1. INTRODUCTION

1.1 OVERVIEW

Pinster is an exciting project that aims to create a visually appealing and interactive platform. Built on the Django framework, Pinster will enable users to register, create profiles, and share captivating content. The key features of Pinster include a robust content management system designed specifically for image uploads and categorization. Users will have the ability to search for pins based on various criteria and engage with the platform through comments and feedback. Pinster will provide a responsive interface, ensuring an optimal user experience across different devices. The project will implement scalability and performance optimization techniques to handle increased traffic and concurrent pin streams. Ultimately, Pinster aspires to deliver a user-friendly and feature-rich platform that caters to the evolving demands of users in the digital inspiration landscape. The front end of Pinster was developed using HTML, CSS, JS, and Bootstrap, while the database utilizes dbsqlite3 for efficient data management. The system leverages the inbuilt admin provided by Django, simplifying administrative tasks and ensuring seamless system management.

2. SYSTEM STUDY

2.1 PROPOSED SYSTEM

Pinster aims to provide users with a versatile platform for discovering and enjoying captivating content across various devices. As Pinterest continues to dominate online engagement and user traffic, it is crucial to understand the underlying features and technologies that power its success. Therefore, the primary goal of Pinster is to unveil the sophisticated processes involved in delivering a diverse range of content to users' devices. By comprehending the interplay of different technologies, Pinster strives to offer users an optimized and immersive experience, allowing them to seamlessly explore and save inspiring content. With its user-friendly interface and innovative features, Pinster aims to revolutionize the way users discover and engage with creative ideas, ensuring a delightful experience tailored to their interests and preferences.

3. SYSTEM ANALYSIS

3.1 REQUIREMENTS

1. ***User Registration and Authentication:*** Users should be able to create accounts, log in, and manage their profiles. Implement secure authentication mechanisms to protect user data and ensure authorized access to content.

2. ***Content Management:*** Develop a robust content management system to handle various types of content, such as images, articles, and links. Implement tools for administrators to manage content libraries, including adding, editing, and deleting content.

3. ***Content Organization and Categorization:*** Provide mechanisms for users to organize and categorize their saved content into boards or collections. Enable users to create, edit, and delete boards to suit their preferences.

4. ***Search and Filtering:*** Enable users to search for content based on titles, descriptions, tags, or other relevant criteria. Implement filters to refine search results and make it easy for users to find specific content.

5. ***Responsive Design:*** Develop a responsive and user-friendly interface that adapts to different screen sizes and devices. Ensure a seamless experience across desktops, tablets, and mobile devices.

6. ***Scalability and Performance:*** Design the application architecture to handle increased traffic and concurrent user interactions. Employ techniques like caching, load balancing, and database optimization to ensure optimal performance.

4. FUNCTIONAL REQUIREMENTS

4.1 FUNCTIONAL REQUIREMENTS

- ***User Creation***: This feature allows users to create an account on Pinster. Users will provide necessary details such as username, email, address and password to register and gain access to the platform's features.
- ***Add and Remove from Liked:*** Users can add posts to their favourites list. They can also remove posts from their bookmarks if they no longer wish to keep them there.
- ***Search Posts:*** Users can search for specific posts using keywords, titles, genres, or other relevant criteria. This functionality provides a convenient way for users to find the content they are interested in quickly.
- ***Profile Management:*** Users can manage their profiles by updating personal information, changing profile pictures, and modifying account settings. This feature allows users to customize their experience and keep their profile up to date.
- ***User Feedback:*** Users have the ability to provide feedback about the website. They can share their opinions, suggestions, or report any issues they encounter, helping the website owners improve the platform based on user feedback.
- ***Add and View Comments:*** Users can engage in discussions by adding comments to postss. They can share their thoughts, ask questions, or provide feedback .
- ***Login/Logout Functionality:*** Users can log in to their accounts using their credentials to access the website's features and personalized content. The logout functionality allows users to securely sign out and protect their account information.

