

Online Courier Management

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Abstract- This research paper describes an online courier management system developed using Django. The system enables users to send couriers and track their progress in real-time. Once a user submits a courier request, it becomes available to all staff members registered to the location. The staff member who accepts the courier becomes its designated handler, and only they can view and access the courier's details. The staff member collects the courier from the user's location and updates the courier's status on the system. The administrator can monitor all couriers and update their checkpoints, which users can view on the system's tracking page. The system's reporting feature provides detailed statistics and insights into courier management. The proposed system offers an efficient and user-friendly solution to streamline courier management processes, reducing time, effort, and errors while increasing transparency and accountability.

Key Words: Send courier, View details, Track courier, Accept courier, Admin, tracking.

1. INTRODUCTION

In today's fast-paced world, courier management systems have become an essential aspect of businesses and individuals alike. Managing couriers can be a tedious and time-consuming task that requires careful coordination and tracking. Online courier management systems offer a convenient and efficient solution to these challenges. This research paper presents an online courier management system developed using Django, an open-source web framework. The

system allows users to send couriers and track their progress in real-time. The system also enables staff members to view, update, and manage couriers assigned to their location, while the administrator can monitor and manage all couriers. The system's reporting feature provides insights into courier management, which can help businesses optimize their processes and improve customer satisfaction. Overall, the proposed system offers an efficient and user-friendly solution to streamline courier management processes, reducing time, effort, and errors while increasing transparency and accountability. The

following sections of this paper provide a detailed description of the system's features, design, implementation, and evaluation.

1.1 Existing-system

In addition to the lack of an online platform and real-time tracking system, the current courier system has other significant drawbacks. One of the major issues is the inconvenience it causes to the users. The requirement to physically visit the courier office can be time-consuming and may also involve transportation costs, particularly for users who live far away from the office.

Moreover, the absence of a real-time tracking system can lead to uncertainty and anxiety for the users. They may be unsure about the status of their package, its estimated delivery time, and whether it has been received by the intended recipient. This can result in unnecessary phone calls and emails to the courier service, causing a further burden on the already busy staff.

Additionally, the reliance on manual updates from the courier officer can lead to delays and inaccuracies in the information provided. If the officer is not available or is too busy to respond promptly, the user may not receive timely updates on the package's status, leading to frustration and dissatisfaction with the service. Overall, the current courier system is not user-friendly, and the lack of an online platform and real-time tracking system can cause inconvenience, uncertainty, and delays for the users.

1.2 Proposed system

I. This courier system allows users to send their courier from the comfort of their own homes without the need to visit a physical courier office. The user's data will be stored in a secured database ensuring privacy and confidentiality.

II. Users can track their courier in real-time and receive timely updates as it reaches each checkpoint.

III. The admin has the authority to update the checkpoints and track the courier's movement.

IV. The system is designed to be user-friendly, efficient, and offers a hassle-free courier experience.

V. Staff can collect the courier from the user's home and accept payments on the spot.

Overall, this system simplifies the courier process, providing a convenient and secure way for users to send and receive their packages without leaving their homes.



Fig -1: Register and login

2. SCREENS

1. End user

- Send courier
- View sent courier details
- Track courier
- Make payments

2. Staff

- Receive courier
- Take payments
- Upload courier
- Deliver courier

3. Admin

- Add staffs
- See all details
- View all couriers
- Update courier location

2.1 Flexibility

This courier system is designed to be flexible, allowing it to seamlessly integrate into any website or platform. However, users must first accept the terms and policies of the portal before using the courier system. These policies

ensure that the courier process is transparent, secure, and reliable.

Additionally, the user interface is attractive and easy to use, making it appealing for users to visit and utilize the courier system. The system is also adaptable to various courier needs, offering a wide range of delivery options and customizable features to suit individual preferences.

Overall, this courier system's flexibility enables it to cater to various user needs while maintaining high levels of security, reliability, and convenience.

2.2 Reliability

This courier system is designed with a strong emphasis on reliability, ensuring that users can trust their packages to be safely and securely delivered to their intended destinations.

The system is equipped with robust measures to minimize the possibility of lost or damaged packages. It utilizes advanced tracking technology to monitor the movement of each package and promptly notify the user of any delays or issues. Additionally, the system is regularly maintained and updated to ensure optimal performance and minimize downtime. Overall, the reliability of this courier system is paramount, ensuring that users can confidently send and receive their packages with ease.

