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Momentum Software Engineering's

Flight the Freights Manager

User Manual

Revision 2

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Revision History Page

- Revision 1 -Written jointly by David Jeong, Sung Hwang, Steven Essen and Vincent Chu. Compiled together into one document.
- Revision 2 - June 19, 2002
-Fixed grammar throughout, added a menu tree.



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Section 1.0 – Introduction

1.1 Welcome

Welcome to *Flight the Freights Manager*! We, at Momentum Software Engineering, appreciate that you chose our system to efficiently and effectively manage your airfreight loads. With this system, you can accurately record and store as well keep track of information about each flight, each cargo (container or pallet), and each customer. We hope you will enjoy using *Flight the Freights Manager*.

We stand by our product. This user manual contains basically everything you need to know about how to use *Flight the Freights Manager*. Feel free to contact Momentum Software Engineering at 1-800-MOMENTA if you have any questions.

1.2 System Overview

Flight the Freights Manager is an airfreight load management system that will manage freight items (both containers and pallets) which are assigned to aircraft flights. It will also store, record, and keep track of customer and cargo information.

Features of the system include:

- Adding a new *customer*
- Adding a new cargo (container or pallet)
- Creating a new flight
- Assigning cargo items to a flight
- De-assigning a cargo item from a flight
- Reassign all cargo items on a flight to a different flight
- Deleting a cargo item
- Deleting a flight and all its cargo
- Inquiring about the capacity remaining on a flight in terms of area, weight, and dimensions (of the largest pallet that can fit)
- Printing a detailed report listing all cargo items on a flight

Some advantages of using this system are:

- the program will fully integrate with your company's business
- the program is easy to learn and understand through its user-friendly menus and user manual. Thus, less time can be spent on training of new employees to operate the program.
- the user can process customer information and cargo items much faster than before as well as assign cargo items to flight quickly.
- the amount of paperwork required is reduced; mostly every function required in the airfreight load business is automated by the system.

- the system is reliable (i.e. the system does not crash), accurate (because the system deals with very important data), upgradeable (for possible future features), and maintainable.
- the printed report contains details on all cargo items (such as weight) placed on a particular flight
- the inquiry output is very detailed in order for the user to make quick decisions on the placement of cargo items on a flight.
- the list of unassigned cargo items keeps the user informed of what cargo items still need to be assigned to a flight.

The following diagram illustrates interaction between *Flight the Freights Manager* system and the user:

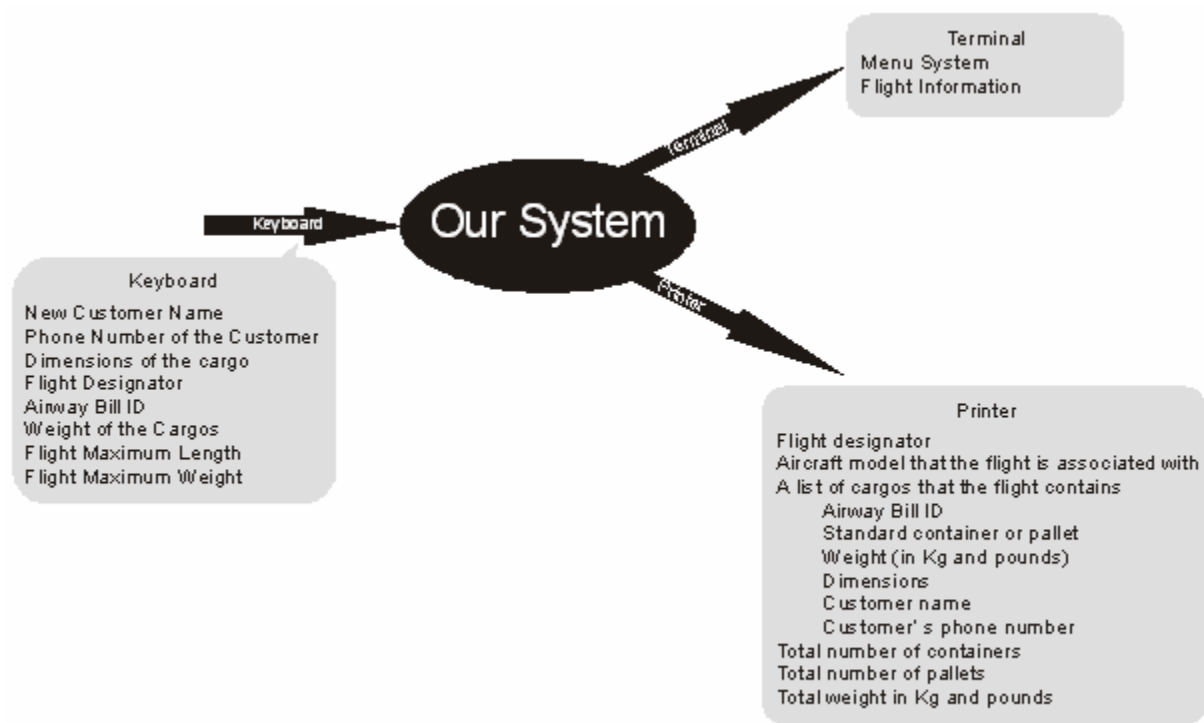


Figure 1.2.1 A level-0 Context Diagram

Our system will not print the printed report directly to the printer. It will save the report into a file called print.txt. You will have to open print.txt by going to the directory where *Flight the Freights Manager* is installed (see Section 2.3) using Windows Explorer and double-clicking the file. *Notepad* would be brought up and you would select the print function from the file menu. This would print the file to the default printer connected to your computer system.



1.3 Conventions Used in this Manual

The user of *Flight the Freights Manager* will be referred to as “you”. The developer of the software will be referred to as “we”.