5. NON FUNCTIONAL REQUIREMENTS

5. NON-FUNCTIONAL REQUIREMENT

5.1 Reliability

The reliability of the overall project depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes, Also the system will be functioning inside a container. Thus, the overall stability of the system depends on the stability of container and its underlying operating system.

5.2 Availability

The system should be always available, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs. A customer-friendly system which is accessible to people around the world should work 24 hours. In case of a hardware failure or database corruption, a replacement page will be shown. Also, in case of a hardware failure or database corruption, backup of the database should be retrieved from the server and saved by the Organizer. Then the services will be restarted. It means 24 X 7 availability.

5.3 Maintainability

A commercial database is used for maintaining the database and the application server takes care of the site. In case of a failure, a re-initialization of the project will be done. Also, the software design is being done with modularity in mind so that maintainability can be done efficiently.

5.4 Supportability

The code and supporting modules of the system will be well documented and easy to understand. Online documentation and help system requirements

6. SYSTEM DESIGN

6. SYSTEM DESIGN

6.1 INPUT DESIGN

In the input design, the user oriented inputs are converted into computer recognizable format. The collection of input data is the most expensive part of the system in terms of equipment used, time and number of users involved. Input design is the processes of converting user oriented inputs to a computer based format. The goal of designing input data is to make data entry as easy, logical and free from errors as possible.

• ***Registration Form*** - Here the customer creates their accounts using the relevant details asked to fill for and it is stored to the database and used whenever it is needed.

• ***Login Form*** - The admin, the customer login to the website, to their account using their particular username and password.

• ***Comment Box*** – User can add comments

• ***Add Likes-*** User can add likes.

• ***Message Other Users-*** User can message other users.

6.2 OUTPUT DESIGN

The goal of the output design is to capture the output and get the data into format suitable for the computer. One of the important features of an information system for users is the output it produces. Output is the information delivers to the users through the information system. Without quality output the entire system appears to be unnecessary that users will avoid using it. The output design is the key to the success of any system because it is the system relationship with the user, we must determine the information is present and arrange the information in the acceptable format that is when to display the information.

• ***Search Posts***- This button helps the user to view the postss that are added by other users.

• ***Favourites*** – User can see the Posts that are added to favourites

• ***Boards***- This section helps the user to view the new posts that are going to added by other users.

• ***Categories***- This section helps the user to view the posts by category that are added by other users.

• ***Logout***- The button that helps the customer to log out from the website.

• ***Login***- The button helps to log in to the website to purchase their product.