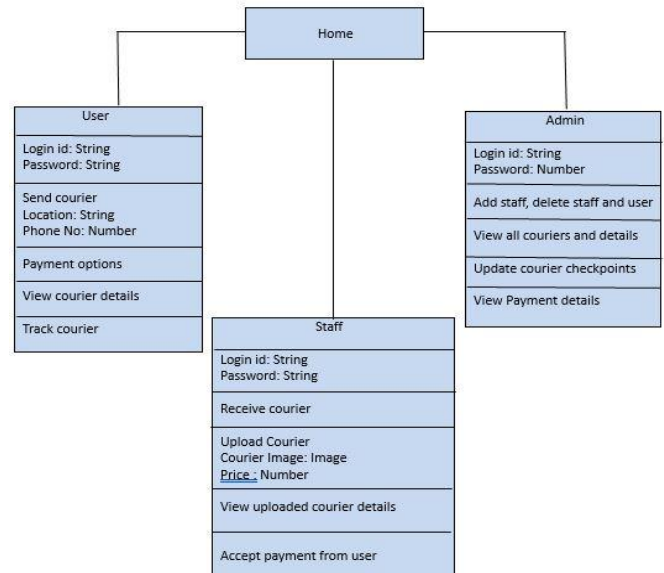


Fig -2: Flow of Admin, User and Staff

3.EXECUTION

1. User

Under the user category, users can easily register for the courier service by entering their name, password, email, and location information. (fig [1]) Once registered, users can conveniently send couriers to their desired locations, make secure payments for courier services, and track the real-time location of their courier in the system. Additionally, users can provide additional delivery instructions to ensure their courier is delivered to the right location. User data will also be protected through secure encryption to maintain the privacy of user information.

2. Staff

Under the staff category, staff members must be verified and registered by the admin before they can start receiving couriers. Once registered, staff will be responsible for receiving and managing couriers sent by users, accepting secure payments for courier services, and uploading complete courier details into the system for efficient tracking. Staff members will also be trained on the use of the courier system to ensure accurate handling of couriers and complete user satisfaction. They will be provided with the necessary tools to manage and maintain the courier service and resolve any issues that may arise.

3. Admin

Under the admin category, the admin is responsible for adding and maintaining staff data in the system for streamlined operation. Admin can also view all courier details (fig [4]) and update the courier's location (fig [3]) in real-time as needed, ensuring users are always informed about the status of their courier and can enjoy reliable and efficient courier service. Additionally, the admin can generate reports on courier data to help improve the efficiency of the courier service. They can also provide user support for any inquiries or concerns related to the courier service, ensuring complete user satisfaction. Admin will update the checkpoints of the couriers.

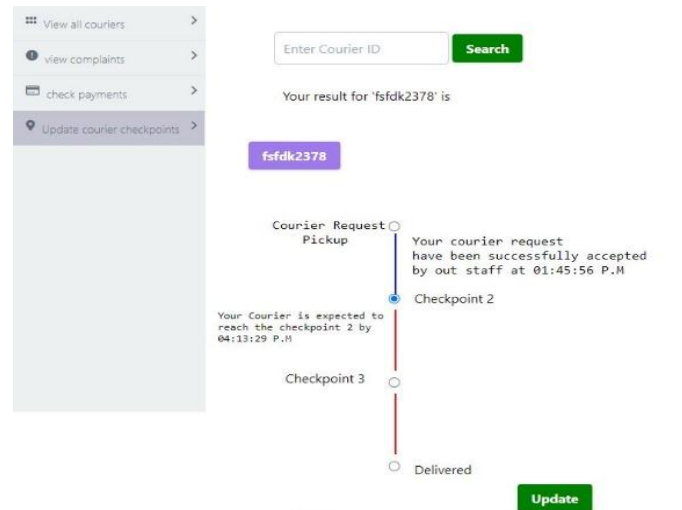


Fig -3: Update Courier checkpoints

4. INPUT DESIGN

The Django framework provides robust security features that help protect the user's sensitive information throughout the registration and login process. Django's built-in authentication system ensures that passwords are securely stored and hashed, and only authorized users can access the system. Moreover, Django's input validation and sanitization features help prevent malicious code injection attacks, such as XSS and CSRF. These security measures ensure that the user's data remains protected while using the system. Additionally, Django's support for HTTPS provides a secure communication channel between the user's browser and the server, which helps prevent eavesdropping and data tampering. Django makes it easy to enable HTTPS by providing built-in support for SSL/TLS certificates. To further enhance security, the system can incorporate additional features such as two-factor authentication, which provides an extra layer of security by requiring the user to provide a second factor in addition to their password. Furthermore, the system can implement rate limiting to prevent brute force attacks on the user's account.

