



Delivery Price Comparison System

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ABSTRACT—

The aim of this project is to develop an online platform that compares the delivery prices of various courier companies. This platform is designed to cater to the needs of small businesses and individual users who are not familiar with the pricing structures of different courier services. The platform will ask for information such as source and destination pin codes, parcel weight, and dimensions. The data collected from the platform will be analyzed to provide insights into user behavior, trends, and preferences. This information will be used to improve the platform and provide a better experience to users. The platform will also partner with courier companies to provide exclusive discounts and offers to users. Overall, this project has the potential to revolutionize the courier industry by providing users with transparent and up-to-date information about courier prices and services. This can improve customer satisfaction, build loyalty towards courier services, and drive growth in the courier industry.

Keyword - Extraction, Transportation, Customer Satisfaction, loyalty towards courier services, Logistics cost, Fetching REST API

I. INTRODUCTION

In the modern age of e-commerce and online transactions, courier services have become an essential part of our daily lives. Users and small businesses frequently send parcels for personal or professional reasons, and the courier industry has grown exponentially to meet this demand.

However, with so many courier companies available in the market, it can be challenging for users to compare their pricing and services effectively. This has led to confusion and dissatisfaction among users, who often feel that they are paying too much for sub-par services. To solve this problem, an online platform can be developed that enables users to compare the prices and services of different courier companies in their area. The platform would work by asking users to enter the source and destination pin codes, weight, and dimensions of their parcel. Based on this information, the platform would generate a list of courier companies available in their area and their respective price ranges, ratings, and services offered.

This information would enable users to make informed decisions and choose the courier company that best suits their needs. The platform can also include additional features such as live tracking, package insurance, and customer reviews. These features would enhance the user experience and build trust and confidence in the platform. Live tracking would allow users to track the progress of their parcel in real-time, giving them peace of mind and ensuring that the parcel is delivered on time. Package insurance would provide users with an added layer of protection, ensuring that their parcels are covered in case of loss or damage.

Customer reviews would enable users to read about the experiences of other users with different courier companies, allowing them to make more informed decisions. The platform would be particularly useful for small businesses that frequently send parcels but do not have the resources to negotiate with different courier companies for the best prices. By providing users with the necessary information to make informed decisions, the platform can help small businesses reduce their courier cost.

II. PROBLEM STATEMENT

The problem statement for the proposed research paper is to address the challenges faced by new users and small businesses who need to deliver parcels from one location to another. While courier services are widely available, users often face challenges in identifying the right service provider that can meet their requirements at a competitive price. To reduce confusion of the people our proposed system can be helpful. This results in users having to either settle for a particular courier service based on limited information or having to invest significant time and effort in researching and comparing different services.

Additionally, cross-border deliveries require specialized knowledge of import/export regulations and customs clearance procedures, which many users may not be familiar with. This results in users having to either rely on the expertise of the courier service provider or seek out additional information, which can be time consuming and challenging.

III. LITERATURE SURVEY

The idea of a platform that compares delivery prices of various courier companies is not a novel one. Several similar platforms already exist in the market, such as [1]Parcel Compare, [2]Parcel Monkey, and [3]Parcel Hero. These platforms provide users with the ability to compare prices and services of different courier companies, enabling them to select the most suitable courier service for their needs.

Parcel Compare is one such platform that compares prices and delivery times of multiple courier companies. Users can select the courier service of their choice and track their shipments in real-time. The platform also provides users with the ability to print shipping labels and schedule pickups. [2] Parcel Monkey is another platform that compares prices and services of different courier companies. The platform provides users with a choice of courier partners based on their pricing, delivery speed, and service quality. Users can select the courier service of their choice and track their shipments in real-time.

Parcel Hero is a platform that offers international courier services. The platform provides users with a choice of courier partners based on their pricing and delivery times. Users can select the courier service of their choice and track their shipments in real-time. The platform also provides users with a range of customs information and documentation. While these platforms are similar to our proposed platform, they mainly cater to individual users and small businesses. The existing platforms require users to have a certain level of technical expertise to use the platform effectively. Our proposed platform aims to fill this gap by providing a more accessible and user friendly platform. One platform that caters to a more niche market segment is Ship.