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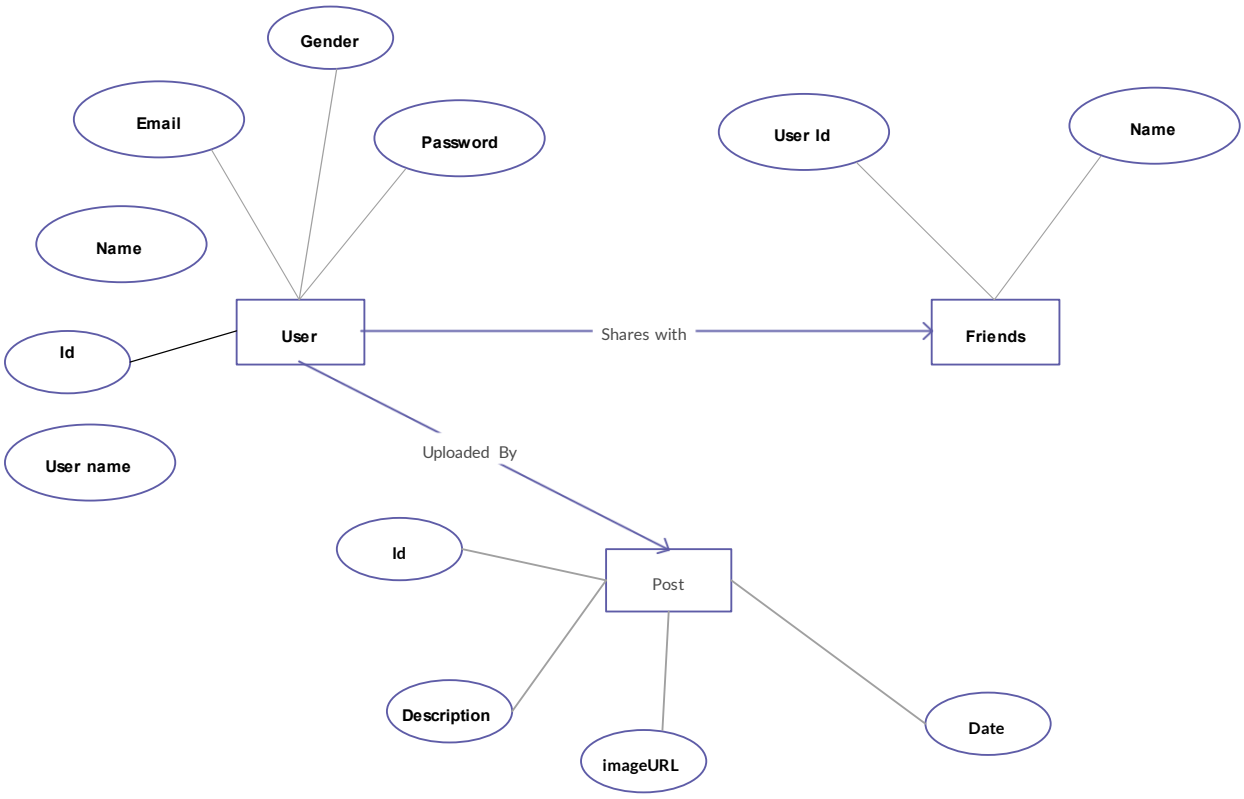
6.3 DATABASE DESIGN

6.3.1 Class Diagram



7. CHALLENGES

7. Challenges

Content Delivery: One of the primary challenges is efficiently delivering multimedia content to users. As different types of content, such as images, articles, and links, are shared, it is important to optimize the delivery process. Large file sizes, particularly for videos, can result in slow loading times or buffering issues. To address this, implementing techniques like adaptive bitrate streaming is crucial. By dynamically adjusting the quality of the content based on the user's internet connection, smooth playback can be ensured, providing a seamless and enjoyable user experience.

Scalability*:* As your user base grows, scalability becomes crucial. Handling a large number of concurrent content and serving them efficiently requires careful architecture and optimization. You might need to consider horizontal scaling by using load balancers, caching mechanisms, and database optimizations to handle increased traffic.

Content Encoding : Supporting different multimedia formats, resolutions, and bitrates is essential for compatibility across devices and network conditions.

User Authentication and Authorization: Building a secure authentication and authorization system is critical for a content management website. Users should be able to create accounts, manage their permissions. Implementing features.

Content Management: Efficiently managing and organizing content can be challenging, especially as your library grows.

Performance Optimization: Pinster requires optimization to ensure fast loading times and a seamless user experience. Performance optimization techniques for content delivery and browsing must be implemented. Strategies such as caching, lazy loading, and efficient database queries are essential to minimize latency and reduce server load. By caching frequently accessed content, users can experience faster load times for previously viewed pins or boards. Lazy loading enables the platform to load images and content as the user scrolls, improving initial page load times. Additionally, optimizing database queries ensures efficient retrieval and storage of data, enhancing overall platform performance.

