Xavier Institute of Engineering

DEPARTMENT OF COMPUTER ENGINEERING

BATCH 2021-2022

Logistics Management System

By

Sharon Ganta (70)

Sanika Bangar (71)

Brice Carvalho (73)

Sankalp Panchal (76)

Under the guidance of

Mr. Kunal Meher

University of Mumbai

(AY 2020-21)

CERTIFICATE

This is to certify that the Mini Project entitled **"Logistic Management System"** is a bonafide work of **Sharon Ganta (70) , Sanika Bangar (71), Brice Carvalho (73) and Sankalp Panchal (76)** was submitted to the University of Mumbai in partial fulfilment of the requirement for the award of the degree of **"Third Year of Engineering"** in **"Computer Engineering" .**

(Mr. Kunal Meher)

Supervisor

Contents

1 Introduction

1.1 Abstract

Logistics management is that part of the supply chain which plans, implements and controls the efficient, effective forward and reverse flow and storage of goods, services and information between the point of origin and the point of consumption in order to meet customers' requirements. A professional working in the field of logistics management is called a logistician. Logistics as a business concept evolved only in the 1950s. This was mainly due to the increasing complexity of supplying one's business with materials and shipping out products in an increasingly globalized supply chain, calling for experts in the field who are called Supply Chain Logisticians. This can be defined as having the right item in the right quantity at the right time at the right place for the right price and it is the science of process having its presence in all sectors of the industry. The goal of logistics work is to manage the fruition of project life cycles, supply chains and resultant efficiencies.

We will also include three modes of transport in this website to make it easier for the customer that is Land ways (roadways & railway), Airways, and Waterways. Logistics involves the integration of information, transportation, inventory, warehousing, material handling, and packaging, and occasionally security. Today the complexity of production logistics can be modelled, analysed, visualized and optimized by plant simulation software.

1.2 Introduction

Logistics management is a supply chain management component that is used to meet customer demands through planning, control and implementation of the effective movement and storage of related information, goods and services from origin to destination. Without logistic management system, logistics service providers face many problems. Some of them are, customer services become inefficient, transportation cost of goods may increase, new product launches may be under risk. Hence, logistic management system software solves all this problem and provides many features like, Warehouse management, Fleet management, Processing orders, Inventory control. This system will be under sole control of the Admin. Admin is the only module in this system. Admin has authority to add or remove goods from the system, he/she can also maintain records of the goods available and issued in the warehouse. He/she can also update the goods details if required. This logistics management system project can track the transportation duration of goods. This logistics management software can also update information like, at what time has the goods arrived at the destination.

1.3 Problem Statement & Objectives

Logistics management system website provide user to import or export there good to other country. Logistics management is the part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption to meet customer requirements. Logistic resources, such as tanks, pipelines, and ships, have the main objective of making products, equipment, and raw material flow easier throughout processes to maximize profits.

Main objective for this project is to develop an automated system that keeps the track of various products, articles present in the car warehouse with a standard communication system. It is developed for a complete solution that is GUI based user-friendly system where even layman can use the system. A warehouse can store various products grouped under various category wise and it delivers the products according to the order. For the warehouse there is employee and administrator in-charge who is responsible for all process done at the warehouse.

The primary objective of logistics management is to move the inventory in a supply chain effectively and efficiently to extend the desired level of customer service at the least cost as done parallel with waste management.

To achieve this, the following subsets of the above broader objective need to be achieved in supply chain management.

- Inventory reduction
- Reliable and consistent delivery performance
- Freight economy
- Minimum product damages
- Quick response

2. Literature Survey

2.1 Survey of Existing System

Logistics management involves order processing, inventory control, transportation, warehousing, materials handling, and packaging, all integrated throughout a network of facilities. The goal is to support procurement, manufacturing, and customer service operational requirements. It aims internally to coordinate functional competency into an integrated operation focusing on serving customers (internal); and externally, to ensure operational synchronisation which is essential with customers (outside of the firm) as well as material and service suppliers to link internal and external operations as one integrated process

Logistics management is a supply chain management component that is used to meet customer demands through the planning, control and implementation of the effective movement and storage of related information, goods, and services from origin to destination. from the point of origin of the vendor or the supply services through company facilities to the point of consumption (customer/market) and the associated activities (like packaging, order processing) in an efficient manner necessary to enable the organisation to contribute to the explicit goals of the company and meet customer requirements

