

COURIER MANAGEMENT SYSTEM

A Mini-Project submitted for the partial fulfillment of Database
Management System Laboratory (CS15203)

by

Aakarsh Sinha

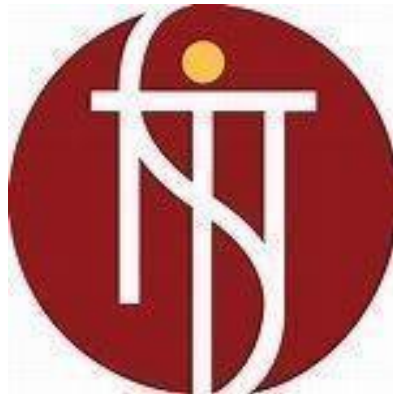
Roll Number:- B210001CS

3rd Year B.Tech (CSE)

Under the Supervision of

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CERTIFICATE

This is to certify that the project report entitled “**COURIER MANAGEMENT SYSTEM**” submitted by **Aakarsh Sinha** bearing Roll No. **B210001CS** is an authentic report for the work carried out under my supervision as a part of Database Management System Laboratory during the Odd Semester, 2023-24 at National Institute of Technology Sikkim, Ravangla-737139, Sikkim.

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ABSTRACT

The Courier Management System streamlines day-to-day operations such as outbound and inbound logistics, reservations, failed deliveries, and collection centers. It's an application-driven service that efficiently oversees and administers courier services for both businesses and customers. This particular project focuses on the "Courier Management System," providing a straightforward solution for courier and tracking enterprises. The software facilitates order booking, scheduling, client information processing, real-time tracking, employee and administrative data maintenance. Whether it's a small courier entity or a large-scale company with multiple branches, this system optimizes operations for all sizes of courier businesses.

This Courier Management System project offers variety of features which are as follows:

- The Authentication Section features an onboarding system enabling users to choose their access level - Admin, Employee, or Customer. Upon selection, users are directed to a secure authentication page for login credentials verification, subsequently leading them to a welcome interface upon successful authentication.
- Details Section is provided for each user (admin, employee, and customer) which includes the list of employees and couriers for admin, list of assigned couriers for employee, and list of addresses and created shipments for customers.
- Tracking Section provides an interface for the customers to track their placed orders/couriers with the help of tracking id provided after the creation of the courier.

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CHAPTER - 01

INTRODUCTION

The Courier Management System Project encompasses various modules and services catering to its users' needs. The Authentication Section ensures a seamless onboarding process, authenticating users and guiding them to a welcoming interface. In the Shipment Section, Admins manage new orders or couriers, ensuring accurate delivery details and cost-effective delivery charges for customers. The Details Section comprehensively presents all necessary information, enhancing the user experience. Additionally, the Tracking Section enables real-time order tracking for customers, providing vital details such as the current consignment location, estimated arrival time, courier status, placement date, and final destination arrival date.

IMPORTANCE

As technology advances, the need for automation grows. In a globalized world, people often order goods from distant places, leading to delays and risks. Courier management systems address these issues by efficiently sending items worldwide through a network of branches. These systems streamline scheduling, handle internal and external services, and manage consignments based on company weight regulations, leveraging automation for smoother operations.

The use of courier management software helps the business in many ways:-

1. Time Efficiency
2. Minimum Paperwork
3. Real-Time Tracking
4. Minimum Cost
5. Enhanced Security
6. Improved User Experience & Customer Service

CHAPTER - 02

PROBLEM DESCRIPTION

The Customers seek real-time updates on their shipped products without the hassle of visiting courier offices. Courier companies face challenges in maintaining and sharing comprehensive records, leading to manual work and inefficiencies. A system is necessary to manage courier-related activities, track shipments, and efficiently assign employees for deliveries.

MOTIVATION FOR THE PROJECT

A business administration should adopt an automated Courier Management System for expanding its market reach, enabling real-time tracking, minimizing paperwork, enhancing security, improving user experience, automating customer service, reducing administrative tasks for employees, and attracting more customers. This system eliminates manual labor, saves time and money, and engages a larger clientele.

