

The background features several abstract, organic shapes in shades of teal and grey. A large, light teal shape is in the top right, a dark teal circle is in the top center, and a grey circle is in the bottom right. On the left side, there are more overlapping shapes in dark teal, grey, and light teal.

# **Freight Management System**

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# Contents

1. Introduction .....	2
1.1. Project Overview .....	3
2. Booking Process .....	3
2.1. Required Fields for Booking .....	4
2.2. Available Shipment Type .....	5
2.3. Container Type List .....	5
2.4. Incoterm List .....	6
2.5. Booking Dashboard .....	6
3. Document Process .....	7
4. Financing Process .....	8
4.1. Cost Section .....	8
4.1.1. Required Field for Cost .....	8
4.1.2. Auto Calculation for Each Cost .....	8
4.1.3. Auto Calculation for Overall .....	9
4.2. Sale Section .....	10
4.2.1. Required Field for Sale .....	10
5. Reporting Process .....	12
5.1. Booking Report .....	12
5.2. Cost and Sale Report .....	12
5.3. Master Report .....	12
6. Approval Process .....	14
7. Conclusion .....	15

# 1. Introduction

The Freight Management System is a system designed to make the logistical freight process easier and more systematic, focusing on both ocean freight and air freight.

This system is the complete idea of **Kumari Kadiyal @ JuJu**, with programming support from **Nyan Lin Htet**. Together, we fully dedicated around nine months to making our system systematic and user-friendly.

Our Freight Management System operates through seven major steps:

1. Booking Process
2. Document Process
3. Financing Process
4. Financing Process
5. Approval Process
6. Reporting Process

In this documentation, we will explain the detailed process for each step, and also explain about some minor processes.

## 1.1. Project Overview

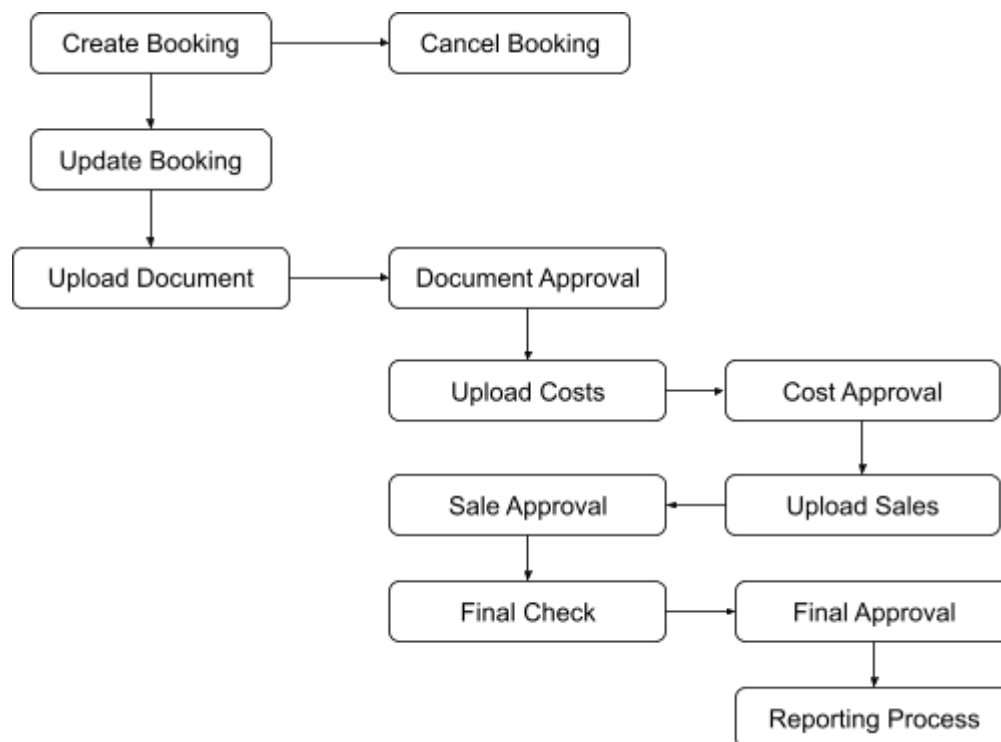


Figure - 1 (Freight Booking Process)

## 2. Booking Process

The Booking Process starts with the creation of a booking. At this step, we can create a booking with the required fields and have the option to skip fields that are not yet confirmed. Once the booking creation process is complete, a booking number and customer reference will be auto-generated based on the shipment type. We allow storing more than one client and container during the booking creation and updating process. We also allow updates to the booking at the confirmation stage. For both air and ocean freight, we permit booking cancellations instead of deletions to reduce conflicts.