2.2 Limitation Existing System

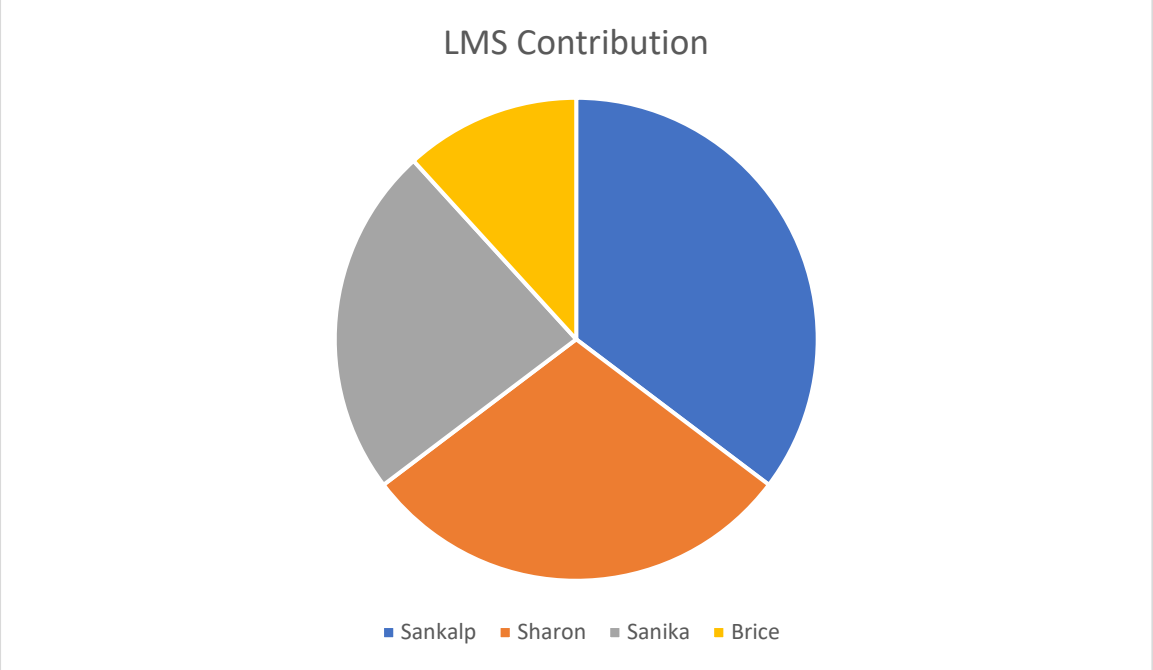
Logistics is considered as the set of methods and means necessary to organize a company or service. The logistics sector focuses on delivering products to the customer, according to the conditions previously agreed (quantity of products, stipulated time, geolocation …). Within logistics, it is usually included the transport of goods, storage costs, handling, preparation and order planning (among many other aspects).

In the logistics sector, there are different aspects that have a great influence. Currently, both globalization, technology, consumer evolution, legal aspects, government policies, etc., are aspects that directly influence the sector.

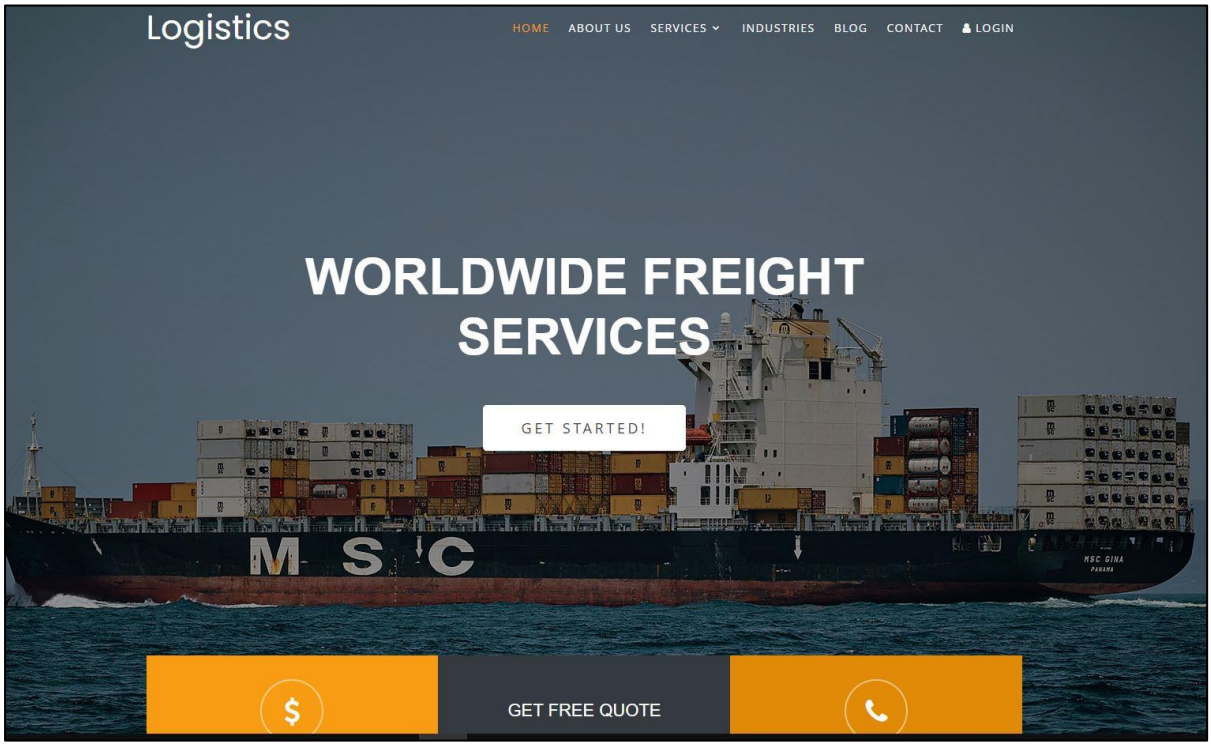
Currently, one of the key aspects that make the difference is that we are facing a globalized market. Without a doubt, this is one of the aspects that completely changes the sector.