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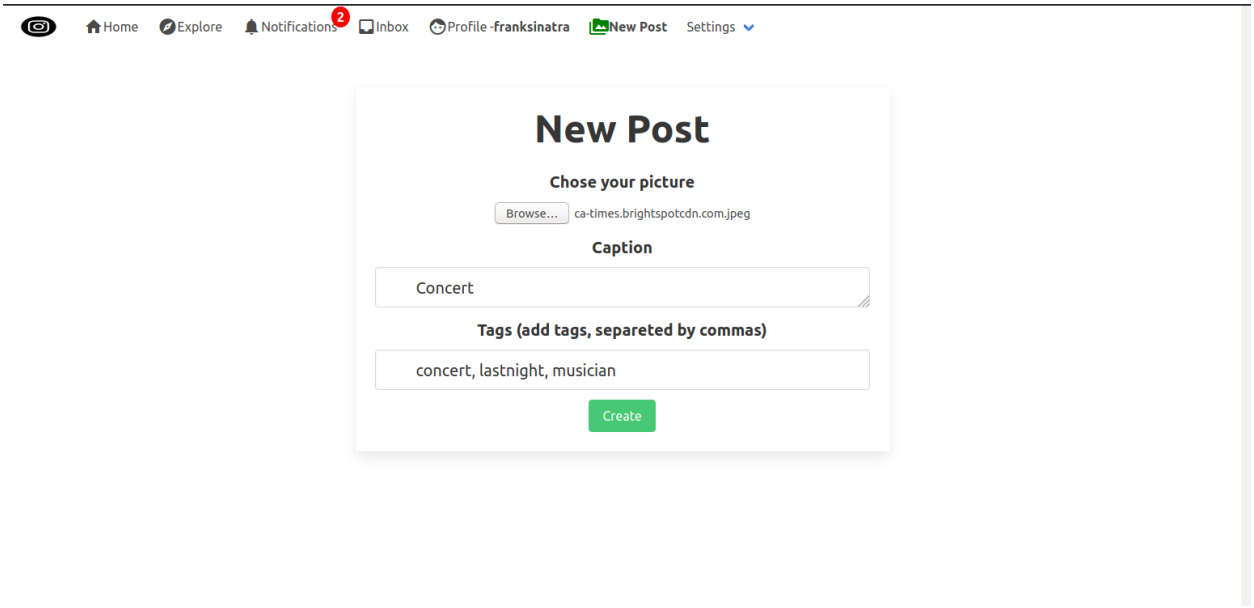
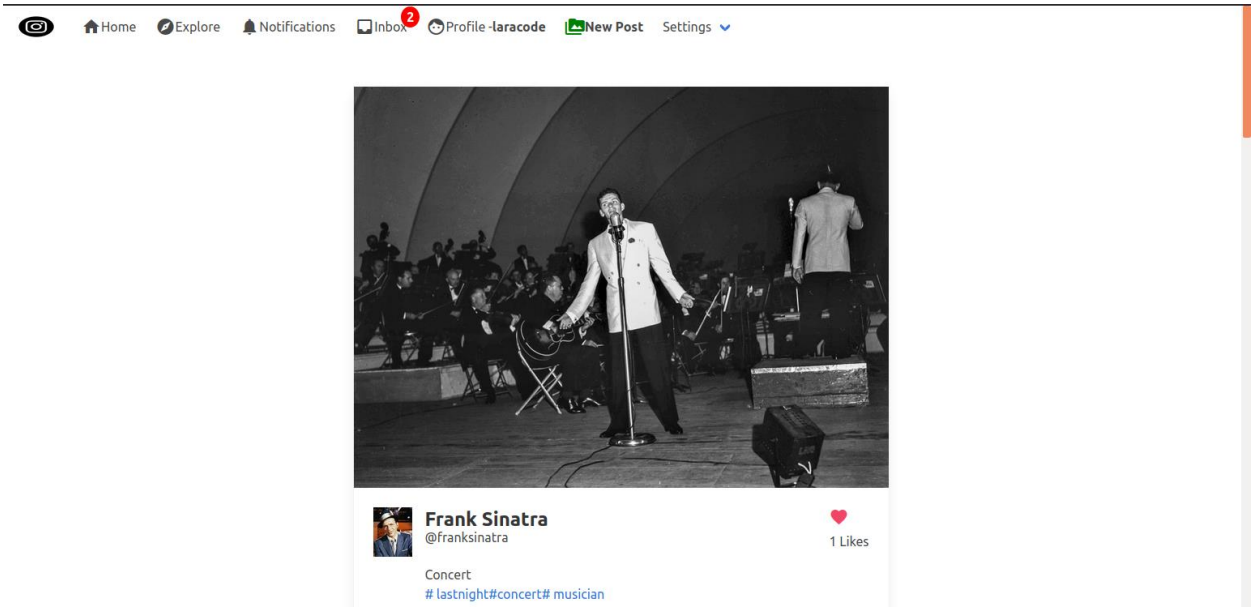
8. SCREENSHOTES