## **2.1 Required Field for Booking**

- Booking No (auto generate)
- Customer Reference (auto generate)
- Shipment Type
- Carrier Booking Number
- BL Number
- Origin
- Destination
- Commodity
- Weight
- Container (Multiple)
- Shipper
- Consignee
- Notify Party
- Invoice Party
- Client (Multiple)
- Vendor
- ETD
- ETA
- Empty Container Pickup Date
- Cargo Closing Date
- Incoterms
- Payment Terms
- Comment

## **2.2 Available Shipment Types**

### **Air Freight**

- Air
- Air Export
- Air Import
- Land + Air
- Air + Land
- Air + Sea
- Sea + Air

### **Ocean Freight**

- Ocean
- Sea Export
- Sea Import
- Land + Sea
- Sea + Land
- Sea + Air
- Air + Sea

## **2.3. Container Type List**

- 20 ft
- 40 ft
- 40 HQ
- 20 refer(RF)
- 40 refer(RF)
- 20ft OT
- 40ft OT
- 20ft Flat Ruck (FR)
- 40ft Flat Ruck (FR)

## 2.4. Incoterm Lists

- FCA
- FOB
- EXW
- DDU
- DDP

## 2.5. Booking Dashboard

We designed a booking dashboard with three layouts: Running, Finished, and Cancelled for both Ocean Freight and Air Freight. Users can easily track a booking's current status based on these layouts. The booking dashboard also includes a search bar, allowing users to search for bookings easily by booking number or client name.

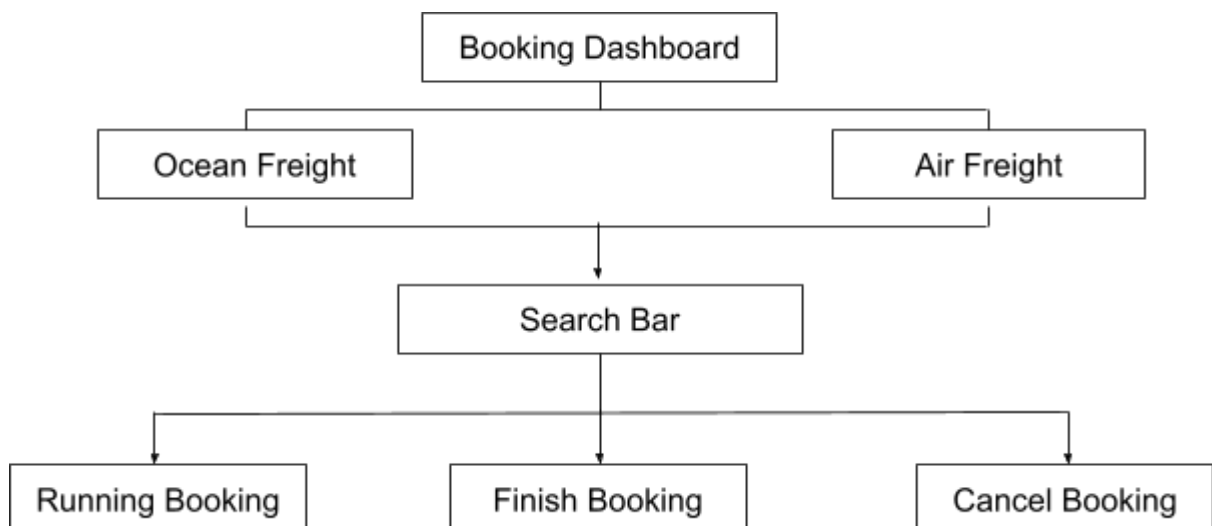


Figure - 2 (Freight Booking Dashboard)

### 3. Document Process

In the document process, we designed to facilitate easy uploading, editing, and deletion of necessary documents for shipment. Users can add single or multiple documents at once.