The following conventions will be used in this user manual:

- Input that you type into the keyboard will be denoted like this: **dir a:**
- Screen output will be shown like this: please enter the customer name.
- The Enter Key, Return Key, or Carriage Return will be denoted as ↵.
- ENTER your name, for example, would imply typing your name in and then followed by the ENTER key.
- The Backspace Key will be denoted as BACKSPACE
- Any numbered lists indicate an ordered sequence of steps that must be followed
- Notes annotated onto screen outputs (i.e. the text will NOT be displayed in the actual program) will be denoted in this font: *Special Note*

Section 2.0 – Installation

2.1 System Requirements

To use Flight the Freights Manager, you will need:

- PC system with parallel port for an ink-jet printer
- Parallel ink-jet printer with 150dpi and width 8.5”; 12 pages per minute. Color ink-jet is not required
- 12” Monitor (with color or not) or more
- A minimum of 32 MB RAM
- A QWERTY keyboard
- A 486 or better processor chip (Pentium 233 MHz or higher is recommended.)
- 25 Mb hard disk space
- A 3.5” 1.44MB floppy disk drive
- A mouse (for running Windows, although the system would not require a mouse)
- Windows 95 or later is recommended
- Java Virtual Machine
- A spare, blank formatted floppy disk to back the originally shipped disk up on

2.2 Back-Up of Distribution Disks

Please back-up the distribution/program disk to a spare, blank, and formatted floppy disk before installing *Flight the Freights Manager* in case these disks become damaged or lost. Here is a typical back-up procedure:

1. Insert *Flight the Freights Manager* disk into your 3.5” floppy disk drive.
2. Get into DOS by either:
 - a) starting it up or
 - b) doing nothing if DOS is already opened up or



- c) starting windows and making sure no other programs are running. Then, go to the Start Menu->Programs->Accessories and press the left mouse button on MS-DOS Prompt to start DOS in a window.
3. Type `c:` and then, press `↵`. Type `cd\` and then, press `↵`.
4. Type `md tempFFM` and then, press `↵`.
5. Type `cd tempFFM` and then, press `↵`.
6. To copy the contents of the floppy to the hard drive, type `copy a:*.* c:` and then, press `↵`.
7. Remove disk from the floppy drive and insert the blank formatted floppy disk.
8. To make the back-up copy, type `copy *.* a:\` and then press `↵`.
9. Remove the back-up floppy disk.
10. Delete the temporary storage by typing `del *.*` and then pressing `↵`. Next, type `cd\` and press `↵`, and finally, type `rd tempFFM` and press `↵`.

Remember to keep the back-up copy in a safe place.

2.3 Installation Steps

To install Flight, follow the steps below:

1. Get into DOS by either:
 - a. starting it up or
 - b. doing nothing if DOS is already opened up or
 - c. starting windows and making sure no other programs are running. Then, go to the Start Menu->Run and type **command** and press `↵`.
2. Insert the *Flight the Freights Manager* disk into your 3.5" floppy disk drive.
3. To switch to the floppy disk drive, type `a:` and press `↵` in the DOS box or command prompt
4. Then, to run the installation program (a batch file), type `fmsetup.bat` and press `↵`.
5. Type `c:` and press `↵`.
6. Take the disk out of the 3.5" floppy disk drive and store it for safekeeping.

The program requires data files which are contained in a sub-directory called datfiles located in the program directory `C:\flight\`. After installing or when there is no existing data files located in datfiles or when there are data files missing, the program, once started, will automatically create new empty data files.

One common error that may be encountered is that there is not enough room on the hard drive to install the system. If possible, delete unneeded files and programs to free up space and try to install the system again.



2.4 How to Start Flight the Freights Manager

To run the program, change to the C drive by typing `c:` and pressing `↵` in the DOS box or command prompt (Please refer back to section 2.3 step 1 for instructions to start up DOS). Then, to get to the program directory, type `cd flight` and press `↵`. Start the program by typing `java ffm` and then pressing `↵`.

Section 3.0 – Introduction to the User Interface

In general, the user interface in *Flight the Freights Manager* would be a scrolling terminal. The interface would be text-only. For each subsequent screen, the screen will **not** be cleared.

3.1 Menu System

All the functions provided in the form of menu would be accessed via the keyboard. Each choice chosen from the menu may either bring up another sub-menu* or the system would prompt you a series of questions that need to be answered to complete a required action. The menu would scroll from bottom up. Whenever you want to exit (either exit from the submenu, or exit from the program if the option is chosen in the main menu), type `0`(the character for zero), followed by `↵`. The items in the menu are numbered. You would type in the appropriate number, followed by `↵`.

*For a complete menu tree, refer to section 6.3

**"Option not on the list" error would occur if a number not on the menu is entered. Refer to section 6.1.4 for details.

Note that the menu below is the main menu. When the program first starts, it will go to the main menu.

```
====Main Menu====  
1) Customer Maintenance  
2) Cargo Maintenance  
3) Flight Maintenance  
4) Reports and Inquiries  
0) Exit  
Enter the number you want(0-4):
```

Enter 0 if you want to quit the program. The following message will be displayed.
Thank you for using Flight the Freights Manager.

3.2 Data Entry

Note that in general, every input to the system must be followed by the `↵`. In both menu selection and data entry, you will type at the bottom-most line of the screen. Backspace can be used whenever you have to input something (by pressing `BACKSPACE`) – this means that a mistake can always be corrected before you press the `↵`.