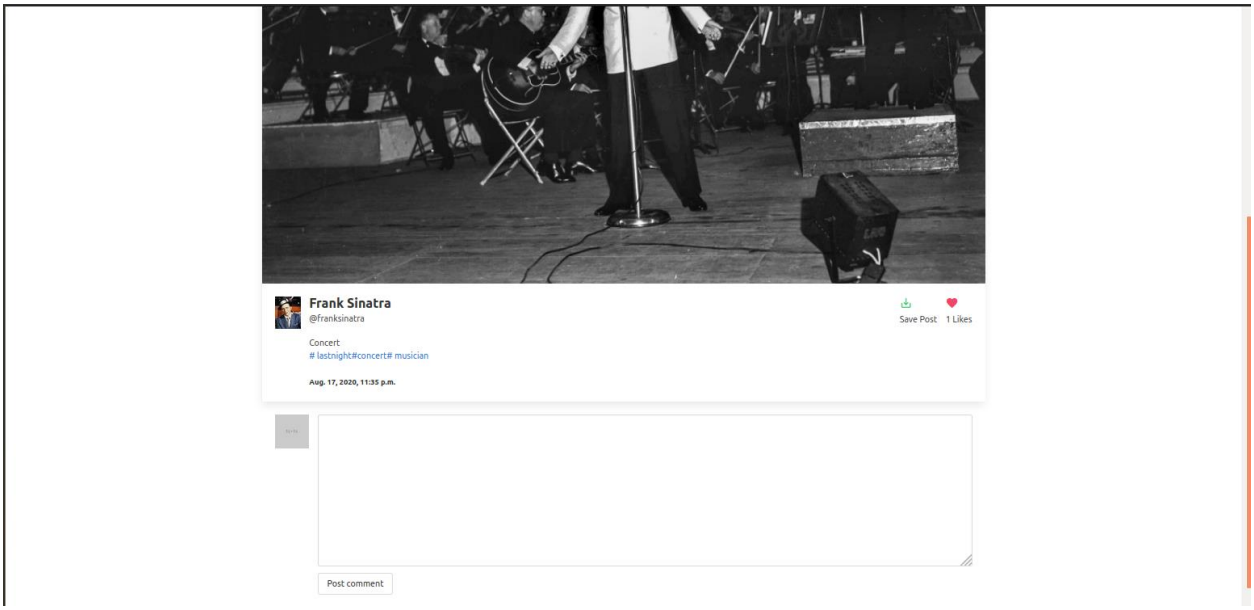
1. NEW POST


Home
Explore
Notifications
2
Inbox
Profile -franksinatra
New Post
Settings
New Post
Chose your picture
Browse...
ca-times.brightspotcdn.com.jpeg
Caption
Concert
Tags (add tags, separeted by commas)
concert, lastnight, musician
Create