The platform provides users with a range of courier services, including shipping, transportation, and hauling. The platform enables users to connect with independent service providers, who bid on the user's shipping requirements. Users can select the service provider of their choice based on their pricing, ratings, and service quality. Another platform that caters to a similar market segment is Shyp. The platform provides users with on demand courier services, enabling them to schedule pickups and deliveries. The platform also provides users with a range of courier partners to choose from, based on their pricing and service quality. In conclusion, while several similar platforms exist in the market, there is still a need for a more user-friendly and accessible platform that caters to individual users and small businesses. Our proposed platform has the potential to tap into a large market segment that is currently undeserved. The success of our proposed platform will depend on several factors, including the user interface, accuracy of pricing information, and speed and reliability of courier services.

IV. METHODOLOGY

This platform is designed to cater to the needs of small businesses and individual users who are not familiar with the pricing structures of different courier services. The platform will ask for information such as source and destination pin codes, parcel weight, and dimensions. The data collected from the platform will be analyzed to provide insights into user behavior, trends, and preferences. To address these challenges, there is a need for an online platform that enables users to compare the prices and services of different courier companies based on their specific requirements. The problem statement for the proposed research paper is to address the challenges faced by users who need to compare and select courier services based on their specific requirements.

Algorithm:

1. Start
2. Display a form for the user to accept input source pin code, destination pin code, and weight of the parcel.
3. Define a base URL for the courier company API.
4. Define an authentication key for the courier company API.
5. Generate a payload using the input data for all the courier companies, combining the base URL and authentication key.
6. Send an API request to all 10 courier companies using the generated payload.
7. Collect the response from each courier company and store it in a list.
8. Compare the prices of each courier company and sort them in ascending order.
9. Display the cheapest courier company and their price range to the user.
10. Let the user select the desired courier company.
11. End.

Collect and validate data: Collect data from the courier companies' REST APIs and validate it to ensure accuracy and completeness. Any missing or incorrect data should be flagged for correction. Develop input form: Create a user-friendly input form that prompts the user for the required information,

including source pin code, destination pin code, and weight of the parcel. This form should also include a validation check to ensure that the user provides valid and complete information.

Generate API requests: Using the input data collected from the form, generate API requests to the courier companies' REST APIs. Each API request should include the required parameters, such as the source and destination pin codes and parcel weight. Parse API responses: Collect the API responses from each courier company and parse the data to extract the relevant information, such as the price range, delivery time, and available services. Analyze and compare data: Analyze the collected data to compare the price range and other relevant information across all the courier companies. Sort the results in ascending order to display the cheapest courier company first.

Display results to the user: Display the results of the analysis to the user in an easy-to-understand format, such as a table or list. Allow the user to select the desired courier company based on their needs.

V. HARDWARE AND SOFTWARE Hardware:

A computer or server with a multi-core processor, at least 4GB of RAM, and sufficient storage space to handle the application and database. An internet connection with sufficient bandwidth to access the courier company APIs and handle incoming traffic to our web application. For large-scale or enterprise-level applications, you may need to consider additional hardware like load balancers, clusters, and backup servers.