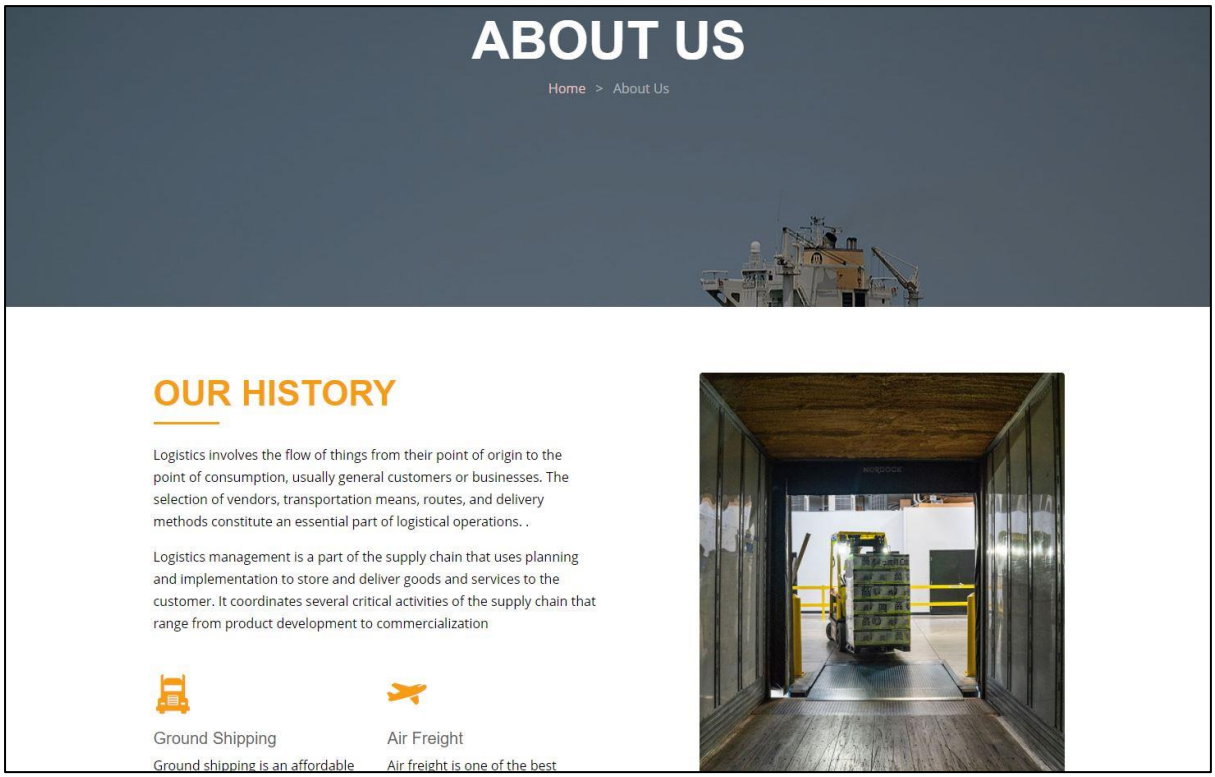
- Coordination: Especially in cases of international logistics, there may be some failures in international coordination, usually the most frequent problems are: language, schedule, cultural change …
- Multinationals and large companies: The usual thing is that the sector is covered with very large companies. Both medium and small companies have very difficult access.
- Cost of transport: The greater the distance to travel, the greater its cost. This makes it difficult to get a competitive price.
- Legality: In logistics, the legislation has much to say both at the level of laws, customs policy, and the entry and exit of product.