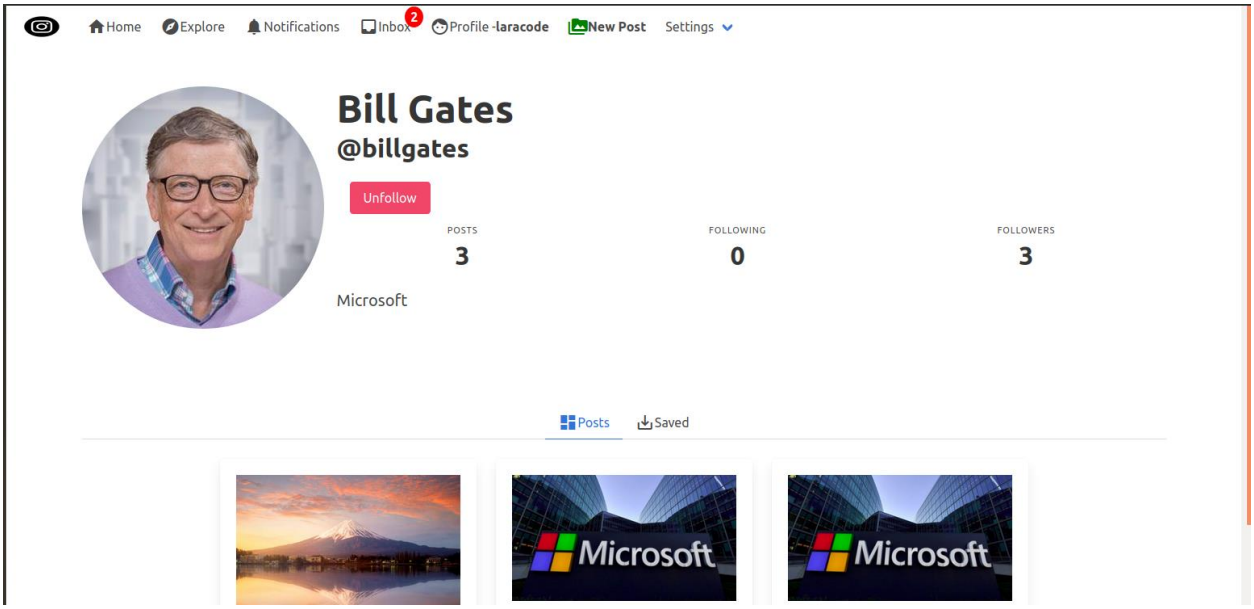
2. LIKE POST


Home
Explore
Notifications
Inbox
2
Profile -laracode
New Post
Settings
Frank Sinatra
@franksinatra
1 Likes
Concert
lastnight#concert# musician

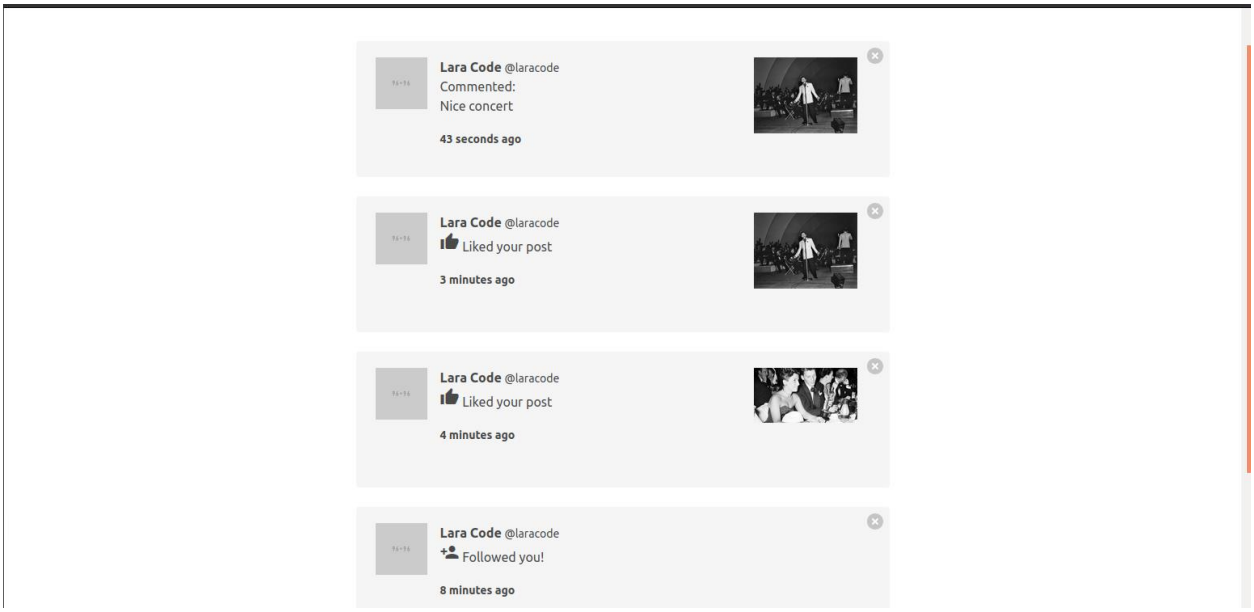
3. COMMENT


Frank Sinatra
@franksinatra
Save Post
1 Likes
Concert
lastnight#concert# musician
Aug. 17, 2020, 11:35 p.m.
Post comment