CHAPTER - 03

SYSTEM SPECIFICATIONS

Hardware:

- CPU – Intel Core i5(min)
- RAM – 4GB (min)
- Hard Disk – 4GB (min)

Software:

- Visual Studio Code
- Apache Webserver
- Operating system

Language and Framework:

- HTML & CSS : Page layout and Designing part
- PHP & MySQL : Backend implemented & Database

CHAPTER - 04

PROBLEM FORMULATION

4.1 RELATIONAL SCHEMA

- Admin:

(Email, Name, Phone Number, Admin Id)

- Customer:

(Email, Name, Phone Number, Customer Id)

- Employee:

(Email, Name, Phone Number, Employee Id)

- Courier:

(Courier Id, Courier Status, Type, Quantity, Price, Expected Delivery date, Dimensions)

- Address:

(Name, Phone Number, House Number & Landmark, City, State, Country)

4.2 ER DIAGRAM

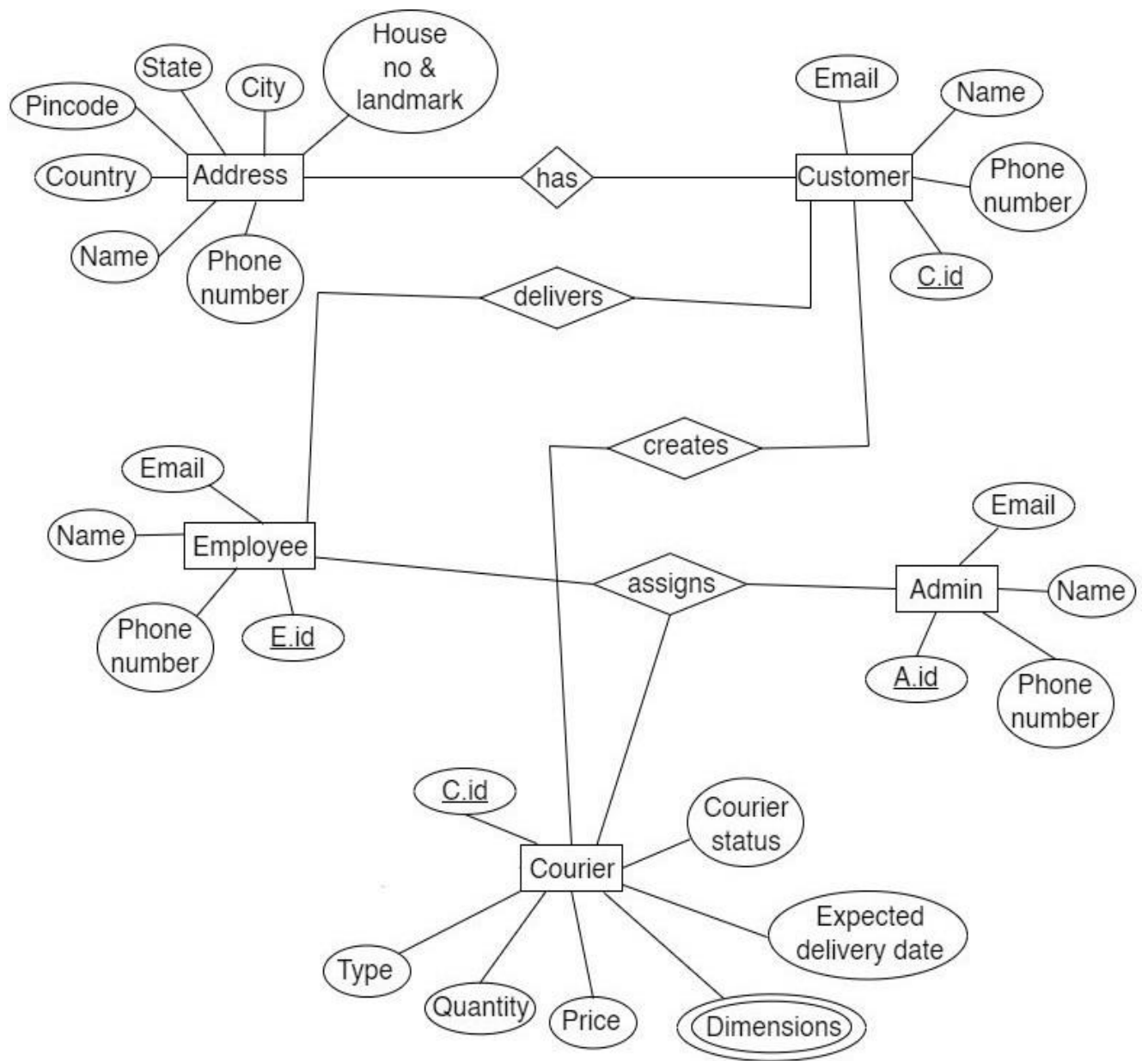


Fig 1: ER Diagram

4.3 RELATIONAL TABLE

- Customer

Attributes	Data type	Type
Name	string	Attribute
Ph. No.	int	Attribute
Email	string	Attribute
C.Id	string	Primary Key