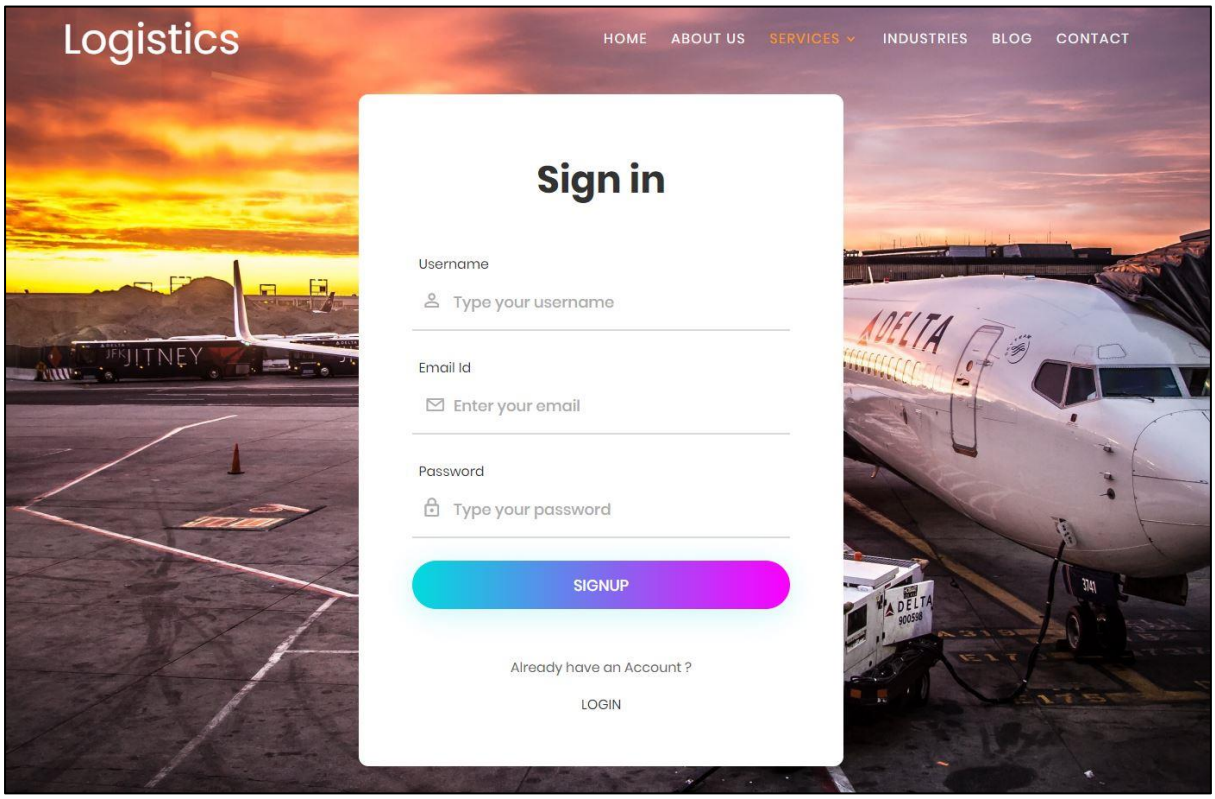
2.3 Mini Project Contribution

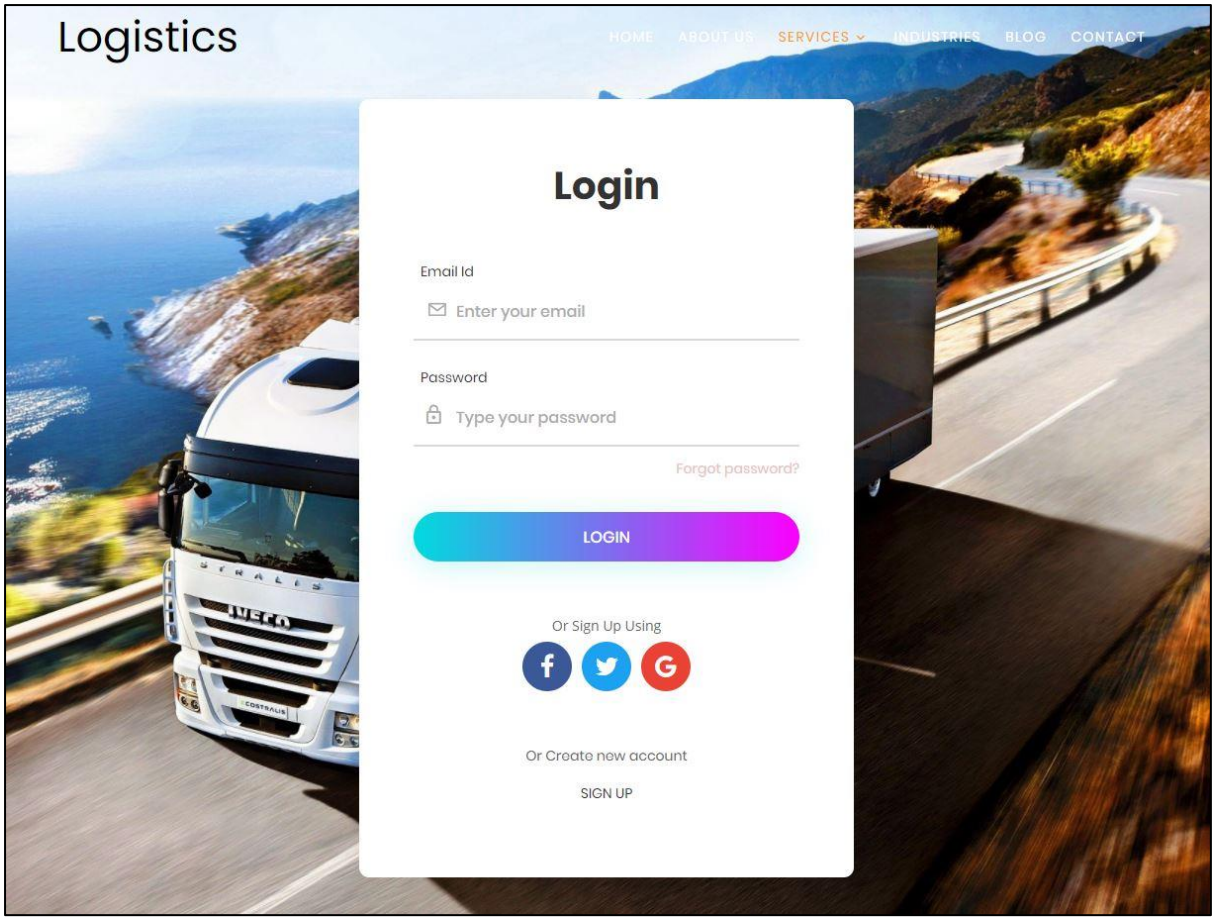


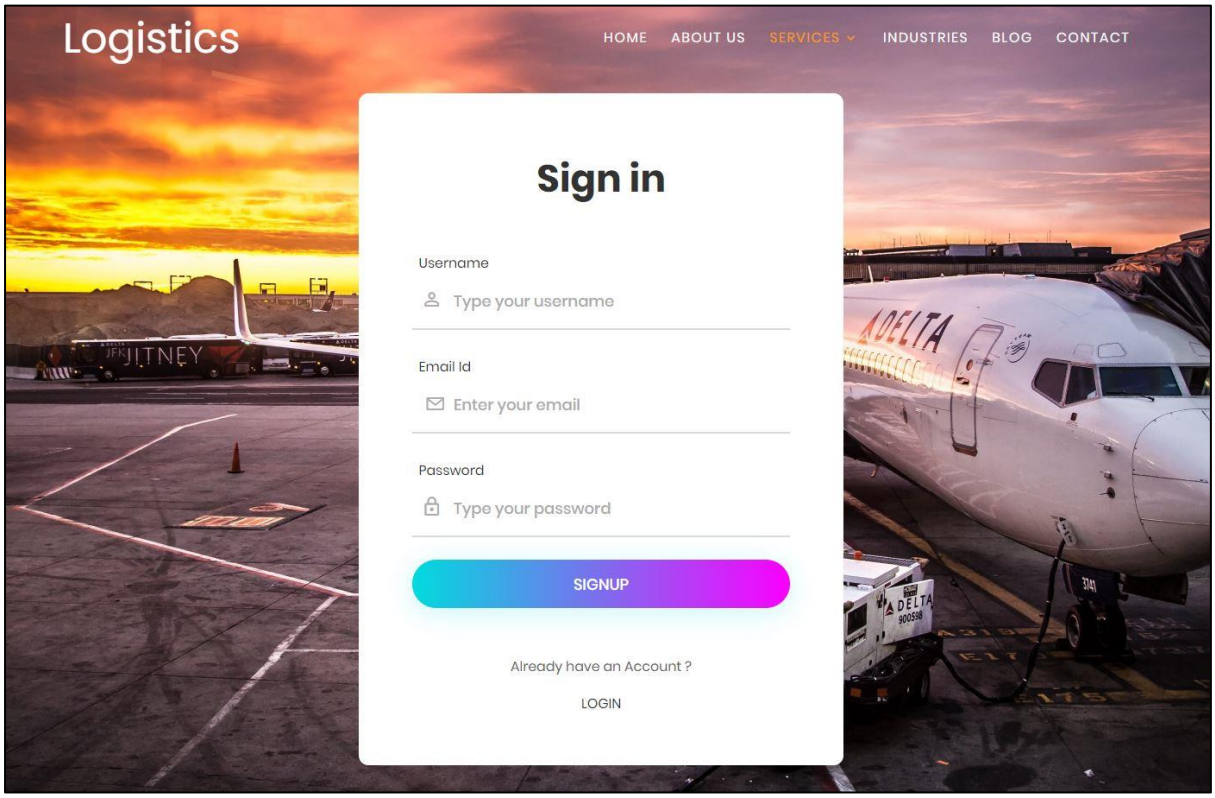
2.4 Project Screenshot

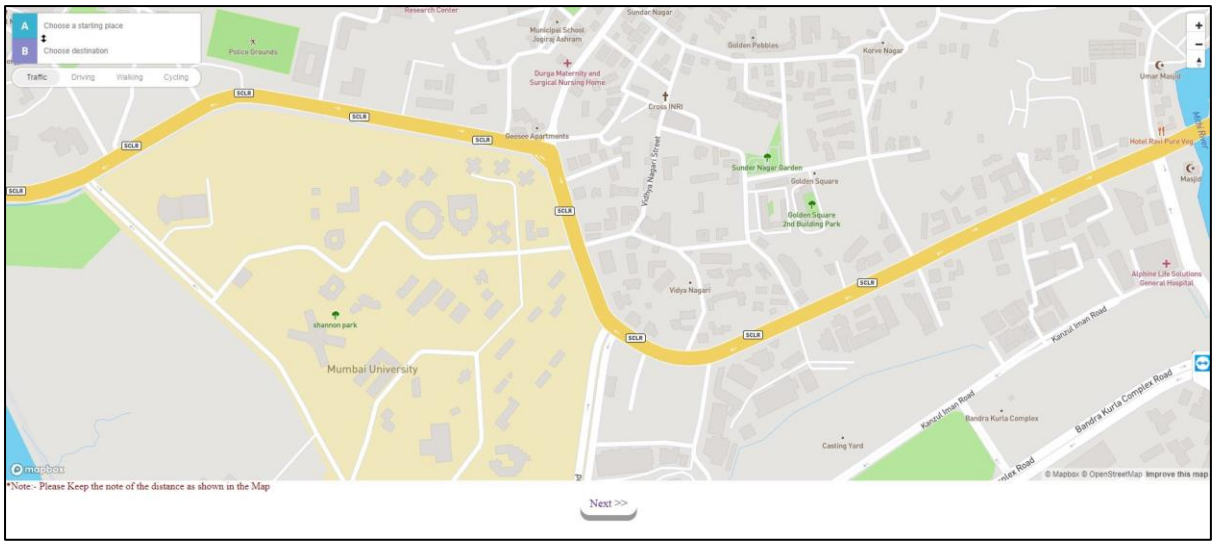



ABOUT US
Home > About Us
OUR HISTORY
Logistics involves the flow of things from their point of origin to the point of consumption, usually general customers or businesses. The selection of vendors, transportation means, routes, and delivery methods constitute an essential part of logistical operations. .
Logistics management is a part of the supply chain that uses planning and implementation to store and deliver goods and services to the customer. It coordinates several critical activities of the supply chain that range from product development to commercialization
Ground Shipping
Ground shipping is an affordable
Air Freight
Air freight is one of the best


Logistics
HOME
ABOUT US
SERVICES
INDUSTRIES
BLOG
CONTACT
Sign in
Username
Type your username
Email Id
Enter your email
Password
Type your password
SIGNUP
Already have an Account ?
LOGIN


Logistics
HOME
ABOUT US
SERVICES
INDUSTRIES
BLOG
CONTACT
Login
Email Id
Enter your email
Password
Type your password
Forgot password?
LOGIN
Or Sign Up Using
Or Create new account
SIGN UP


Logistics
HOME
ABOUT US
SERVICES
INDUSTRIES
BLOG
CONTACT
Sign in
Username
Type your username
Email Id
Enter your email
Password
Type your password
SIGNUP
Already have an Account ?
LOGIN



First Name

Last Name

Email

Subject

Message

Write your notes or questions here...

