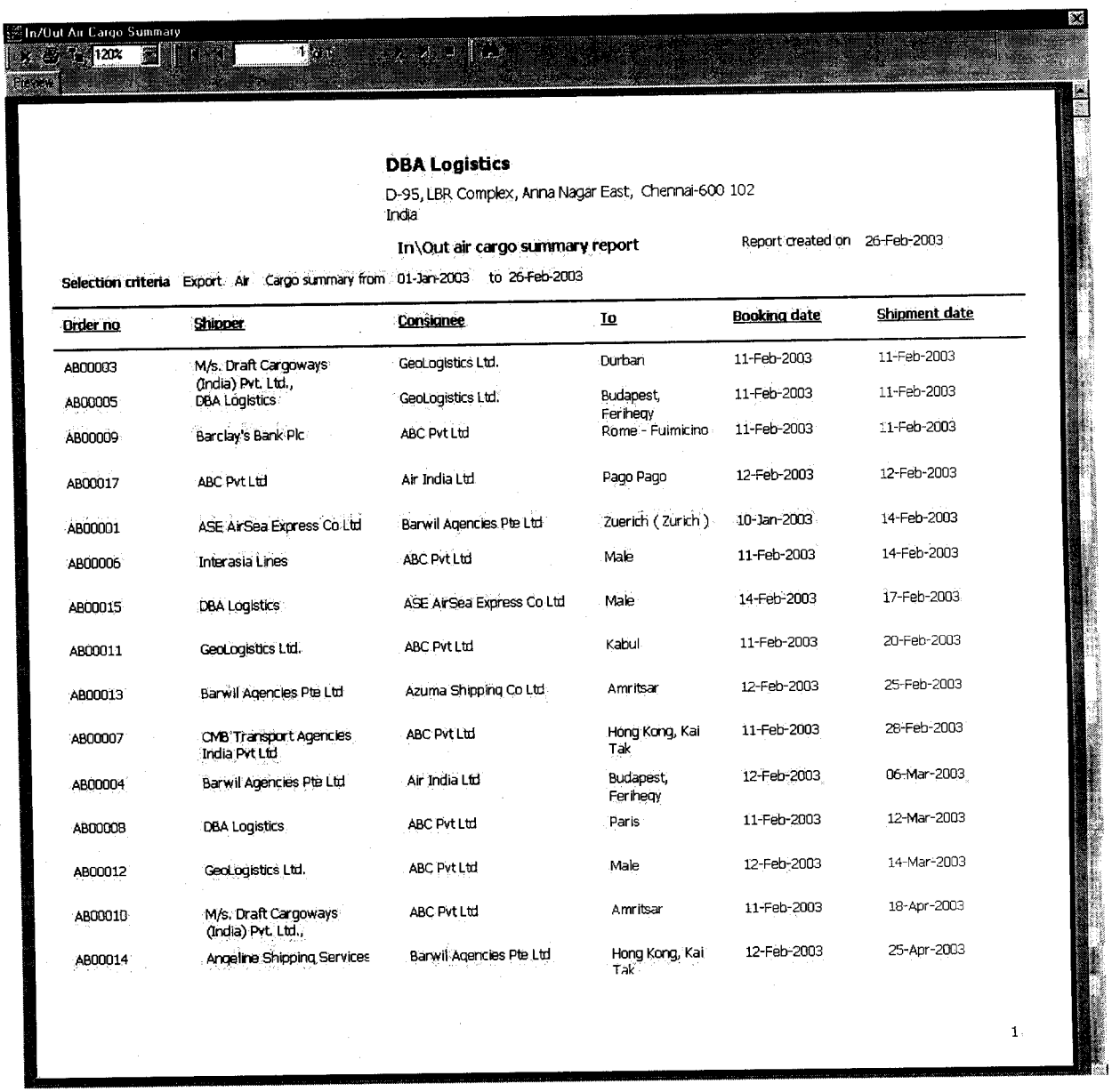

Container Status Report
Voyage No:
V001
Container Type:
CON009
View Report


Container Status Report
DBA Logistics
D-95, LBR Complex, Anna Nagar (East),
Chennai-600 102 India.
Container Status Report
Report created 27-Feb-2003
Filled Volume
Available Volume
Volume(CC)
59
Container Number
Filled Weight
Available Weight
Weight(Kgs)
25220
Container Number
Status of 40' Flat Rack for the voyage V001
Container No
Allocated
Volume
Weight
Availaible
Volume
Weight
CON009
10.00
1,000.00
43.19
24,220.00


Vessel Schedule Report
From Port
Abidjan
To Port
Abidjan
Selection based on period
Departure
Arrival
Any