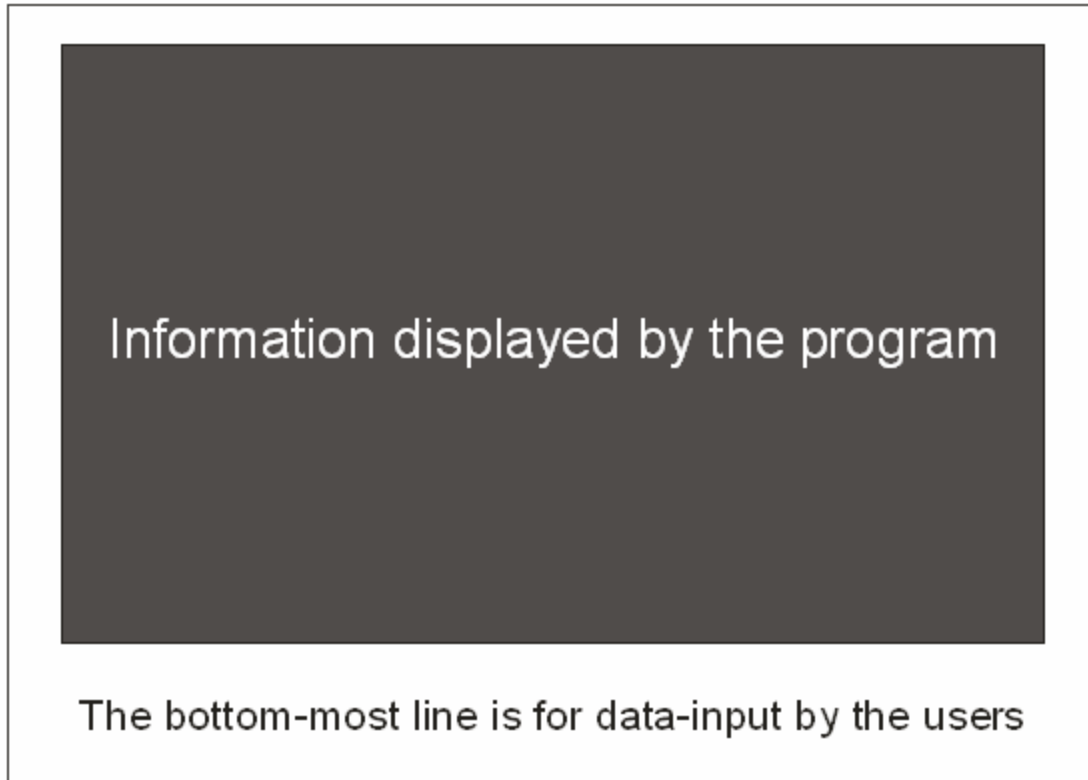


Figure 3.2.1 A generic layout of a typical display from the system

3.3 Prompts

There are basically three different types of output from the program, and for each type, you need to subsequently provide an appropriate input back to the program.

Selecting from a List/Menu

```
====List/Menu====  
1. Item A  
2. Item B  
0. Exit
```

Generally, you would just type in the number (in this case, **1**, **2**, or **0**, followed by ↵). If the list is too long (i.e. with 20 items or more), you can choose one of the following:

```
=== P for previous 20 Items, N for next 20 Items, ===  
=== I for directly entering the Item ID, 0 for Exit ===
```

If you type **P**, followed by ↵, the previous 20 items to the list would be displayed. (Note that if you are at the first item in the list, an error message will state “no items



previously”. In this case, options N, I, and 0 are only available.) In contrast, if you type **N**, followed by ↵, the next 20 items to the list would be displayed. (Note that if there is no more items in the list, an error message will state “no more items”. In this case, options P, I, and 0 are only available.) If you type **0**, followed by ↵, the program will return to the previous menu. Alternatively, if you type **I**, followed by ↵, then you can type in the specific item ID.

Yes or No Question

Are you sure you want to perform the above action (Y/N)? **Y**

Generally, for “Yes or No question”, you can either enter **Y**, followed by ↵, for Yes, or enter **N**, followed by ↵, for No.

Entering Data Items

Please enter the name of the customer?
Maximum Length 30 characters
e.g. Ronald MacDonald
James Bond

In general, the program will print out a line of question near the bottom of the screen, followed by the format the data has to be in. You can then enter your data at the bottom-most line of the screen.

3.4 Modifying Attributes of Cargo, Customer and Flight

The option to change the attributes of cargo, customer, or flight is not available from the menu. If you want to change any attribute, you cannot just delete a cargo, customer, or flight and re-add it. Once the customer comes and his/her cargo item is entered into the system, the customer cannot be deleted. Also, once a cargo item is assigned to a flight, the flight cannot be deleted until the flight has been completed and the cargo item cannot be deleted until the flight has been completed or the item has been de-assigned.

The best way to modify a customer is to make sure that the customer has zero cargo items. To modify a cargo item, the cargo item must not be assigned to a flight. To modify a flight, the flight must not have any cargo items on it. In all these cases, delete the specific object and create a new one. Note that for modifying a cargo item, a new airway bill ID will be created. The add and remove cargo functions are available in the “Cargo Maintenance Menu”. Similarly, the add and remove customer functions, and the add and remove flight functions are available in the “Customer Maintenance Menu” and “Flight Maintenance Menu” respectively.





Section 4.0 – Operating Procedures


4.0.0 How this section is organized


Reminder: To simplify the wordings in the instructions, ENTER an input would imply typing the input in and then press ENTER. e.g.

ENTER your name

 would indicate places where you may expect to wait for a while until the system finishes processing.

 would indicate places where you need to place special attention to what you are inputting. These are places where a specific format of the input is expected. The system **may or may not** check the validity of the format of the data input. It is your responsibility to enter data with a specific format to avoid immediate or delayed malfunction of the system.

 would indicate places where you may, due to various reasons explained at the end of each operating procedure, have to repeat the particular operation more than once (or abort the operation all together).

 would indicate places when a number is expected. A number can be a real number or an integer. However, you **must not** enter a character/ a string. If you did enter a character/a string, you will be prompted to answer the same question correctly before you can continue. If you want to abort, just enter any number.

This section assumes that you know how to operate menus. That is, when you are asked to ENTER 1 in the main menu, you would know what to do. Please refer to section 3.1 for operation detail of the menu.

Important: The procedure will have the following format:

<Step Number>) ENTER <a specific input suitable to the context>

<The response/screens that you would get from the system>

This is to illustrate that the response/screens will show **after** the instruction to enter a specific input but not before.

```
1) ENTER 1 from the main menu.
=====Customer Maintenance=====
1) Add a new customer
2) Delete a customer [MAINTENANCE]
3) View all customers [MAINTENANCE]
0) Exit
Choose an option [0-4] and press ENTER:
0
```

2) ENTER 0 to exit back to the main menu.



More importantly, the above piece of example does **not** imply entering 1 from the “Customer Maintenance Menu”. What it means is that **after** entering 1 from the main menu, the “Customer Maintenance Menu” will show as the response from the system. **However**, the bolded “0” that shows is the subsequent sample input from you after the screen is displayed. The instruction as to what kind of input needs to be entered is located immediately after the screen shot (in this case, “2) ENTER 0 to exit back to the main menu.”). No confusion would present under this format, and which screenshot and sample input goes with which instruction would be made very clear by the context. If you find it confusing, however, you may want to ignore the bolded sample input and just followed the numbered steps. A step with the same number followed by i, ii, iii, etc indicates branches. Only one of the branches would take place, depending on your input.

A note on screen shots: Sometimes sample data will be displayed in the screen shots:

```
Airway bill ID is dddddd  
The container is successfully added.
```

The underlined dddddd represents the format of the data that is being displayed. “d” would represent a digit {0..9} and x would represent a character {A..Z,a..z,0..9}. e.g. dddddd in this case maybe 123456.