SEND MESSAGE

Address
Mumbai,Maharashtra

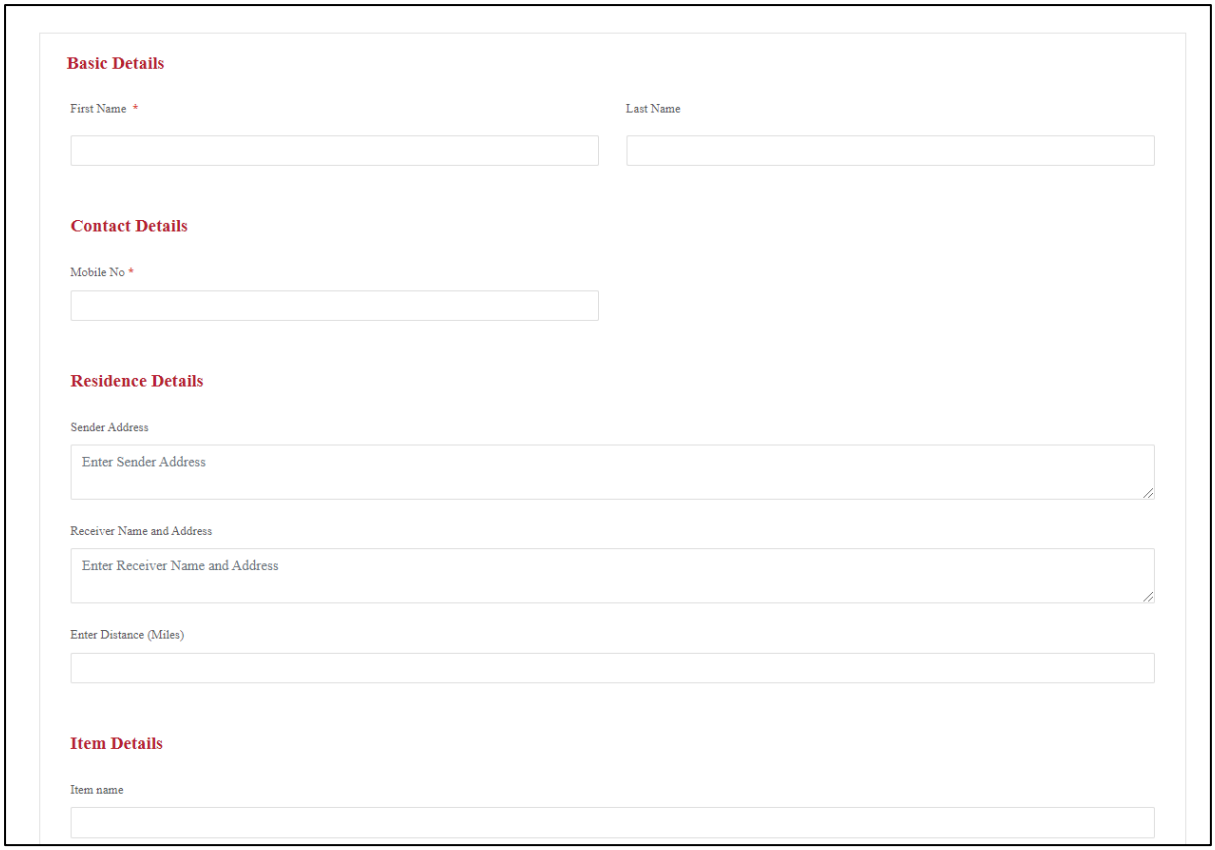
Phone
+91 88080 88080

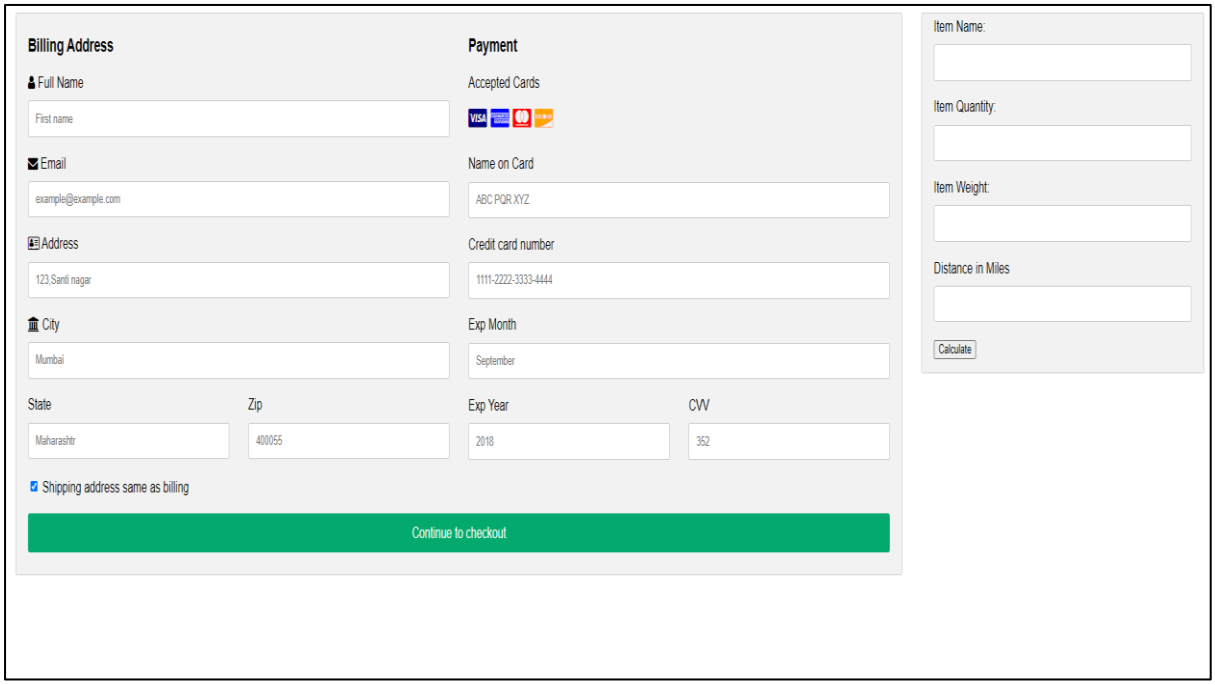
Email Address
infologistic@gmail.com

More Info

Logistics involves the flow of things from their point of origin to the point of consumption, usually general customers or businesses. The selection of vendors, transportation means, routes, and delivery methods constitute an essential part of logistical operations.