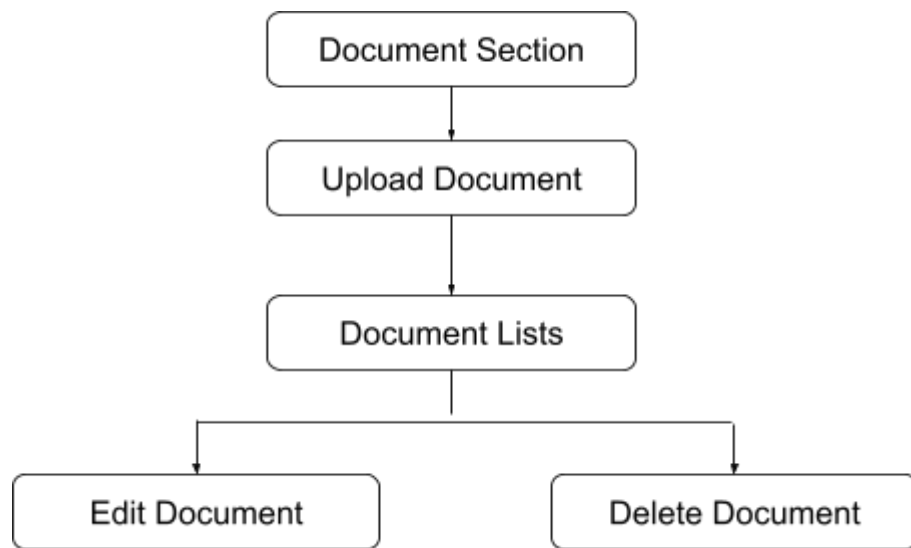


Figure - 3 (Freight Booking Document Process)



## **4. Financing Process**

The financing process is divided into two sections: the Cost section and the Sales section. When a booking has multiple clients, users can add costs and sales for specific clients.

### **4.1. Cost Section**

In the Cost section, we designed the system to add costs based on the client. We allow the addition of exchange rates for both the local currency and US Dollar for each cost. Users can also add a tax percentage, enabling calculations based on the currency rate, cost amount, and tax percentage. This setup provides the total cost amount, tax amount in local currency, and tax amount in US Dollars for each cost. After adding all costs, the system automatically calculates the total cost amount, total tax amount, and total cost with tax amount for both local currency and US Dollar.

#### **4.1.1. Required Field for Cost**

- Cost Description
- Cost Unit
- Currency Rate
- Cost Amount
- Current
- Tax Percentage
- Remark

#### **4.1.2. Auto Calculation for Each Cost**

- Total Cost Amount - Local Currency
- Total Cost Amount - USD
- Total Tax Amount - Local Currency
- Total Tax Amount - USD

### 4.1.3. Auto Calculation for Overall Cost

- Total Cost Amount - Local Currency
- Total Cost Amount - USD
- Total Tax Amount - Local Currency
- Total Tax Amount - USD
- Total Cost Amount with tax - Local Currency
- Total Cost Amount with tax - USD

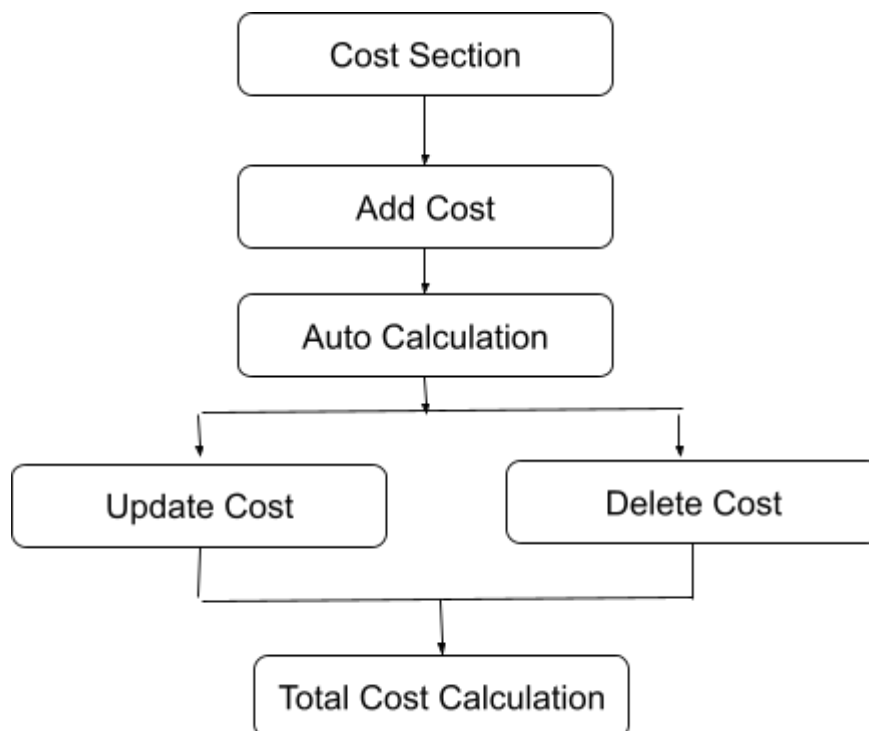


Figure - 4.1 (Freight Booking Cost Process)