- Employee

Attributes	Data type	Type
Name	String	Attribute
Ph no.	Int	Attribute
Email	String	Attribute
E.Id	String	Primary Key

- **Admin**

Attributes	Data type	Type
Name	string	Attribute
Ph no	Int	Attribute
Email	string	Attributes
A.Id	string	Primary Key

- **Courier**

Attributes	Data type	Type
Courier.Id	string	Primary key
CourierStatus	string	Attribute
Quantity	Int	Attribute
Dimensions	Float	Multi Valued Attribute
E.T.A	String	Attribute
Type	String	Attribute
Price	Int	Attribute

- Address

Attributes	Data type	Type
Name	String	Attribute
Ph no.	Int	Attribute
Pincode	Int	Attribute
Country	String	Attribute
City	String	Attribute
House No.	String	Attribute
State	String	Attribute

4.4 SCREENSHOTS OF DATABASE

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

		id	branch_code	street	city	state	zip_code	country	contact	date_created
<input type="checkbox"/>	Edit Copy Delete	5	hvdRWcgLqES83bO	Sivam Apartment	Siliguri	West Bengal	734006	India	8972441353	2023-12-06 19:39:00
<input type="checkbox"/>	Edit Copy Delete	6	wFYQdtmDeoXZUPu	NIT S	Ravangla	Sikkim	737137	India	12344124412	2023-12-06 20:59:51
<input type="checkbox"/>	Edit Copy Delete	7	X7suqnbFRorSQjp	LOREM IPSUM	NEW YORK	NEW YORK	220200	USA	3124144144	2023-12-06 21:00:41
<input type="checkbox"/>	Edit Copy Delete	8	Thmg1VPeqwZ79fp	SUNRISE LOGISTICS	LONDON	LONDON	300001	United Kingdom	2114912911	2023-12-06 21:02:17

Server: 127.0.0.1 > Database: cms_db

Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Tracking More

Untitled *

cms_db parcel_tracks	cms_db users	cms_db system_settings	cms_db parcels
id : int(30)	id : int(30)	id : int(30)	id : int(30)
parcel_id : int(30)	firstname : varchar(200)	name : text	reference_number : varchar(100)
status : int(2)	lastname : varchar(200)	email : varchar(200)	sender_name : text
date_created : datetime	email : varchar(200)	contact : varchar(20)	sender_address : text
	password : text	address : text	sender_contact : text
	type : tinyint(1)	cover_img : text	recipient_name : text
	branch_id : int(30)		recipient_address : text
	date_created : datetime		recipient_contact : text
			type : int(1)
			from_branch_id : varchar(30)
			to_branch_id : varchar(30)
			weight : varchar(100)
			height : varchar(100)
			width : varchar(100)
			length : varchar(100)
			price : float

127.0.0.1/phpmyadmin/index.php?route=/database/structure&db=cms_db

phpMyAdmin

Server: 127.0.0.1 » Database: cms_db » Table: parcels

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 id	int(30)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2 reference_number	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3 sender_name	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4 sender_address	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5 sender_contact	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6 recipient_name	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	7 recipient_address	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	8 recipient_contact	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	9 type	int(1)			No	None	1 = Deliver, 2=Pickup		Change Drop More
<input type="checkbox"/>	10 from_branch_id	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	11 to_branch_id	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	12 weight	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	13 height	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	14 width	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	15 length	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	16 price	float			No	None			Change Drop More
<input type="checkbox"/>	17 status	int(2)			No	0			Change Drop More
<input type="checkbox"/>	18 date_created	datetime			No	current_timestamp()			Change Drop More

☐ Check all
 With selected: [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#) [Spatial](#) [Fulltext](#) [Add to central columns](#)

[Remove from central columns](#)