LEARN MORE


Basic Details
First Name *
Last Name
Contact Details
Mobile No *
Residence Details
Sender Address
Enter Sender Address
Receiver Name and Address
Enter Receiver Name and Address
Enter Distance (Miles)
Item Details
Item name


Billing Address
Full Name
First name
Email
example@example.com
Address
123,Santi nagar
City
Mumbai
State
Maharashtr
Zip
400055
Shipping address same as billing
Payment
Accepted Cards
Name on Card
ABC PQR XYZ
Credit card number
1111-2222-3333-4444
Exp Month
September
Exp Year
2018
CVV
352
Continue to checkout
Item Name:
Item Quantity:
Item Weight:
Distance in Miles
Calculate

3 Proposed System

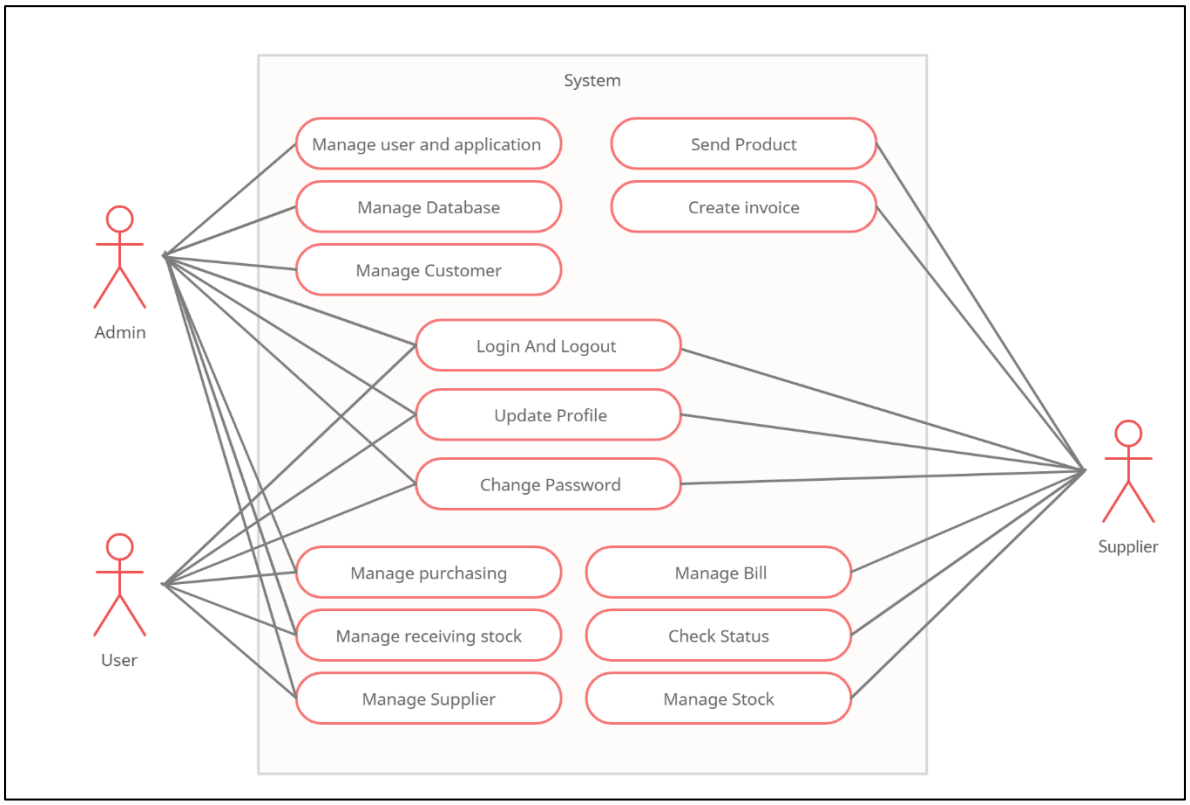
Logistics management system website provide user to import or export there good to other country. Logistics management is the part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption to meet customer requirements. Logistic resources, such as tanks, pipelines, and ships, have the main objective of making products, equipment, and raw material flow easier throughout processes to maximize profits.

The primary goal of logistics management is to provide better customer service. Logistics management aims to eliminate processing errors by establishing a streamlined process flow. Process errors occur due to inefficiencies or discrepancies in the procedure. A good logistics strategy will account for all the loopholes in the process and device measures to address them. Thus, it minimizes process errors. For instance, if items are placed haphazardly in the warehouse, finding an item at the time of delivery would be a nightmare. However, if the shelves in warehouses are categorized according to different items, retrieving items would become easy.

Also, it focuses on pacing up the delivery process. Quality processes and quick service would ensure customers are happy. These measures increase sales, which automatically gives businesses a competitive edge over competitors.

3.1 Product Function

The system basic intention is to simplify as well as enhance the UI and system in such a way that the end user gets very „clean“ experience of it. There will be three key people who will always interact with the system.



- Admin
- User
- Supplier/ Receiver

For a admin“ he will be on top of the hierarchy he can’t do what authorized user as well as any user can do, but he will be able to look at different aspect of system which includes financial audit, adding new Customer, removing Customer, increasing/decreasing number of suppliers.