## **4.2. Sale Sections**

The Sales Section starts with choosing a quotation from the clients. First, we need to add a quotation to the client's account. Then, we can select the quotation for the shipment. Even after choosing a quotation, new terms can be added if required. When creating sales, it is necessary to add the currency for the shipment. This is important as the profit report will be based on the sales currency. We also allow the addition of multiple sales for one shipment.

### **4.2.1. Required Field for Sale**

#### **Sale**

- Sale Number
- Sale Date
- Quotation (Select)
- Currency
- Remark
- Total (Auto Calculation)

#### **Sale Terms**

- Incoterm
- Category
- Sub Category
- Description
- Container Type
- Quantity
- Unit Price
- Total
- Additional Service
- Remark

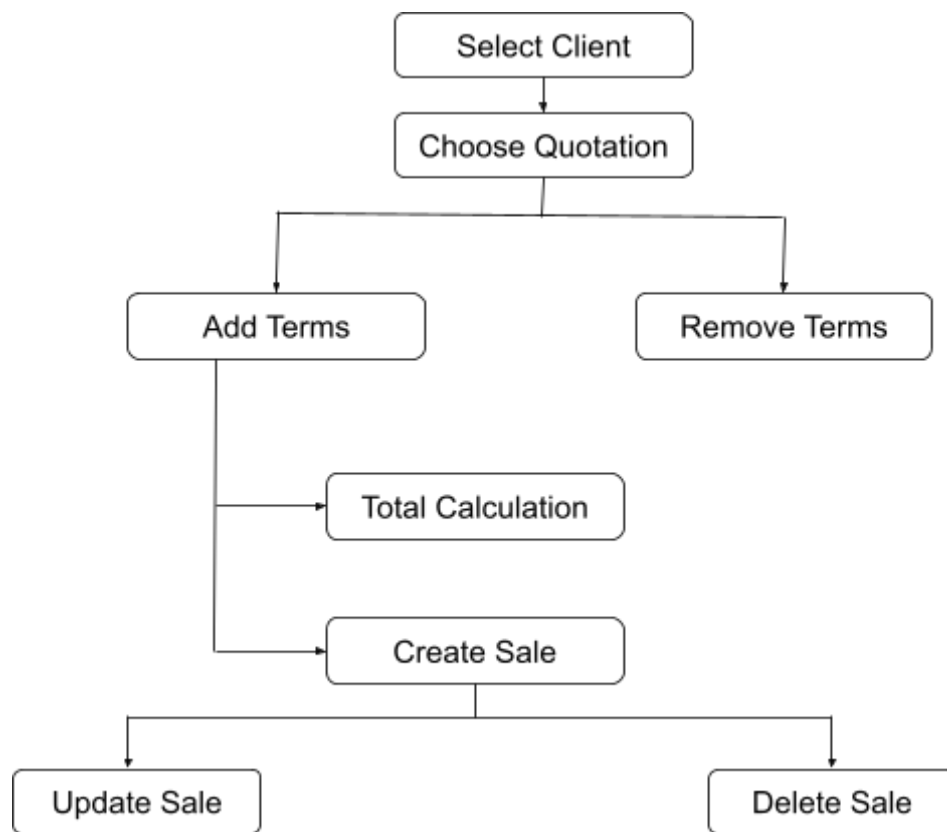


Figure - 4.2 (Freight Booking Sale Process)

## **5. Reporting Process**

The Reporting process is an important part of the shipment process, divided into three main reports: Booking Report, Cost and Sales Report, and Master Report.

### **5.1. Booking Report**

The Booking Report provides a summary of the shipment, ensuring clear visibility for the customer and including all necessary details. Customers can follow up the carrier booking number, BL number, ETD, ETA date, container pick-up date, and cargo closing date. It includes detailed information for the shipper, consignee, invoice party, and notify party. Additionally, the customer can identify the responsible person for the shipment. This report is generated in both PDF and image formats.