4.1.0 Operating procedures

- 4.1 Adding a new customer
- 4.2 Adding a standard container
- 4.3 Adding a pallet
- 4.4 Creating a new flight
- 4.5 Assigning cargo items to a flight
- 4.6 Deleting a cargo item

- 4.7 Querying the space remaining
- 4.8 Deleting the flight & its cargo items
- 4.9 Re-assigning all cargo items
- 4.10 De-assigning a cargo from a flight
- 4.11 Printing flight load report



4.1 Adding a new customer

1) Enter 1 from the main menu.

```
=====Customer Maintenance=====
1) Add a new customer
2) Delete a customer [MAINTENANCE]
3) View all customers [MAINTENANCE]
0) Exit
Choose an option [0-4] and press ENTER:
1
```

2) Enter 1 to add a new customer.

```
Enter the Customer Name (Length: 30 max.):
Issac Newton
```

3) Enter the name of the customer to be added.

```
Enter the phone number of the customer (Length: 13 max.):
(604)123-4567
```

4) Enter the phone number of the customer.

```
Are you sure you want to add the customer Issac Newton(Y/N)?
Y
```

5i) Enter Y to add the new customer to the system.
The new customer is successfully added.

5ii) Enter N to abort the operation.

```
Do you wish to add another customer(Y/N)?
N
```

6) Enter Y to add another customer to the system. Enter N would return you to the main menu.

Step	Brief Description	Detail Description
3)	-Data Range -Key Uniqueness	-You must enter a name with a maximum of 30 characters -The new name you entered must not already exist in the system. Refer to 6.1.3
4)	Data Format	The phone numbers must be exactly 13 characters long. Technically, in BNF, it should have the format “(” digit digit digit “)” digit digit digit “-“ digit digit digit digit
5i)	Hard Disk Maybe Full	Refer to 6.1.1



4.2 Adding a Standard Container

1) Enter 2 from the main menu.

```
=====Cargo Maintenance=====
```

- 1) Add a new cargo item
- 2) Assign a cargo item to a flight
- 3) De-assign a cargo item from a flight
- 4) Delete a cargo item
- 5) Reassign all cargo items on a flight to a different flight.
- 6) List out all the unassigned cargo items [MAINTENANCE]
- 0) Exit

Choose an option [0-4] and press ENTER:

1

2) Enter 1 to add a new cargo item.

```
=====Add a new cargo=====
```

- 1) Standard Container
- 2) Pallet
- 0) Cancel

Choose an option [0-2] and press ENTER:

1

3) Enter 1 to add a standard container to the system.

Enter the Customer Name(Length: 30 max.):

Issac Newton

☛ 4) Enter the name of the customer.

Enter the cargo weight(0.1-999999.9 kg):

13

☛ 5) Enter the weight of the cargo.

Are you sure you want to add the standard container(Y/N)?

Y

☛ 6i) Enter Y to add the new standard container to the system. Attach or write down the Airway bill ID.

Airway bill ID is dddddd

The container is successfully added.

6ii) Enter N to abort the operation.

Do you wish to add another item(Y/N)?

N

7) Enter Y to add another item to the system. This will go back to step 4. Enter N would return you to the main menu.



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Step	Brief Description	Detail Description
4)	-Data Range -Referential Integrity	-You must enter a name with a maximum of 30 characters -The name you entered must already exists in the system. Refer to 6.1.2
5)	Data Range	You must enter a weight from 0.1-999999.9
6i)	Hard Disk Maybe Full	Refer to 6.1.1



4.3 Adding a Pallet

1) Enter 2 from the main menu.

```
=====Cargo Maintenance=====
```

- 1) Add a new cargo item
- 2) Assign a cargo item to a flight
- 3) De-assign a cargo item from a flight
- 4) Delete a cargo item
- 5) Reassign all cargo items on a flight to a different flight.
- 6) List out all the unassigned cargo items [MAINTENANCE]
- 0) Exit

Choose an option [0-4] and press ENTER:

1

2) Enter 1 to add a new cargo item.

```
=====Add a new cargo=====
```

- 1) Standard Container
- 2) Pallet
- 0) Cancel

Choose an option [0-2] and press ENTER:

2

3) Enter 2 to add a pallet to the system.

Enter the Customer Name(Length: 30 max.):

Issac Newton

☛ 4) Enter the name of the customer.

Enter the cargo weight(0.1-999999.9 kg):

314159.2

☛ 5) Enter the weight of the cargo.

Enter the cargo width(0.1-6.00 m):

3.14

☛ 6) Enter the width of the pallet.

Enter the cargo length(0.1-199.99 m):

141.42

☛ 7) Enter the length of the pallet.

Are you sure you want to add the pallet(Y/N)?

Y

☛ 8i) Enter Y to add the pallet to the system.

Airway bill ID is dddddd

The pallet is successfully added.



8ii) Enter N to abort the operation.

Do you wish to add another item(Y/N)?

N

9) Enter Y to add another item to the system. This will go back to step 4. Enter N would return you to the main menu.

Step	Brief Description	Detail Description
4)	-Data Range -Referential Integrity	-You must enter a name with a maximum of 30 characters -The name you entered must already exists in the system. Refer to 6.1.2
5)	Data Range	You must enter a weight from 0.1-999999.9
6)	Data Range	You must enter a width from 0.1-6.00
7)	Data Range	You must enter a length from 0.1-199.99
8i)	Hard Disk Maybe Full	Refer to 6.1.1



4.4 Creating a new flight

1) Enter 3 from the main menu.

```
=====Flight Maintenance=====
```

- 1) Create a new flight
- 2) Delete a flight and its cargo
- 3) Delete all flights regardless of ref. int.[MAINTENANCE]
- 0) Exit

Choose an option [0-4] and press ENTER:

1

2) Enter 1 to create a new flight

Enter a specially formatted flight ID for the new flight:
e.g. 3141:Apr01

1234:Mar07

☛ 3) Enter the flight ID for the new flight

Enter the weight capacity of the flight (0-999999.9)

32785.4

☛ 4) Enter the weight capacity of the new flight

Enter the length of the flight (0-199.99)

123.45

☛ 5) Enter the length of the new flight

Are you sure you want to add the flight 1234:Mar07 (Y/N)?

Y

☛ 6i) Enter Y to add the new flight to the system.

The new flight is successfully added.

6ii) Enter N to abort the operation.

Do you wish to add another item(Y/N)?

N

7) Enter Y to add another item to the system. This will go back to step 3. Enter N would return you to the main menu.