From
To
Route
Any
View Report


Vessel Schedule Report
120%
Preview
DBA Logistics
D-95, LBR Complex, Anna Nagar East, Chennai-600 102
India
vessel schedule report
Report created on 26-Feb-2003
List
Port Colombo to New York
Period All
Route Id All
Route id
Voyage number
Vessel name
Vessel Operator
ETD at load port
ETA at discharge port
49
V014
DBA Logistics
15-Feb-2003
21-Feb-2003
1





In/Out Air Cargo Summary

120%

Preview

DBA Logistics

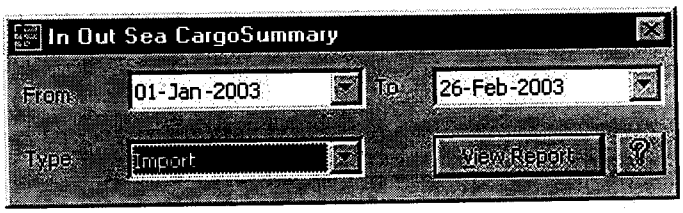
D-95, LBR Complex, Anna Nagar East, Chennai-600 102
India

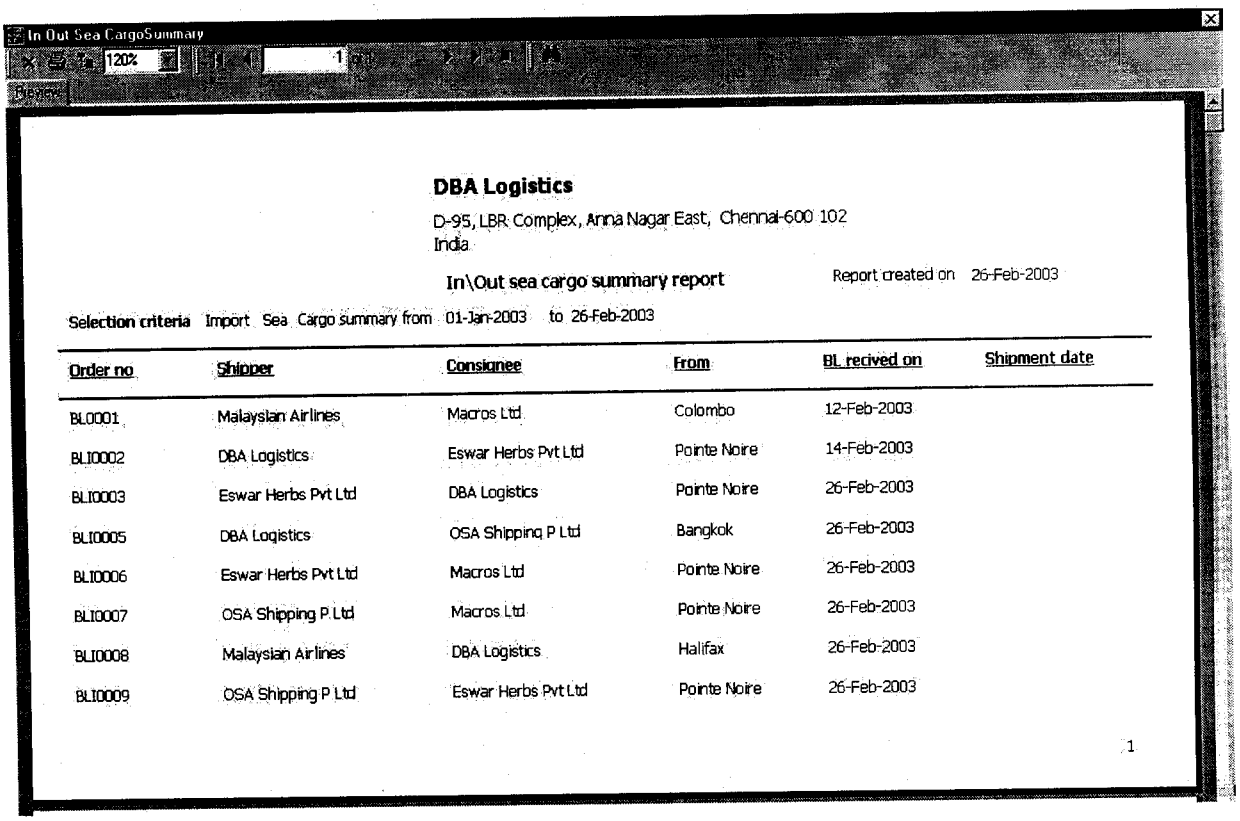
In\Out air cargo summary report Report created on 26-Feb-2003