### **5.2. Cost and Sales Report**

The Cost and Sales Report is a financial report summarising costs and sales based on the customer. It includes calculations in both local currency and US Dollars. This report comprises three sheets: cost sheet, sales sheet, and profit sheet. The profit sheet allows the management and finance teams to view profit and loss calculations and percentages. The report focuses on the cost, sales, and profit summary of the shipment for management and finance purposes.

### **5.3. Master Report**

The Master Report is designed as a zip file that includes all documents related to the shipment, such as the quotation, booking report, and cost and sales report. This allows users to download a single master report zip file, eliminating the need to collect all shipment files manually.

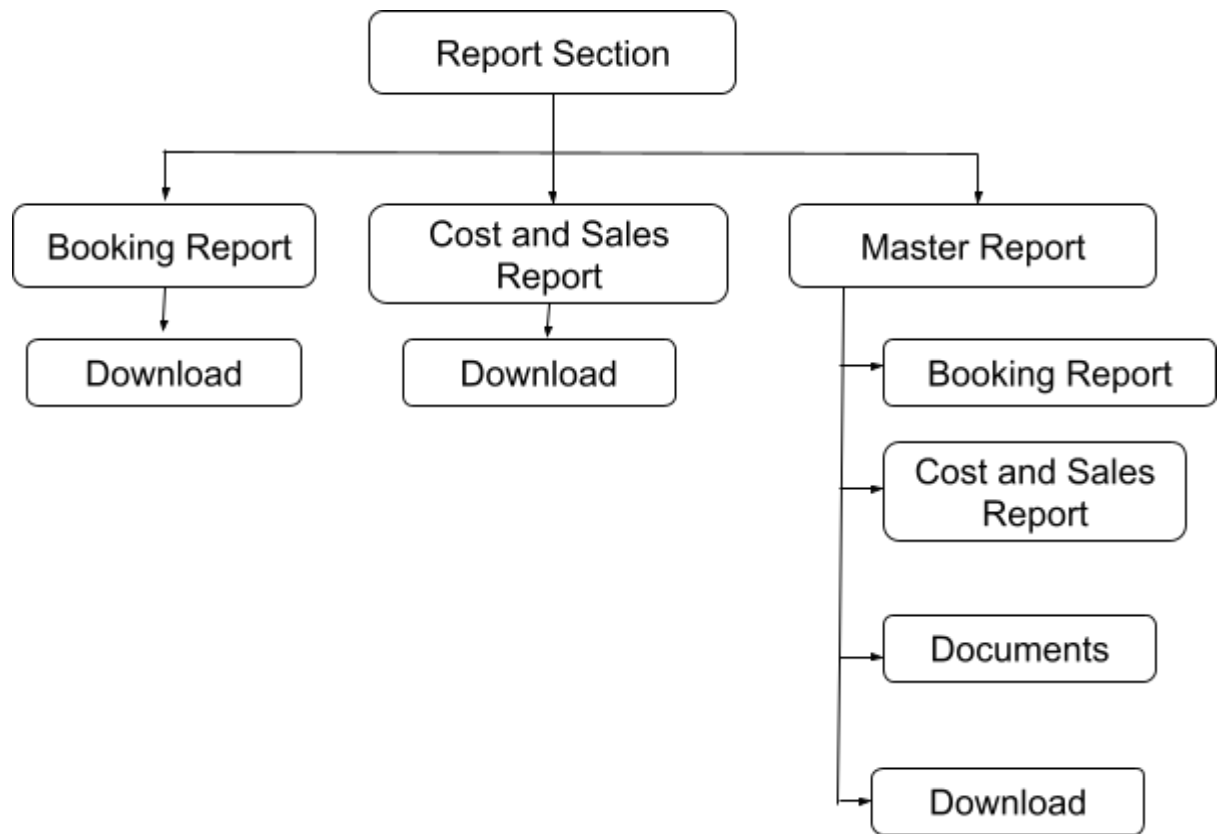


Figure - 5 (Freight Booking Report Process)

## 6. Approval Process

The freight system is fully controlled by roles and permissions at every stage. Starting from booking creation, we store the name of the booking creator as the responsible person. Each shipment process, such as the document process, cost process, and sales process, includes designated individuals for approval checks. When the shipment reaches the final stage, managerial approval is required for the finance process. Once the manager's approval is obtained, no further edits or deletions are allowed for that shipment to prevent conflicts.