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Step	Brief Description	Detail Description
3)	-Data Format -Key Uniqueness	-You must enter a flight ID with a specific format. Specifically, in BNF form: $\text{digit} \{ \text{digit} \}^3 \text{ "." } (\text{"JAN"} \mid \text{"FEB"} \mid \text{"MAR"} \mid \text{"APR"} \mid \text{"MAY"} \mid \text{"JUN"} \mid \text{"JUL"} \mid \text{"AUG"} \mid \text{"SEP"} \mid \text{"OCT"} \mid \text{"NOV"} \mid \text{"DEC"}) (\text{"0"} \mid \text{"1"} \mid \text{"2"} \mid \text{"3"}) \text{ digit}$ -The flight ID you enter must not already exist in the system. Refer to 6.1.3
4)	Data Format	The weight capacity is a real number from 0-999999.9
5)	Data Format	The length of the flight should be between 0 and 199.99
6i)	Hard Disk Maybe Full	Refer to 6.1.1



4.5 Assigning cargo items to a flight

1) Enter 2 from the main menu.

```
=====Cargo Maintenance=====
```

- 1) Add a new cargo item
- 2) Assign a cargo item to a flight
- 3) De-assign a cargo item from a flight
- 4) Delete a cargo item
- 5) Reassign all cargo items on a flight to a different flight.
- 6) List out all the unassigned cargo items [MAINTENANCE]
- 0) Exit

Choose an option [0-6] and press ENTER:

2) Enter 2 to assign a cargo item to a flight

```
=====List of unassigned cargo items=====
```

Option	Airway Bill ID	Customer Name	Weight (kg)
1	dddddd	xx	dddddd.d
2	123456	Vincent Chu	326785.2

Enter the option #:

2

⌚🔍3) A list of **unassigned** cargo items would be displayed, along with its weight and the customer it belongs to. Enter the option number (e.g. 1 or 2 in this case) for the cargo you want to work with. The list may be longer than a full-screen display (not shown in the example above), refer to section 3.3 – Selecting from a List/Menu on how to deal with this. You may select any item in any page of the list.

```
=====List of flights=====
```

Option	Flight ID	R.W.C. (kg)	Footprint Remaining
1	ddd:xxxdd	dddddd.d	ddd
2	1234:Mar08	123456.7	20

*R.W.C. = Remaining Weight Capacity

Enter the option # for the flight you want to assign the cargo to, or you can enter the flight ID directly.

2

⌚🔍4i) A list of flights that already exist in the system would be displayed. Enter the option number to select the flight. The list may, again, be longer than a full-screen display.

🔍🔍4ii) Alternatively, you may enter the flight ID directly.

Are you sure you want to assign 123456 to 1234:Mar08 (Y/N)?

Y



5i) Enter Y to assign the cargo to the selected flight.
 The cargo is successfully assigned to the flight

5ii) Enter N to abort the operation.

Do you wish to do another assignment(Y/N)?
 N

6) Enter Y to add another item to the system. This will go back to step 3. Enter N would return you to the main menu.

Step	Brief Description	Detail Description
3) 4i)	Option you entered is not on the list	Refer to 6.1.4
4ii)	-Flight ID Format -Referential Integrity	-Flight ID must have a specific format. Refer to 6.2.1. -The flight ID you entered must already exist in the system. Refer to 6.1.2.
5i)	Hard Disk Maybe Full	Refer to 6.1.1



4.6 Deleting a cargo item

1) Enter 2 from the main menu.

```

=====Cargo Maintenance=====
1) Add a new cargo item
2) Assign a cargo item to a flight
3) De-assign a cargo item from a flight
4) Delete a cargo item
5) Reassign all cargo items on a flight to a different flight.
6) List out all the unassigned cargo items [MAINTENANCE]
0) Exit
Choose an option [0-6] and press ENTER:
  
```

2) Enter 4 to delete a cargo item

```

=====List of cargo items=====
Option Airway Bill ID   Customer Name                               Weight(kg)
-----
1      dddddd             xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx      dddddd.d
2      123456             Vincent Chu                               326785.2
Enter the option #:
2
  
```

⚠️ 3) A list of **unassigned** cargo items would be displayed. If you want to delete a cargo already assigned to a flight, you **must** de-assign it first (See the operating procedure for deassigning cargo). Enter the option number (e.g. 1 or 2 in this case) for the cargo you want to work with. The list may be longer than a full-screen display. Refer to section 3.3 – Selecting from a List/Menu for what would happen.

```

Are you sure you want to delete 123456 from Vincent Chu weighted
326785.2? (Y/N):
  
```

👉 4i) Enter Y to delete the cargo.
 The cargo is successfully deleted.

4ii) Enter N to abort the operation.

```

Do you wish to add another item(Y/N)?
N
  
```

5) Enter Y to delete another cargo from the system. This will go back to step 3. Enter N would return you to the main menu.

Step	Brief Description	Detail Description
👉 3)	Option you entered is not on the list	Refer to 6.1.4
👉 4i)	Cannot delete item	Refer to 6.1.5



4.7 Querying the space remaining

1) Enter 4 from the main menu.

```
====Reports and Inquiries====
1) Query capacity remaining on a flight
2) Print flight load report
0) Exit
Choose an option [0-2] and press ENTER:
```

2) Enter 1 to query capacity remaining on a flight

```
====List of flights====
Option      Flight ID          R.W.C.(kg)        Footprint Remaining
-----
1           dddd:xxxdd        dddddd.d          ddd
2           1234:Mar08        123456.7          20
*R.W.C. = Remaining Weight Capacity
You can enter the option # for the flight you want to assign the cargo
to, or you can enter the flight ID directly.
2
```

⌚🔍🔍3) A list of flights that already exist in the system would be displayed. Enter the option number to select the flight for its profile. The list may be longer than a full-screen display. Alternatively, you can enter the specially formatted flight ID directly.

3ia) If an option number is entered

The space remaining for the selected flight:

1. Footprint free: 300
2. Total remaining weight: 600.3(kg) or 320.8(pounds)
3. The largest pallet that can be assigned to the flight has width 2.00m and length 1.50m

Would you like to check another flight?(Y/N)
N

3ib) Enter Y will return to step 3. Enter N will return you to the main menu.

⌚3iia) If a flight ID is entered and the flight exists:

The flight with the inputted designator is found.
Please wait for the result...

The space remaining for the selected flight:

1. Footprint free: 300
2. Total remaining weight: 600.3(kg) or 1323.4(pounds)

Would you like to check another flight?(Y/N)
N

3iib) Enter Y will return to step 3. Enter N will return you to the main menu.



⌚ 3iiia) **If a flight ID is entered and the flight does not exist:**

The flight ID entered does not exist in the system database.
 Would you like to check another flight?(Y/N)

N

3iiib) Enter Y will return to step 3. Enter N will return you to the main menu.