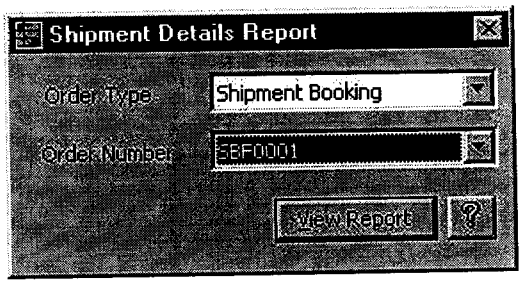
Selection criteria Export Air Cargo summary from 01-Jan-2003 to 26-Feb-2003

Order no	Shipper	Consignee	To	Booking date	Shipment date
AB00003	M/s. Draft Cargoways (India) Pvt. Ltd.,	GeoLogistics Ltd.	Durban	11-Feb-2003	11-Feb-2003
AB00005	DBA Logistics	GeoLogistics Ltd.	Budapest, Ferihegy	11-Feb-2003	11-Feb-2003
AB00009	Barclay's Bank Plc	ABC Pvt Ltd	Rome - Fuimicino	11-Feb-2003	11-Feb-2003
AB00017	ABC Pvt Ltd	Air India Ltd	Pago Pago	12-Feb-2003	12-Feb-2003
AB00001	ASE AirSea Express Co Ltd	Barwil Agencies Pte Ltd	Zuerich (Zurich)	10-Jan-2003	14-Feb-2003
AB00006	Interasia Lines	ABC Pvt Ltd	Male	11-Feb-2003	14-Feb-2003
AB00015	DBA Logistics	ASE AirSea Express Co Ltd	Male	14-Feb-2003	17-Feb-2003
AB00011	GeoLogistics Ltd.	ABC Pvt Ltd	Kabul	11-Feb-2003	20-Feb-2003
AB00013	Barwil Agencies Pte Ltd	Azuma Shipping Co Ltd	Amritsar	12-Feb-2003	25-Feb-2003
AB00007	CMB Transport Agencies India Pvt Ltd	ABC Pvt Ltd	Hong Kong, Kai Tak	11-Feb-2003	28-Feb-2003
AB00004	Barwil Agencies Pte Ltd	Air India Ltd	Budapest, Ferihegy	12-Feb-2003	06-Mar-2003
AB00008	DBA Logistics	ABC Pvt Ltd	Paris	11-Feb-2003	12-Mar-2003
AB00012	GeoLogistics Ltd.	ABC Pvt Ltd	Male	12-Feb-2003	14-Mar-2003
AB00010	M/s. Draft Cargoways (India) Pvt. Ltd.,	ABC Pvt Ltd	Amritsar	11-Feb-2003	18-Apr-2003
AB00014	Angeline Shipping Services	Barwil Agencies Pte Ltd	Hong Kong, Kai Tak	12-Feb-2003	25-Apr-2003