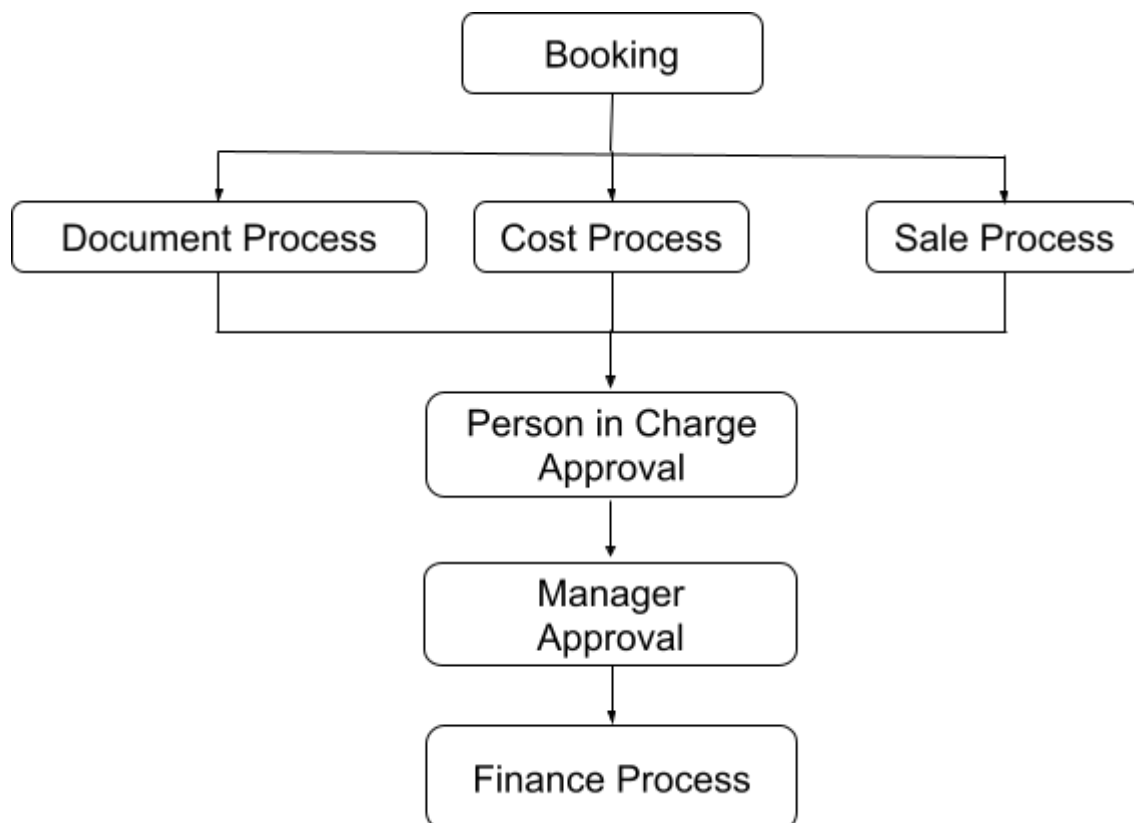


Figure - 6 (Freight Booking Approval Process)

## **7. Conclusion**

In this system, we focus on ease of use and the ability to trace every stage of the shipment process easily. We strive to meet every requirement of freight shipment and provide comprehensive financial reports for management. Based on the financial process, management can easily view profit and loss. During these nine months, we have concentrated on optimising the freight system for smooth internal operations. However, our future plans include adding many features, such as Monthly Reports, Profit Reports, a Customer Dashboard, and a mobile application for internal and customer use. Below are the details of these features:

### **Monthly Report**

We plan to generate monthly reports based on shipment type, customer, and operation type. These reports will be available in PDF, Excel, and image formats.

### **Profit Report**

The Profit Report is designed for management to view a monthly summary of profits. This report will help the management team make important strategic decisions.

### **Customer Dashboard**

The Customer Dashboard is designed for customer service. Customers can request bookings for new shipments, track their current shipments on a map, view previous bookings, and generate invoices if required.

### **Freight Mobile Application**

The Freight mobile application is intended for all users of the system. This app will enable users to create, follow up, and approve shipments without needing a laptop. Customers can also view their bookings on the application.

This is our ongoing future plan, and we aim to continue exploring and developing the freight system to be more user-friendly and efficient.