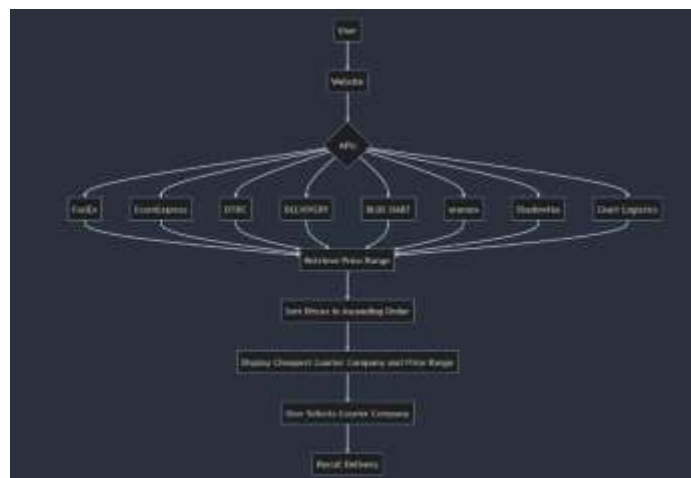


Fig. 1. Flowchart

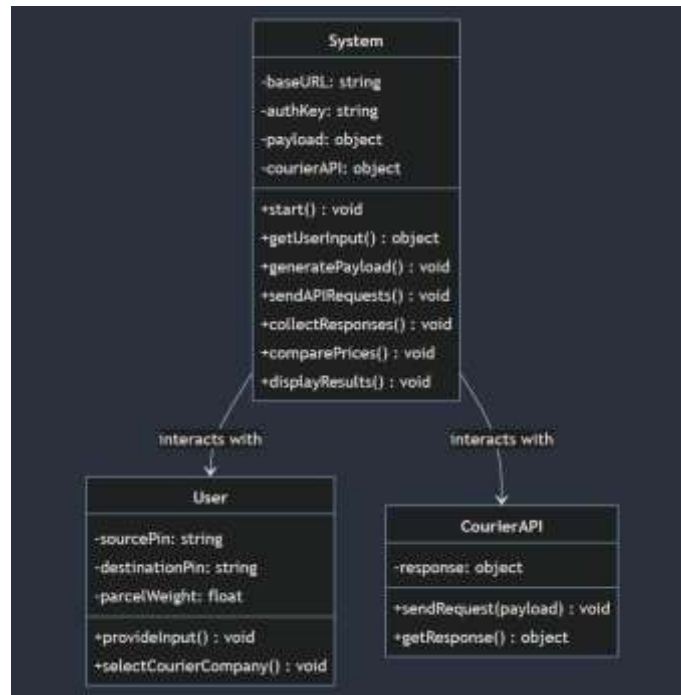


Fig. 2. Class diagram

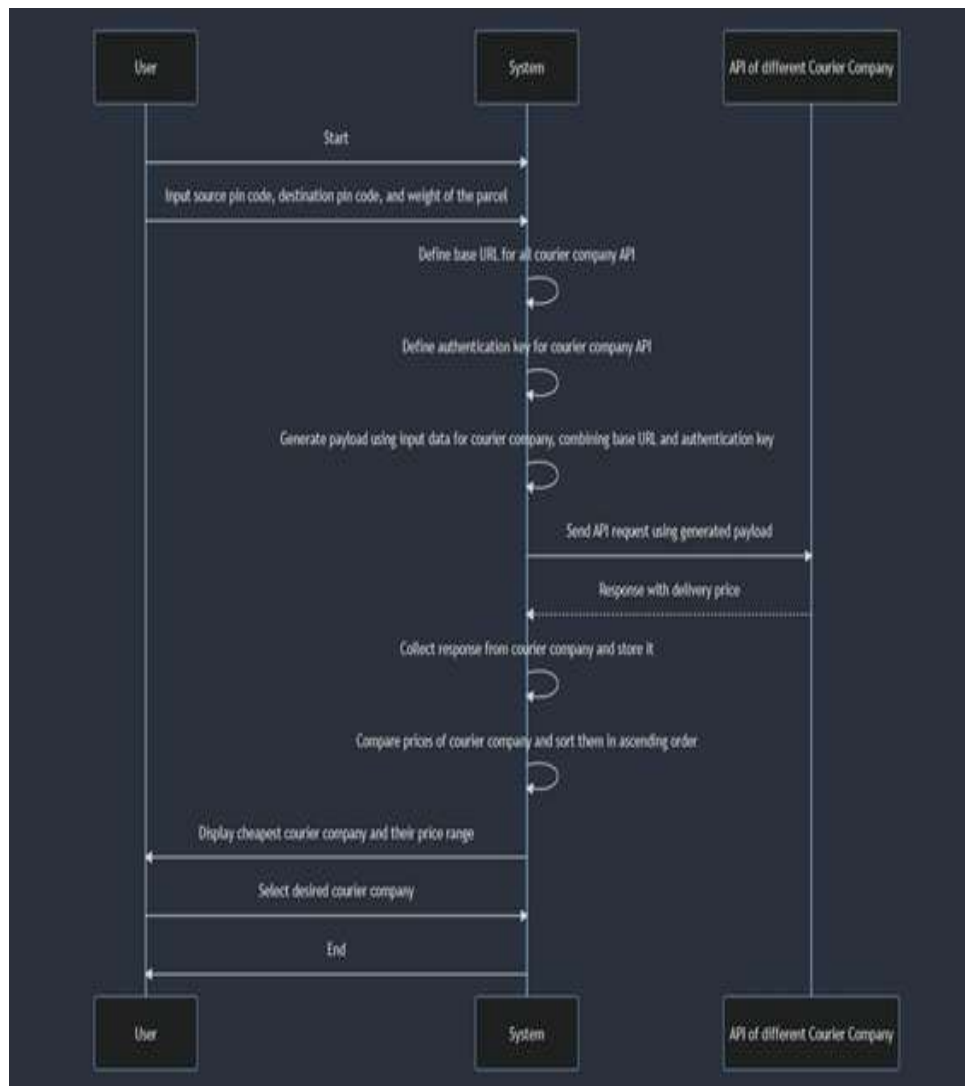


Fig. 3. Sequence diagram

Software:

An operating system like Windows .A database management system like MySQL or PostgreSQL to store and retrieve data. An API development tool like Postman or Swagger to test the REST APIs of the courier companies. A code editor or integrated development environment (IDE) like Visual Studio Code or PyCharm to write and manage the code. We also used Mermaid tool to make diagrams.