Console

Fig 2: Database

4.5 EXECUTION SNAPSHOTS

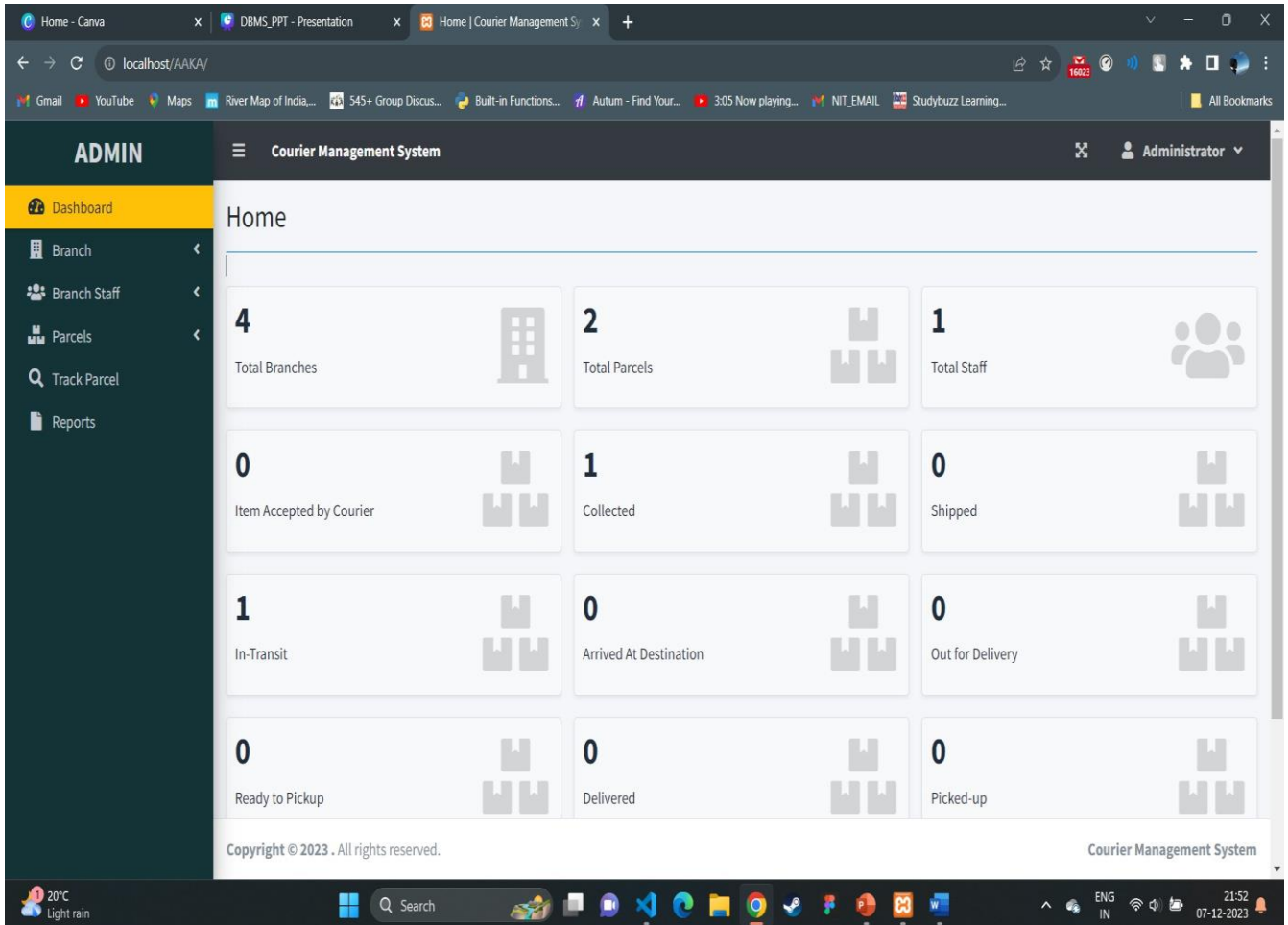


Fig 3: Homepage

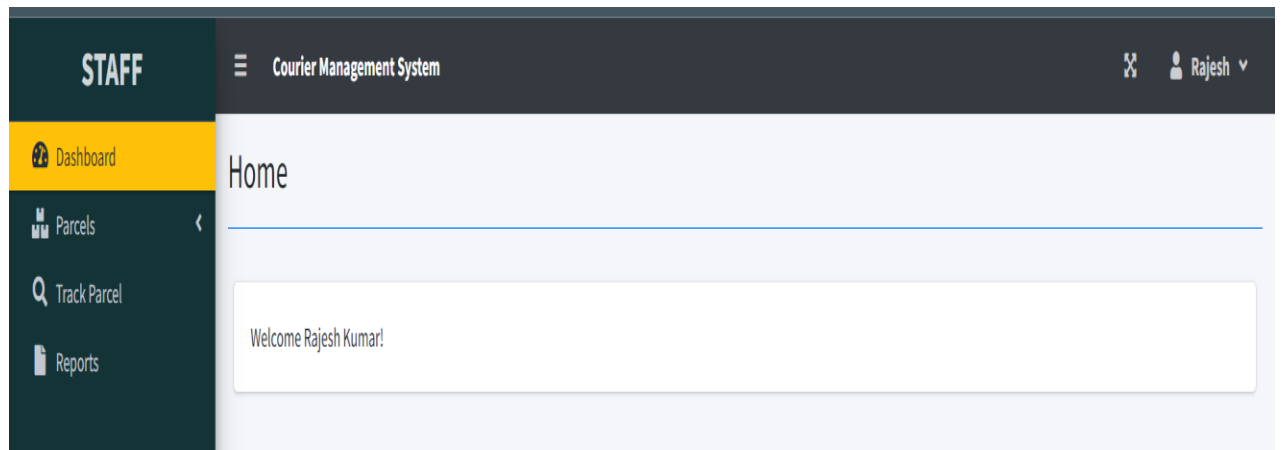


Fig 4: Staff Login

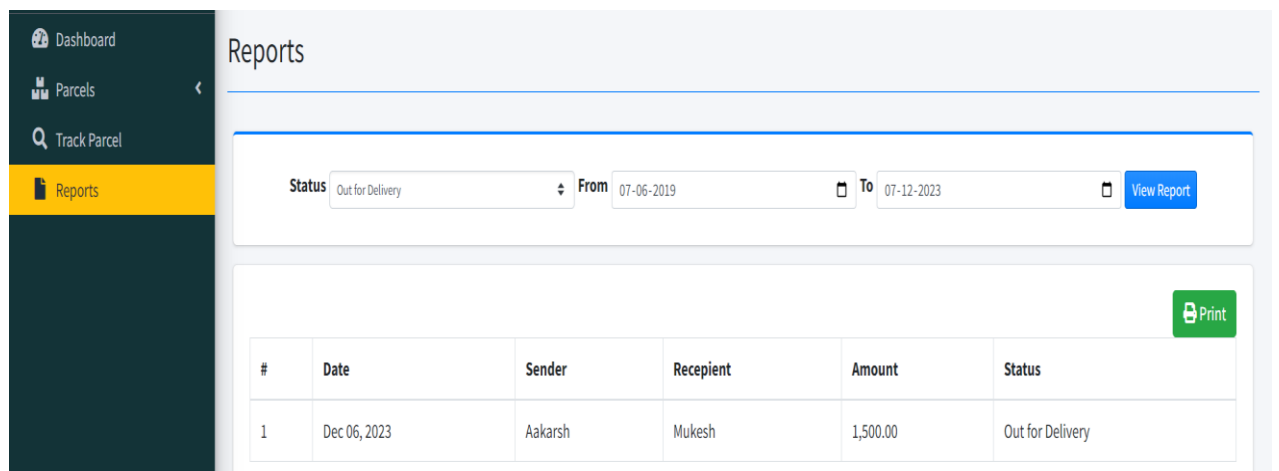


Fig 5: Report

Dashboard

Branch

Branch Staff

Parcels

Track Parcel

Track

Enter Tracking Number

Type the tracking number here

Q

Fig 6: Track Parcel

Branch Staff

Parcels

Add New

List All

Item Accepted

by Courier

Collected

Shipped

In-Transit

Arrived At

Destination

Out for Delivery

+

Add New

Show

10

entries

Search:

#	Reference Number	Sender Name	Recipient Name	Status	Action
1	736215203387	Aakarsh	Mukesh	Out for Delivery	<div> <div></div> <div></div> <div></div> </div>