Overall, by utilizing Django's powerful security features and incorporating additional security measures, the system can provide a secure and reliable courier service to its users. The system requires new users to register by providing their desired username and email address. If the username or email is already taken, the system will display a message informing the user to choose a different one. Once the user successfully registers, they can then login using their chosen username and password. After logging in, the user can access the "Send Courier" option, where

they can input the destination location and send the courier. Upon sending, a unique ID is generated and stored in the MySQLite database, which is easily managed using Django. When the courier arrives at the destination, the user is required to make a payment to the staff who retrieves the courier. The user can then view the details of the sent courier, including an image, the recipient's name, time, and location. To ensure security, the user's password is hashed and saved in the database file. Additional features that can be incorporated into the system include a courier tracking feature that allows the user to track the courier's progress and view the checkpoints it has passed. The system can also include an option for the user to rate their experience and provide feedback on the courier service. The courier service system ensures efficient and secure delivery of packages for users. After successful registration and login, users can easily send couriers from any location and track their progress using the tracking feature. Upon arrival, users can make payments to the staff and view details of the sent courier in their profile section, including an image, recipient's name, time, and location. The system is designed with built-in security features to protect against common web application vulnerabilities and ensure secure password storage, hashing, and session management. Django's powerful framework for input validation and sanitization also helps prevent attacks that attempt to inject malicious code into the application. The system offers several advantages for users, including ease of use, privacy, reduced cost and time, customized plans, flexibility in schedule, and regular updates. Admins have the ability to add new categories and videos for users to access, and can view reports on user activity, including updates on email and purchases. Overall, the courier service system provides a reliable and efficient way for users to send and track their packages, while ensuring their security and privacy.

5. OUTPUT AND ADVANTAGES

After successful payment by the user the staff will upload the details of the courier such as courier image, price received and also location. the user can check the details and verify the payment also. The user can also check the location of the courier or the checkpoints of the courier. This helps the user to track the location or movement of the courier

Advantages:

- Unique courier id
- Complete courier details
- Payment confirmation
- Tracking courier checkpoints

- Raise complaint

The staff also can see from where the user is sending his courier and also take payments from the user. the staff will upload the details of the courier after the successful payment.

The admin can see the complete details of the courier and also users who are present and details which are uploaded by the staff and also payments received for each courier. The admin must update the checkpoints of the courier which will be helpful to the user

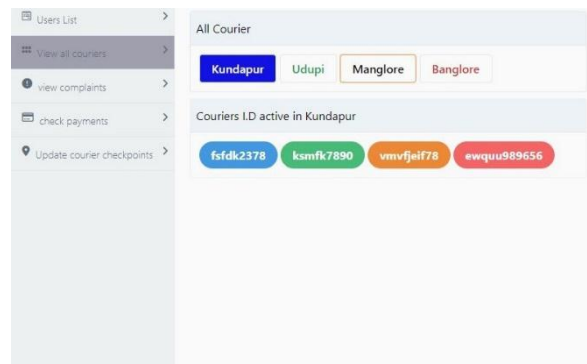


Fig -4: View All Courier

In the context of the courier service, one of the major advantages is that it provides a unique courier id to each courier, which makes it easy for the user to track the movement of their courier. Additionally, the courier service provides complete details of the courier, including the courier image, price received, and location. This helps the user to verify the payment and also provides a clear picture of the courier's journey. Another advantage of the courier service is the ability to track the courier checkpoints. This feature allows the user to know the exact location of the courier and the checkpoints it has passed through. The user can also raise complaints if they face any issues during the courier delivery process.

The staff also benefits from the courier service as they can easily see from where the user is sending their courier and take payments from the user. The staff can upload the details of the courier after the successful payment, which helps the user to verify the payment and track the courier's journey. Moreover, the admin plays a crucial role in the courier service by overseeing and managing the complete details of the courier. The admin can view the details uploaded by the staff and the payments received for each courier. Additionally, the admin must update the checkpoints of the courier, which is essential for the user to track the courier's progress accurately. In conclusion, the

courier service offers several advantages such as a unique courier id, complete courier details, payment confirmation, tracking courier checkpoints, and the ability to raise complaints. The staff, admin, and user all benefit from the courier service in different ways, making it an efficient and convenient solution for courier delivery.

CONCLUSIONS

In conclusion, the courier management system offers a secure and efficient platform for sending and receiving courier services. In light of the current pandemic situation and restrictions, the system provides a reliable solution for users who may not be able to go outside due to lockdowns or other reasons. The system offers a unique courier ID for each package, complete courier details, payment confirmation, and tracking of courier checkpoints, which enables users to keep track of their courier's location and movement. Additionally, users can raise complaints if any issues arise during the courier's transit, which can be addressed promptly by the staff. The staff can view the courier details and take payments from the user and upload the details of the courier after successful payment. The admin can view the complete details of the courier and also manage the database of users and payments received for each courier. The system is flexible and can be modified according to different rules and guidelines set by the admin. The admin can also inform users about any changes in rules or policies by putting up notifications in the system.

Overall, the courier management system saves time, effort, and cost, as users can easily send and receive couriers without any paperwork or hassle. The system is designed to be user-friendly, secure, and efficient, with a focus on meeting the requirements of users. In the future, the system can allow for further enhancement and application development to meet the evolving needs of the courier management industry.

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BIOGRAPHIES



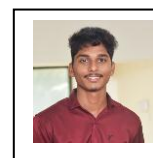
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