1


In Out Sea CargoSummary
From
01-Jan-2003
To
26-Feb-2003
Type
Import
View Report


In Out Sea CargoSummary
120%
Report
DBA Logistics
D-95, LBR Complex, Anna Nagar East, Chennai-600 102
India
In\Out sea cargo summary report
Report created on 26-Feb-2003
Selection criteria Import Sea Cargo summary from 01-Jan-2003 to 26-Feb-2003
Order no
Shipper
Consignee
From
BL recived on
Shipment date
BL0001 Malaysian Airlines Macros Ltd Colombo 12-Feb-2003
BLI0002 DBA Logistics Eswar Herbs Pvt Ltd Pointe Noire 14-Feb-2003
BLI0003 Eswar Herbs Pvt Ltd DBA Logistics Pointe Noire 26-Feb-2003
BLI0005 DBA Logistics OSA Shipping P Ltd Bangkok 26-Feb-2003
BLI0006 Eswar Herbs Pvt Ltd Macros Ltd Pointe Noire 26-Feb-2003
BLI0007 OSA Shipping P Ltd Macros Ltd Pointe Noire 26-Feb-2003
BLI0008 Malaysian Airlines DBA Logistics Halifax 26-Feb-2003
BLI0009 OSA Shipping P Ltd Eswar Herbs Pvt Ltd Pointe Noire 26-Feb-2003
1



Shipment Details Report

120%

Preview

DBA Logistics

D-95, LBR Complex, Anna Nagar East, Chennai-600 102. India.

Entire sea shipment report Report created on 27-Feb-03

Shipment details of order SBF0001

Shipper	ABC Pvt Ltd	**Consignee**	Air India Ltd
Billing		**Notify party**	
BLnumber		**Agent on destination**	DBA Logistics
Place of pickup		**Place of delivery**	
Load port	San Pedro	**Discharge port**	Algiers
Booking date	25-Feb-2003	**Shipment date**	25-Feb-2003
Liner		**Consolidator**	
Voyage number		**FCL/LCL**	FCL
ETD		**ETA**	

Cargo details

Container type 40' Collapsile Flat Rack **No. of containers** 5

Cargo name	Package type	No of packs	Volume	Weight	Marks and numbers
Turmeric	Cyclinder	10	0.20	20.00	Cargo
Tinned Food	Drum	12	12.00	20.00	
Teak wood	Boxes	15	4.00	70.00	Agencies
Turmeric	Cyclinder	10	0.20	20.00	Cargo
Tinned Food	Drum	12	12.00	20.00	
Teak wood	Boxes	15	4.00	70.00	Agencies

Container type 40' Flat Rack **No. of containers** 3

Cargo name	Package type	No of packs	Volume	Weight	Marks and numbers
Sulphur	Boxes	10	2.00	45.00	Hello Groups
Chloroform	Drum	6	1.05	25.00	

1

System Testing

6.0. System testing

Software Testing is to test the success of the system and it requires a significant percentage of overall development time and effort. Testing is the process of executing a program with the explicit intention of finding errors, if any. A series of tests are performed over the proposed system before the system is ready for user acceptances.

Software Testing is done with the following objectives:

- Verification of software design by evaluating structural interfaces and procedural requirements.
- Validation of software requirements.
- To provide a method for systematic assembly of software.
- Definition of quality bonafide to which maintenance can be traced.

There are two general strategies for testing software. They are:

- Code Testing
- Specification Testing

Code Testing

Code Testing is carried out to see the correctness of the logic involvement and correctness of the module. Tests were conducted based upon sample data, and real data. All the modules were checked separately for assuring the accuracy in all calculations.