Showing 1 to 1 of 1 entries

Previous

1

Next

Fig 7: Out For Delivery (Parcel)

Dashboard	Branch	Branch Staff	Add New	List	Parcels	Track Parcel	Reports
-----------	--------	--------------	---------	------	---------	--------------	---------

Staff List				
Show 10 entries				Search:
#	Staff	Email	Branch	Action
1	Rajesh Kumar	rajesh@gmail.com	Sivam Apartment, Siliguri, West Bengal, 734006, India	Edit Delete
Showing 1 to 1 of 1 entries				Previous 1 Next

Fig 8: List of Staff

Dashboard	Branch	Branch Staff	Add New	List	Parcels	Track Parcel	Reports
-----------	--------	--------------	---------	------	---------	--------------	---------

Branch List						
Show 10 entries						Search:
#	Branch Code	Street/Building/Brgy.	City/State/Zip	Country	Contact #	Action
1	X7suqnbFR0rSQjp	LOREM IPSUM	NEW YORK, NEW YORK, 220200	USA	3124144144	Edit Delete
2	wFYQdtmDeoXZUPu	NIT S	Ravangla, Sikkim, 737137	India	12344124412	Edit Delete
3	hvdRWcgLqES83bO	Sivam Apartment	Siliguri, West Bengal, 734006	India	8972441353	Edit Delete
4	Thmg1VPeqwZ79fp	SUNRISE LOGISTICS	LONDON, LONDON, 300001	United Kingdom	2114912911	Edit Delete
Showing 1 to 4 of 4 entries						Previous 1 Next

Fig 9: List of Branches

localhost/AAKA/index.php?page=new_parcel

Gmail YouTube Maps River Map of India... 545+ Group Discus... Built-in Functions... Autum - Find Your... 3:05 Now playing... NIT_EMAIL Studybuzz Learning... All Bookmarks

ADMIN Courier Management System Administrator

ADMIN

- Dashboard
- Branch
- Branch Staff
- Parcels**
 - Add New
 - List All
 - Item Accepted by Courier
 - Collected
 - Shipped
 - In-Transit
 - Arrived At Destination
 - Out for Delivery
 - Ready to Pickup
 - Delivered
 - Picked-up

New Parcel

Sender Information	Recipient Information
Name <input type="text"/>	Name <input type="text"/>
Address <input type="text"/>	Address <input type="text"/>
Contact # <input type="text"/>	Contact # <input type="text"/>

Type Pickup Deliver = Deliver to Recipient Address , Pickup = Pickup to nearest Branch

Branch Processed

Pickup Branch

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Fig 10: Add new parcel

CHAPTER - 05

APPLICATIONS

A courier management system (CMS) is a software solution designed to streamline and optimize the operations of courier or delivery businesses. Here are some key applications and features typically found in a courier management system:

- **Order Management:** Track and manage incoming orders, assign couriers, and schedule deliveries efficiently.
- **Real-time Tracking:** Provide real-time tracking for customers to monitor the status and location of their shipments.
- **Route Optimization:** Optimize delivery routes to minimize time and fuel consumption, thereby reducing costs and improving efficiency.
- **Reporting and Analytics:** Generate reports and analytics to monitor performance, identify trends, and make data-driven decisions for improvement.
- **Compliance and Security:** Ensure compliance with regulations and implement security measures to protect sensitive customer data.

Implementing a comprehensive courier management system can significantly enhance the efficiency, accuracy, and customer satisfaction levels of courier and delivery businesses by streamlining operations and optimizing resources.

CHAPTER - 06

CONCLUSION & FUTURE SCOPE

The Courier Management System offers a user-friendly interface for both placing and tracking couriers from anywhere. It can be tailored to suit specific business needs, functioning as a comprehensive system or individual modules. This system handles daily tasks like managing employee information, tracking placed couriers, and various other courier- related actions.

- The primary goal of this project is to develop a robust Courier Management System that excels in delivering efficiency.
- This system aims to offer a straightforward and user-friendly interface, encompassing all the essential functionalities mentioned earlier.
- Future enhancements for courier management involve AI-driven route optimization, IoT-based tracking, and sustainability with electric vehicles. Integrating blockchain for security, customer-centric upgrades, global compliance, and AR/VR for training are vital. Innovations in these areas ensure the system's forefront in efficient, sustainable logistics.

CHAPTER - 07

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