Step	Brief Description	Detail Description
● 3)	-Option you entered is not on the list -Flight ID Format -Referential Integrity	-Refer to 6.1.4 -Flight ID must have a specific format. Refer to 6.2.1. -The flight ID you entered must already exists in the system. Refer to 6.1.2.



4.8 Deleting the flight and its cargo items

1) Enter 3 from the main menu.

```
=====Flight Maintenance=====
```

- 1) Create a new flight
- 2) Delete a flight and its cargo
- 3) Delete all flights regardless of ref. int.[MAINTENANCE]
- 0) Exit

Choose an option [0-3] and press ENTER:

2) Enter 2 to assign a cargo item to a flight

```
=====List of flights=====
```

Option	Flight ID	R.W.C.(kg)	Footprint Remaining
1	dddd:xxxdd	dddddd.d	ddd
2	1234:Mar08	123456.7	20

*R.W.C. = Remaining Weight Capacity

You can enter the option # for the flight you want to assign the cargo to, or you can enter the flight ID directly.

2

⌚ 3i) A list of flights that already exist in the system would be displayed. Enter the option number to select the flight you want to delete. The list may, again, be longer than a full-screen display.

⌚ 3ii) Alternatively, you may enter the flight ID directly.

The following cargo items will also be deleted along with the flight:

```
=====List of assigned cargo items=====
```

Option	Airway Bill ID	Customer Name	Weight(kg)
1	dddddd	xx	dddddd.d
2	123456	Vincent Chu	326785.2

Are you sure you want to delete 1234:Mar08 (Y/N)?

Y

⌚ 4i) Enter Y to delete the flight along with its cargo.
The flight is successfully deleted.

4ii) Enter N to abort the operation.

Do you wish to delete another flight(Y/N)?

N

6) Enter Y to delete another flight. This will go back to step 3. Enter N would return you to the main menu.



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Step	Brief Description	Detail Description
3i)	Option you entered is not on the list	Refer to 6.1.4
3ii)	-Flight ID Format -Referential Integrity	-Flight ID must have a specific format. Refer to 6.2.1. -The flight ID you entered must already exist in the system. Refer to 6.1.2.
4i)	Cannot delete item	Refer to 6.1.5



4.9 Re-assigning all cargo items to different flight

1) Enter 2 from the main menu.

```
=====Cargo Maintenance=====
```

- 1) Add a new cargo item
- 2) Assign a cargo item to a flight
- 3) De-assign a cargo item from a flight
- 4) Delete a cargo item
- 5) Reassign all cargo items on a flight to a different flight.
- 6) List out all the unassigned cargo items [MAINTENANCE]
- 0) Exit

Choose an option [0-6] and press ENTER:

2) Enter 5 to reassign all cargo items to a different flight.

```
=====List of flights=====
```

Option	Flight ID	R.W.C.(kg)	Footprint Remaining
1	<u>dddd:xxxdd</u>	<u>dddddd.d</u>	<u>ddd</u>
2	1234:Mar08	123456.7	20

*R.W.C. = Remaining Weight Capacity

Which flight do you want to re-assign all of its cargo items? You can enter the option # for the flight you want to assign the cargo to, or you can enter the flight ID directly.

1234:Mar08

⌚🔍3i) A list of flights that already exist in the system would be displayed. Enter the option number to select the flight you want to assign all its cargo items to. The list may, again, be longer than a full-screen display.

🔍🔍3ii) Alternatively, you may enter the flight ID directly.

```
=====Flights available for substitution=====
```

Option	Flight ID	R.W.C.(kg)	Footprint Remaining
1	<u>dddd:xxxdd</u>	<u>dddddd.d</u>	<u>ddd</u>
2	2345:Mar08	123456.7	20

*R.W.C. = Remaining Weight Capacity

Which flight should hold the cargo you just de-assigned? You can enter the option # for the flight you want to assign the cargo to, or you can enter the flight ID directly.

2345:Mar08

All the cargo items are re-assigned to your selected flight.

⌚🔍4i) If the total allowed size and weight of the previous flight is equal or smaller than the remaining capacity of the substitution flight, all the cargo items are re-assigned.



This flight cannot contain all the cargo items of the old flight. Do you want to select another flight (Y/N)?

N

4iia) If the total size and weight of the previous flight is greater than the remaining capacity of the substitution flight. Enter Y to select another flight. You will return to step 3.

```

=====List of cargo items that are unassigned=====
Option Airway Bill ID   Customer Name                               Weight(kg)
-----
1      dddddd           xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx       dddddd.d
2      123456           Vincent Chu                                 326785.2
  
```

The list of cargo shown above no longer fits on the new model. They will be unassigned. Are you sure to continue (Y/N)

4iib) Otherwise, a list of cargos that do not fit in the new flight will become unassigned. They will be listed out. Enter Y to continue with the operation, enter N to abort to the main menu.

The chosen operation is completed.

5) You will return to the main menu.

Step	Brief Description	Detail Description
3i)	Option you entered is not on the list	Refer to 6.1.4
3ii)	-Flight ID Format -Referential Integrity	-Flight ID must have a specific format. Refer to 6.2.1. -The flight ID you entered must already exist in the system. Refer to 6.1.2.
4i)	Cannot complete the operation	The operation cannot be completed due to disk failure. Refer to 6.1.6



4.10 De-assigning a cargo from a flight

1) Enter 2 from the main menu.

```
=====Cargo Maintenance=====
```

- 1) Add a new cargo item
- 2) Assign a cargo item to a flight
- 3) De-assign a cargo item from a flight
- 4) Delete a cargo item
- 5) Reassign all cargo items on a flight to a different flight.
- 6) List out all the unassigned cargo items [MAINTENANCE]
- 0) Exit

Choose an option [0-6] and press ENTER:

2) Enter 3 to de-assign a cargo item from a flight.

```
=====List of flights=====
```

Option	Flight ID	R.W.C.(kg)	Footprint Remaining
1	<u>dddd:xxxdd</u>	<u>dddddd.d</u>	<u>ddd</u>
2	3141:Apr01	234456.2	40

*R.W.C. = Remaining Weight Capacity

Which flight do you want to de-assign one of its items? You can enter the option # for the flight you want to assign the cargo to, or you can enter the flight ID directly.

3141:Apr01

⌚👁️3i) A list of flights that already exist in the system would be displayed. Enter the option number to select the flight you want to assign all its cargo items to. The list may, again, be longer than a full-screen display.