Specification Testing

It examines the specifications stating what the program should do and how it should perform under various conditions and combinations of inputs. For this purpose test cases were developed for each field and submitted for processing. This strategy is better since it focuses on the way the software needs to be used.

Integrated People Support Management System was tested on the following strategies:

- Unit Testing
- Integration Testing
- Validation Testing

Unit Testing

During Unit Testing, each module is tested individually. Expected results for all test cases must be defined in advance. All important processing paths of the module are checked with the expected results. All event-handling paths are also tested. The test cases used for unit testing may become a subset of tests for the Integration Testing.

Integration Testing

The software system is assembled and tested in a systematic manner during the integrated testing step. Top-down integration testing begins with a software structure that has been defined using stubs. A stub is a dummy module that allows testing of subordinates (calling program) control and interface correctness. Stubs are replaced by unit-tested modules and integrated testing proceeds.

All modules that perform an initial function are integrated thereby allowing an operational function to be demonstrated prior to the completion of the entire system.

Validation Testing

Validation Testing demonstrates that the software is operational and conforms to all functional and performance requirements contained in the software requirements specification.

An independent test group that has not been involved in design or implementation of the software performed the validation testing. This independent test group includes top-level personnel. Few employees were also allowed to participate in the validation testing.

A sample test case is given below.

Dexterity Business Analysts (P). Ltd

Software Test Log

SF/STG/STL/01
Format Version : 1.01
W.e.f: 01.01.2003

Project ID/Name	: DBA/INT/CS/ILS/045 Integrated Logistics Software
Name of the Tester	: Saravanan.K
Testing Start Date	: 24/3/03
Platform	::Visual Basic 6.0,MS SQL,Crystal Reports
Test Case Prepared by	: Saravanan.K
Testing End Date	: 24-03-03
Screen / Program Id/Name	SCR_022_Vessel Schedule

Work Product Name	RSD	Code	TRM	STC
Version	1.00	1.03	1.06	1.03
Iteration No.	0	1	2	3

S. No.	Functionality	Action	Expected Result	Observed Result	Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail	Type of Defect (Cr/Mj/Mi)	Type of Testing (Unit / System)
1	Form load	Form load	The screen will be in new mode. If there is atleast one record, then the move first and move previous scroll buttons and menu items are enabled. Otherwise no scroll button or menu item will be enabled. List all the sea routes in route combo.	As Expected				*Pass*		
2	Scrolling buttons and menu items	From new mode, after entering some values, scroll the record.A42	The confirmation to save the record will be asked. If "Yes" is clicked, the appropriate record will be shown after saving the record If there is any problem in saving the record then display the problem and remain in the same record. If "No" is clicked, the appropriate record will be shown immediately. If "Cancel" is clicked, then no action will be taken.	As Expected				*Pass*		
3	Scrolling buttons and menu items	From edit mode, after changing some values scroll the record	The confirmation to save the changes will be asked. If "Yes" is clicked, the appropriate record will be shown after saving the changes. If there is any problem in saving the changes then display the problem and remain in the same record. If "No" is clicked, the appropriate record will be shown immediately. If "Cancel" is clicked, no action will be taken.	As Expected				*Pass*		
4	Scrolling buttons and menu items	Delete all the records.	All the scroll buttons and menu items are disabled.	As Expected				*Pass*		
5	Delete button	From new mode, after entering some values, click the "Delete" button	The confirmation to delete the new record will asked. If "Yes" is clicked, then first record will be displayed. If "No" clicked, then no action will be taken.	As Expected				*Pass*		