For User they can manage there good and Service and transport to other country and also manage there profile and change there own password as well as after completing transaction they received bill

For the Supplier/ Receiver side they can send and create invoice also manage bill and there stuff status ,and Stock

3.2 Algorithms

To calculate distance:

Haversine Formula:- Calculate geographic distance on earth. If you have two different latitude – longitude values of two different point on earth, then with the help of Haversine Formula, you can easily compute the great-circle distance (The shortest distance between two points on the surface of a Sphere). The term Haversine was coined by Prof. James Inman in 1835. Haversine is very popular and frequently used formula when developing a GIS (Geographic Information System) application or analyzing path and fields.

Vincenty formula:-The formulae were developed by Thaddeus Vincenty(1975a) for calculating geodesic distances between a pair of latitude/longitude points on an ellipsoidal model of the Earth. Unlike the Haversine method for calculating distance on a sphere, these formulae are an iterative method and assume the Earth is an ellipsoid.

This formula include a direct and an inverse method where:

- Direct Method: It computes the location of a point that is a given distance and azimuth from another point
- Inverse Method: It computes the geographical distance and azimuth between two given points.

To find shortest path

Dijkstra's algorithm:-

One of the most commonly used routing algorithms is Dijkstra's algorithm. Dijkstra's algorithm finds the shortest path between two nodes by building a shortest-path tree, and stopping once the destination node has been reached. Normally in routing applications, Dijkstra's algorithm is used to find the shortest route between 2 locations. This is the case with Map Suite Routing's built-in Dijkstra routing algorithm. However, there may be instances where you may want to find the shortest path from a single source node to several destination nodes. With a few small modifications, you can use Dijkstra's algorithm in order to efficiently get multiple route results from a single location to multiple destinations.

Usually with Dijkstra's algorithm you would pass in a single source node (point A) and a single destination node (point B). The algorithm would find the shortest path between point A and each intermediate node, until it eventually finds the shortest path between point A and point B.

3.3 Details of Hardware And Software

Minimum Hardware Requirement :-

- Processor :- intel i3
- Ram:- 2GB
- Storage :-50-500mb
- Desktop/laptop

Software Requirement :-

- Xampp:-

  XAMPP is an abbreviation where X stands for Cross-Platform , A stands for Apache, M stands for MYSQL, and the Ps stand for PHP and Perl, respectively. It is an open-source package of web solutions that includes Apache distribution for many servers and command-line executables along with modules such as Apache server, MariaDB, PHP, and Perl.

- MySQL:-

  A database is a separate application that stores a collection of data. Each database has one or more distinct APIs for creating, accessing, managing, searching and replicating the data it holds. Other kinds of data stores can also be used, such as files on the file system or large hash tables in memory but data fetching and writing would not be so fast and easy with those type of systems.

- Web Browser:- Google Chrome

Google Chrome is a cross-platform web browser developed by Google. It was first released in 2008 for Microsoft Windows, and was later ported to Linux, macOS, iOS, and Android where it is the default browser built into the OS.

- PHP:-

PHP is a server side scripting language. that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, that earlier stood for Personal Home Pages

- HTML:-

HTML stands for Hyper Text Markup Language. HTML is the standard markup language for creating Web pages. HTML describes the structure of a Web page. HTML consists of a series of elements. HTML elements tell the browser how to display the content.

- CSS:-

CSS stands for Cascading Style Sheets. CSS describes how HTML elements are to be displayed on screen, paper, or in other media. CSS saves a lot of work. It can control the layout of multiple web pages all at once.

- JavaScript:-

  JavaScript is the world's most popular programming language.

  JavaScript is the programming language of the Web. JavaScript is easy to learn. This tutorial will teach you JavaScript from basic to advanced.

API:-

- Mapquest:-
  Accurate geocoding results are an essential part of many geospatial processes. Whether you want to show your retail locations on a map, calculate an optimized route for a delivery, or search within the radius of an origin point, the geocoding API enables you to associate latitude and longitude with an associated address.

4 Conclusion

Logistics systems and transportation consist of interdependent relationships that logistics management requires transportation to perform its day to day activities and meanwhile, a good logistics system can efficiently improve transportation development and traffic environment. Since transportation contribute the highest cost among the related elements in logistics systems, the improvement of transport efficiency can change the overall performance of a logistics system. Transportation plays an important role in logistics system and its activities appear in various sections of logistics processes. Without the linking of transportation, a powerful logistics strategy cannot bring its capacity into full play.

The review of logistics system in a broad sense might help to integrate the advantages from different application cases to overcome their current demerits. Review of transport systems provides a clear notion on transport applications in logistics activities. Development of logistics will be still vigorous in the following decades and the logistics concepts might be applied in more fields.

5 References

- https://ieeexplore.ieee.org/document/8657007
- https://ieeexplore.ieee.org/document/5643898
- https://ieeexplore.ieee.org/abstract/document/4622923
- https://ieeexplore.ieee.org/document/6011405
- http://indianrailways.gov.in/railwayboard/view_section.jsp?lang=0&id=0,6,338
- https://nationalfreightindex.co.in/
- https://www.statista.com/statistics/741428/india-railway-freight-rate-per-metric-ton/
- https://developer.mapquest.com/documentation/
- https://thinkgeo.com/blog/dijkstras-routing-algorithm#:~:text=One%20of%20the%20most%20commonly,destination%20node%20has%20been%20reached.&text=This%20is%20the%20case%20with,built%2Din%20Dijkstra%20routing%20algorithm.
- https://www.neovasolutions.com/2019/10/04/haversine-vs-vincenty-which-is-the-best/
- https://www.igismap.com/haversine-formula-calculate-geographic-distance-earth/

6 Web-Site link

https://github.com/Sankalp8080/Logistic-Management-System.git