👁️👉3ii) Alternatively, you may enter the flight ID directly.

```
=====List of cargo items contained in the flight=====
```

Option	Airway Bill ID	Customer Name	Weight(kg)
1	<u>dddddd</u>	<u>xx</u>	<u>dddddd.d</u>
2	123456	Vincent Chu	326785.2

Please enter the option number for the cargo you want to deassign from the flight.

2

⌚👁️4) Enter the option number that shows the airway bill ID of the cargo you want to de-assign from the flight.

The cargo has been de-assigned from the flight.

Do you wish to de-assign another cargo from the same flight(Y/N)?

N

- 5) Enter Y to add de-assign another cargo from the same flight. This will go back to step 3.
- 3. Enter N would return you to the main menu.



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Step	Brief Description	Detail Description
● 3i)	Option you entered is not on the list	Refer to 6.1.4
● 3ii)	-Flight ID Format -Referential Integrity	-Flight ID must have a specific format. Refer to 6.2.1. -The flight ID you entered must already exist in the system. Refer to 6.1.2.
● 4)	Option you entered is not on the list	Refer to 6.1.4



4.11 Printing flight load report

1) Enter 4 from the main menu.

```
=====Reports and Inquiries=====
1) Query capacity remaining on a flight
2) Print flight load report
0) Exit
Choose an option [0-2] and press ENTER:
```

2) Enter 2 to print a flight load report.

```
=====List of flights=====
Option      Flight ID          R.W.C.(kg)        Footprint Remaining
-----
1           dddd:xxxdd        dddddd.d          ddd
2           1234:Mar08        123456.7          20
```

*R.W.C. = Remaining Weight Capacity

Which flight do you want to re-assign all of its cargo items? You can enter the option # for the flight you want to have a printed report on, or you can enter the flight ID directly.

1234:Mar08

⌚ 3i) A list of flights that already exist in the system would be displayed. Enter the option number to select the flight you want to have a printed report on. The list may, again, be longer than a full-screen display.

⌚ 3ii) Alternatively, you may enter the flight ID directly.

Note: Please refer to the print layout format sheet for the exact look of the print out report. The preview for the print out report will be shown on screen.

The flight load report is saved as print.txt in the directory Flight the Freights Manager is installed in. Please open the file using NotePad, and select print from the software.

⌚ 4) Recall, as stated before, that our system will not print the printed report directly to the printer. It will save the report into a file called print.txt. You will have to open print.txt by going to the directory where *Flight the Freights Manager* is installed (see Section 2.3) using Windows Explorer and double-clicking the file. *Notepad* would be brought up and you would select the print function from the file menu. This would print the file to the default printer connected to your computer system



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Step	Brief Description	Detail Description
● 3i)	Option you entered is not on the list	Refer to 6.1.4
● 3ii)	-Flight ID Format -Referential Integrity	-Flight ID must have a specific format. Refer to 6.2.1. -The flight ID you entered must already exist in the system. Refer to 6.1.2.
● 4)	Hard Disk Maybe Full	Refer to 6.1.1



Section 5.0 – Back-Up Procedures

It is recommended you back-up your data files everyday in order to prevent loss of or damage to your data. In DOS, to back-up the data files containing your customers, cargo items, and flights,

1. type `c:` and press `↵`.
2. type `cd flight` and press `↵`.
3. place a blank floppy disk into the 3.5" floppy disk drive
4. type `copy datfiles a:\` and press `↵`.

A few files will be transferred to your disk on the floppy disk drive.

To restore the back-up copies, make sure you are in DOS and

1. type `c:` and press `↵`.
2. type `cd flight` and press `↵`.
3. place the back-up floppy disk into the 3.5" floppy disk drive
4. type `copy a:*.* datfiles` and then press `↵`.

The data files will be transferred from your floppy disk to the hard drive.

Section 6.0 – References

6.1 Listing of Error Messages

6.1.1 Hard Disk Maybe Full

The system needs to save information you input on to hard disk so that you can retrieve it in the future. However, hard disk space is limited, and you may encounter the following message.

The operation cannot be completed because hard disk is full. Enter Y to retry. Enter N to return to the main menu.

N

- 1) Enter Y to retry the delete operation. Enter N to abort to the main menu.

6.1.2 Referential Integrity

When an item is expected to be but is actually not in the system, the following message is displayed:

You have entered an item that does not exist in the system. Enter Y to re-enter the item correctly, enter N to return to the main menu.

Y

- 1i) Follow the instruction shown on the screen. Enter Y to re-enter the item.

Please enter an existing item.

I ACTUALLY EXIST

- 1ii) Enter N to abort to the main menu.



6.1.3 Key Uniqueness

When an item that is expected not to be in the system but it is actually there, the following message is displayed. An item should not already be in the system when you try to add that item as a new item.

The item you entered already exists. Enter Y to re-enter the item correctly, enter N to return to the main menu.

Y

i) Follow the instruction shown on the screen. Enter Y to re-enter the item.

Please enter a unique identification for the item.

I DO NOT EXIST

iii) Enter N to abort to the main menu.

A note on uniqueness: The system is **case-sensitive**. This means that ABC is not the same as abc, and it's not the same as aBc, etc.

6.1.4 Option not on the list

“Option not on the list” error occurs when a list of items is displayed, you have entered a number (an option) that does not exist on the list. This includes inputting a string or character when an integer is expected.

The option number you entered does not exist. Do you wish to try again (Y/N)

Y

i) Follow the instruction shown on the screen. Enter Y to re-enter a valid option number.

Please enter a valid option number

1

iii) Enter N to abort the main menu.

6.1.5 Cannot delete item

The item cannot be deleted. It could be a disk failure. Please check the file access rights. Enter Y to retry. Enter N to return to the main menu.

N

1) Enter Y to retry the delete operation. Enter N to abort to the main menu.

6.1.6 Cannot complete the operation

The operation cannot be completed due to unknown reason. It could be a disk failure. Enter Y to return to the main menu.

Y

1) Enter Y to return to the main menu. Check the hard disk space available and file access right.