6	Delete button	From new mode, before entering some values, click the "Delete" button	The first record will be displayed. In case there is no record, then no action will be taken.	As Expected				Pass			
7	Delete button	From edit mode in last record, click the "Delete" button	The user will be asked to confirm the delete operation. If "Yes" is clicked then move to the first record. If "No" is clicked then nothing will happen.	As Expected				Pass			
8	Delete button	From edit mode not in last record, click the "Delete" button	The user will be asked to confirm the delete operation. If "Yes" is clicked then move to the next record. If "No" is clicked then nothing will happen.	As Expected				Pass			
9	Move last and Move next scroll buttons and menu items	Go to the last record.	The move last and move next scroll buttons and menu items will be disabled.	As Expected				Pass			
10	Move first and Move previous scroll buttons and menu items	Go to the first record	The move first and move previous scroll buttons and menu items will be disabled.	As Expected				Pass			
11	New button	Click new button, without entering any values, from new mode	Nothing will happen	As Expected				Pass			
12	New button	Click new button, after entering some values, from new mode.	The user will be asked to save the new record. If "Yes" is clicked, then the current will be saved and the screen will be in new mode. If there is any problem while saving the record, then after dsiplaying the problem, the action will be cancelled. If "No" is clicked, then the screen will be in new mode. If "Cancel" is clicked, then nothing will happen	As Expected				Pass			
13	New button	Click new button, after changing some values, from edit mode.	The user will be asked to save the changes in current record. If "Yes" is clicked, then the changes will be saved and the screen will be in new mode. If there is any problem while saving the changes then after displaying the problem, the action will be cancelled. If "No" is clicked, then the screen will be in new mode. If "Cancel" is clicked, then nothing will happen	As Expected				Pass			

14	New button	Click new button, without editing, from edit mode.	The screen should enter into new mode. The move previous and move first buttons will only be enabled.	As Expected				*Pass*			
15	Close button	Press escape, while in this screen	The form unload action will be called.	As Expected				*Pass*			
16	Close button	Choose close menu item from the File menu	The form unload action will be called.	As Expected				*Pass*			
17	Close button	Click close button from the icon bar	The form unload action will be called.	As Expected				*Pass*			
18	Close button	Click the close button from the title bar.	The form unload action will be called.	As Expected				*Pass*			
19	Form Unload	Try to unload the form by choosing any of the above ways, without entering any values, from new mode.	The form will be unloaded.	As Expected				*Pass*			
20	Form Unload	Try to unload the form by choosing any of the above ways, after entering some values, from new mode.	The user will be asked to save the new record. If "Yes" is clicked, then the current will be saved and the unloaded. If there is any problem while saving the record, then after displaying the problem, the action will be cancelled. If "No" is clicked, then the screen will be unloaded. If "Cancel" is clicked, then nothing will happen	As Expected				*Pass*			
21	Form Unload	Try to unload the form by choosing any of the above ways, without changing the values, from edit mode.	The form will be unloaded.	As Expected				*Pass*			
22	Form Unload	Try to unload the form by choosing any of the above ways, after changing the values, from edit mode.	The user will be asked to save the changes in current record. If "Yes" is clicked, then the changes will be saved and then unloaded. If there is any problem while saving the changes then after displaying the problem, the action will be cancelled. If "No" is clicked, then the screen will be in new mode. If "Cancel" is clicked, then nothing will happen	As Expected				*Pass*			
23	Help	Press F1	The help file with details corresponding to this screen will be	As Expected				*Pass*			

			displayed.								
24	Help	Select Help menu	The help file with details corresponding to this screen will be displayed.	As Expected				*Pass*			
25	Help	Press Help icon from icon bar	The help file with details corresponding to this screen will be displayed.	As Expected				*Pass*			
26	Change Route	Select a route from route combo	All the ports in the selected route will be displayed as each row in the grid.	As Expected				*Pass*			
27	ETA	Enter ETA as greater than ETD for the same port.	It should not be displayed. ETD should be greater than ETA.	As Expected				*Pass*			
28	ETD	Give ETD of one port greater than that of the next port	"The ETD of one port should be less than that of the next port" message will be displayed	As Expected				*Pass*			
29	ETA	Give ETA of one port greater than that of the next port	"The ETA of one port should be less than that of the next port" message will be displayed	As Expected				*Pass*			
30	Port name	Try to change the port names in grid	The port names should be non-editable	As Expected				*Pass*			
31	Port Details	Try to insert any rows in the grid	This should not be allowed.	As Expected				*Pass*			
32	Port Details	Try to delete any rows in the grid	This should not be allowed.	As Expected				*Pass*			
33	Bunkering and Repairing	Click the Check of bunkering and repairing	The Clicked Check Box is Selected and Saved	As Expected				*Pass*			