VI. FUTURE SCOPE

Integration with more courier companies: Currently, the system is designed to compare prices from a limited number of courier companies. In the future, it can be expanded to include more courier companies to provide users with a wider range of options to choose from. **Inclusion of more features:** The system can be enhanced by adding more features such as real-time tracking, delivery confirmation, and insurance options. This will provide users with more control over their shipments and enhance their overall experience.

Expansion to international shipments: Currently, the system is designed to compare prices for domestic shipments. However, it can be expanded to include international shipments as well. This will provide users with a one-stop solution for all their delivery needs. **Mobile app:** The development of a mobile app for the delivery price comparison system can be a great way to enhance the user experience. Users can easily access the system from their smartphones and tablets, making it more convenient and user-friendly. **Integration with e-commerce platforms:** The system can be integrated with e-commerce platforms such as Amazon, eBay, and Etsy. This will enable sellers to compare shipping costs across different courier companies and choose the most affordable option. **Integration with payment gateways:** The system can be integrated with payment gateways to enable users to pay for the shipping services directly from the platform. This will provide a seamless and hassle-free payment experience for users. Overall, the proposed delivery price

comparison system has immense potential for growth and expansion. By implementing these future scopes, the system can become a one-stop solution for all delivery-related needs for individuals and businesses.

VII. OUTPUT

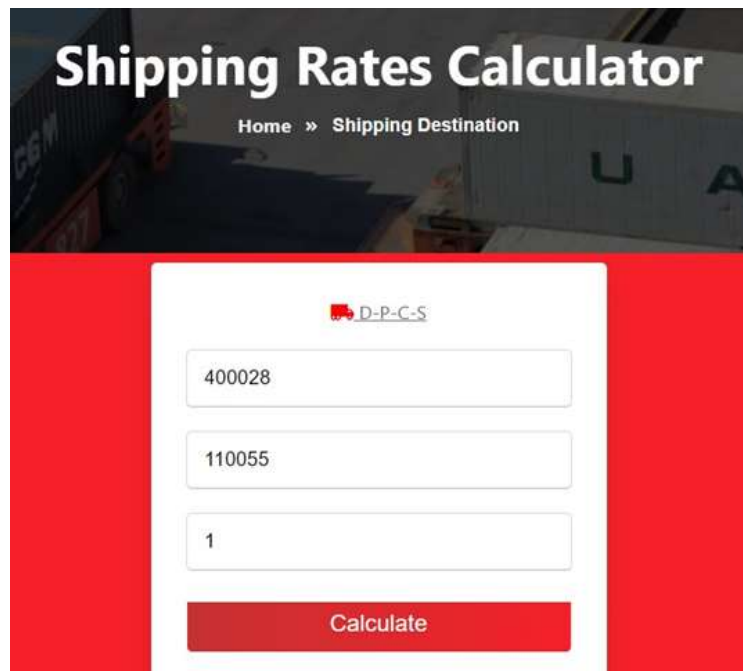


Fig. 4. Input



Rank	Company name	Shipping cost (TL)	Rating	Delivery method	Service
1	BLUE DART	110,00	4.5	100	100
2	eKart	110,00	4.5	100	100
3	Aracis	110,00	4.5	100	100
4	Paketissimo	110,00	4.5	100	100

Fig. 5. Output-1



Rank	Company name	Shipping cost (TL)	Rating	Delivery method	Service
1	Gromex	110,00	4.5	100	100
2	FedEx	110,00	4.5	100	100
3	DELHIVERY	110,00	4.5	100	100
4	Ecom Express	110,00	4.5	100	100

Fig. 6. Output-2

VIII. CONCLUSION

In conclusion, the proposed delivery price comparison system is a unique and innovative solution to the problem of high delivery costs for individuals and small businesses. The system offers a simple and efficient way to compare prices and services of different courier companies operating in a particular area, thus allowing the users to make informed decisions based on their needs and budget. In conclusion, the proposed delivery price comparison system has the potential to revolutionize the way individuals and small businesses select courier companies for their parcel deliveries. The system provides a cost-effective and efficient solution to compare prices and services of different courier companies, thus saving the users both time and money. Users can get accurate results without inserting much effort.

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