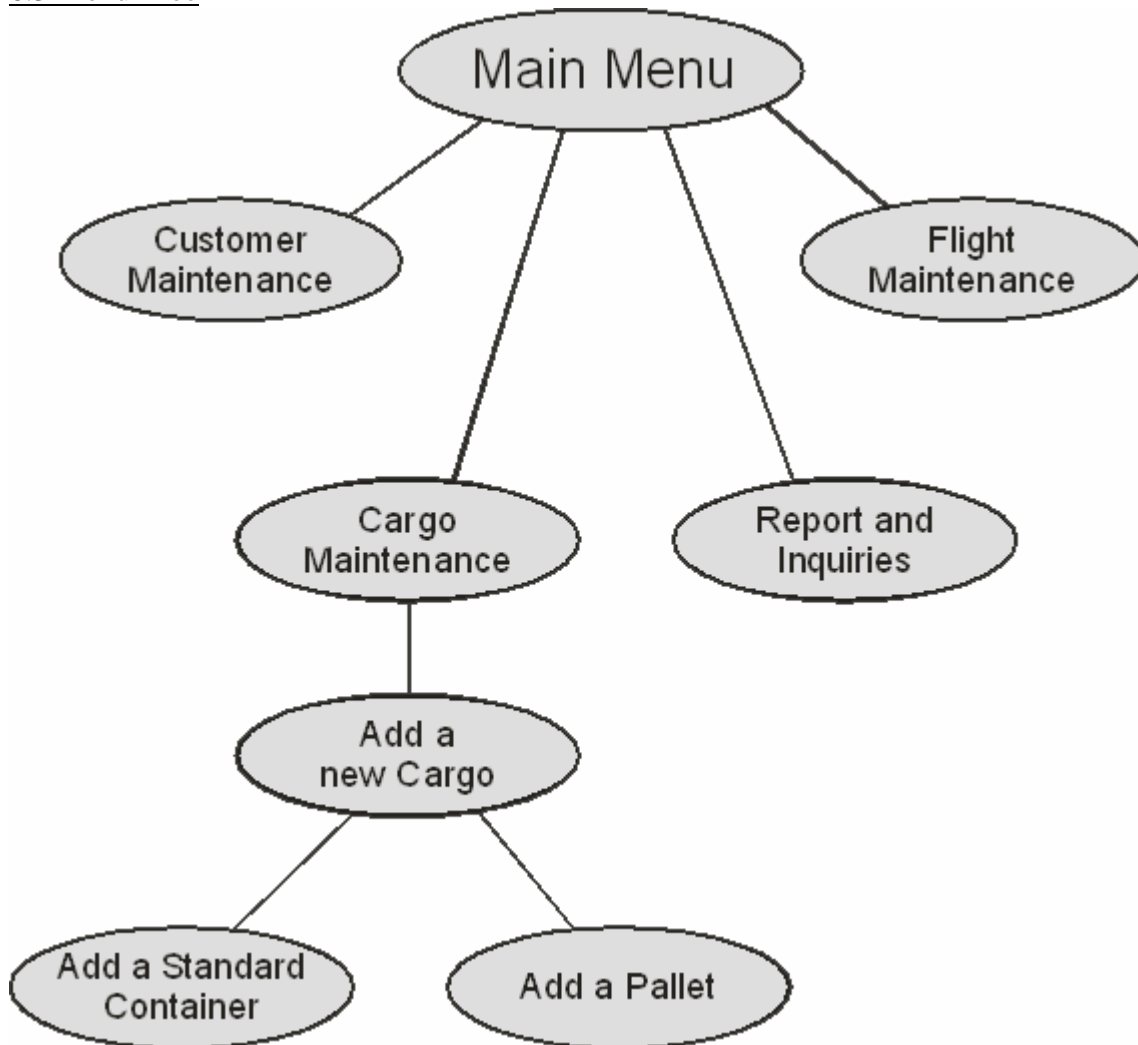
6.2 Listing of Data Formats and Fields

6.2.1 Flight ID Format

The flight ID should have a specific format. Technically speaking, the flight ID should satisfy the following format expressed in BNF:

```
digit {digit}3 ":" ("JAN" | "FEB" | "MAR" | "APR" | "MAY" | "JUN" | "JUL" | "AUG" |
"SEP" | "OCT" | "NOV" | "DEC") ("0" | "1" | "2" | "3") digit
```

6.3 Menu Tree





```
=====Main Menu=====
1) Customer Maintenance
2) Cargo Maintenance
3) Flight Maintenance
4) Reports and Inquiries
0) Exit
```

Pressing 1 in the main menu would bring up:

```
=====Customer Maintenance=====
1) Add a new customer
2) Delete a customer [MAINTENANCE]
3) View all customers [MAINTENANCE]
0) Exit
```

Pressing 2 in the main menu would bring up:

```
=====Cargo Maintenance=====
1) Add a new cargo item
2) Assign a cargo item to a flight
3) De-assign a cargo item from a flight
4) Delete a cargo item
5) Reassign all cargo items on a flight to a different flight.
6) List out all the unassigned cargo items [MAINTENANCE]
0) Exit
```

Pressing 3 in the main menu would bring up:

```
=====Flight Maintenance=====
1) Adding a new flight
2) Delete a flight and its cargo
3) Delete all flights regardless of ref. int.[MAINTENANCE]
0) Exit
```

Pressing 4 in the main menu would bring up:

```
=====Reports and Inquiries=====
1) Query capacity remaining on a flight
2) Print flight load report
0) Exit
```

From the Cargo Maintenance Menu, pressing 1 would bring up:

```
=====Add a new cargo=====
1) Standard Container
2) Pallet
0) Cancel
```



Appendix A – Glossary of Terms

BNF

Abbreviation for Backus-Naur Form. It is a way to specify the exact syntax or format of data attributes.

Character

Any alphabet or number. e.g. a, b, c...x, y, z, A, B, C, ..., X, Y, Z, 1, 2, 3, 4,....

Integer

Any positive or negative whole number. e.g. 1, 2, 3, 4, 5, 6...

JAVA

A cross-platform language developed by Sun™

JAVA Virtual Machine

Java requires something called the Virtual Machine to execute programs (class files) written in Java. The Virtual Machine is a piece of software that can be downloaded freely off the Internet.

MB

This stand for megabyte. A term used to describe capacity of memory (RAM) or disks.

Parallel Port

The computer sends information to other devices through ports. Usually, printers are connected to a computer through parallel ports.

PC

Personal Computer.

QWERTY keyboard

Standard keyboard with keys QWERT and Y on the upper left hand section of the keys for keying in alphabets.

Real Number

Any number that has a decimal part. e.g. 0.1, 0.2, 1.2, 1.9, 32.5, etc...

RAM

Random Access Memory for temporary storage of data inside the computer during operation

String

A word or a sentence that can contain characters.

System / Software System

Refers to Momentum Software Engineering's Flight the Freights Manager