		Tested by	Reviewed by
Signature			
Name		Saravanan.K	R. Vidya
Designation		Project Trainee	Project Manager
Date		02/24/03	02/25/03

System Implementation

7. System Implementation

Implementation is the stage of project when the theoretical design is turned into a working model. A lot of planning has to go for the successful implementation of the system. The major steps that were carried out and the events that occurred in these stages are summarized below.

- ❖ Training was given to the users of the software application, both, theoretically as well as practically. They were briefed on the lines of the objectives of the system, how to operate the system and the benefits that would be reaped from the system.
- ❖ The system was tested in the user environment and the user was asked to give his / her suggestions. It was found that most of their responses were favorable to the effective use of the system.

Integrated Logistics Software is developed at DBA (P) Ltd, in order to replace the logistics work in an effective and efficient way.

7.1. User Manual

The user manual of Integrated Logistics Software (ILS) is mainly prepared to provide guidance to the user in the implementation of software and in manipulating the screens. This facilitates the user with step-by-step process in using the screens. In brief, it gives the purpose of each screen and guides in knowing the functionalities of the screen. Thus, when a user reads through the user manual, he can very well get an overall idea bout the entire software.

The Screens in this project is designed to enter various details about the logistics. Each screen follows some design format in which the working environment looks same.

In each form

All the fields marked with * are mandatory

To Enter New record

Click  or press Ctrl + N or on the File Menu, click New.

To save new or modify the details

Click  icon or press Ctrl + S or on the File menu, click Save.

To delete an record

Click  icon or press Ctrl + Y or on the File menu, click Delete

To Scroll between the addresses

✓To move to the First record, click  icon or press F5 or on the

Move menu, click First.

✓To move to the Previous record, click  icon or press F6 or on the Move menu, click Previous.

✓To move to the Next record, click  icon or press F7 or on the Move menu, click Next.

✓To move to the Last record, click  icon or press F8 or on the Move menu, click Last.

To get help about the screen

Click  icon or press F1 or on the menu, click Help.

To close the screen

Click  icon or press Esc or on the File menu, click Close.

Conclusion

8.0. Conclusion

This real-time project entitled **"Integrated Logistics Software"** is entirely a menu driven application, which has been developed as per the requirements of Logistics Company.

This newly developed system is used to provide logistics operations as an IT enabled service and paperless work to be used by logistics companies. This system provides a comprehensive software package for the Logistics industry, aiming to aid the Forwarding segment initially as an all in one package and to enable the Forwarder maintain all transactions in an integrated software environment for easy maintenance. This system helps us to generate various reports like Equipment details report, Vessel Schedule report, In / Out Air Cargo summary, In / Out Sea Cargo summary, Entire Shipment report, etc.with less effort and thereby reduces the work done and time required to do manually.

In Future, this computerized system can be expanded according to further needs of Logistics Company and more reports can be generated. More modules can be appended to the existing system so that the project can be more generalized. Thus this system is found to satisfy the Logistics needs.

Annexure

Abbreviations.

CFS-Container Freight Station

CY-Container Yard

BL-Bill of Lading

AWB-Air Way Bill

P /C-Prepaid / Collect

INCO-International Commercial

IATA-International Air Transport Corporation

SLI- Shipper's Letter of Instruction

COD-Cash On Destination

FCL-Full Container Load

LCL-Less Container Load

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