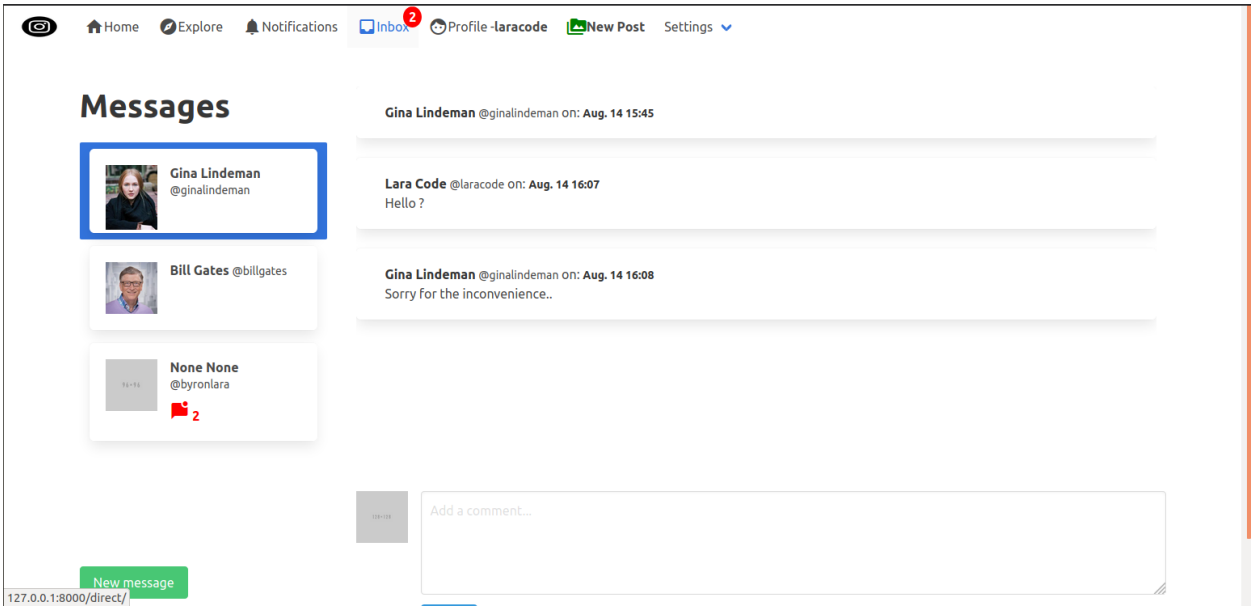
4. PROFILE PAGE



5. NOTIFICATIONS



6. MESSAGES


Home
Explore
Notifications
Inbox
2
Profile -laracode
New Post
Settings
Messages
Gina Lindeman @ginalindeman on: Aug. 14 15:45
Gina Lindeman
@ginalindeman
Lara Code @laracode on: Aug. 14 16:07
Hello ?
Bill Gates @billgates
Gina Lindeman @ginalindeman on: Aug. 14 16:08
Sorry for the inconvenience..
None None
@byronlara
2
Add a comment...
New message
127.0.0.1:8000/direct/

9. FUTURE ENHANCEMENTS

9. FUTURE ENHANCEMENTS

- ***Personalized Recommendations***: AI integration for a crisp user experience.

- ***Analytics and Insights:*** Incorporate analytics tools to track user interactions, popular content, and engagement metrics. Provide administrators with insights and reports to make informed decisions about content curation and platform enhancements.

- ***Integration with Social Media:*** Enable users to share content from Pinster on popular social media platforms. Implement social media login options for easy registration and login process.

10. CONCLUSION

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In conclusion, Pinster presents an exciting opportunity to develop a captivating platform. By leveraging the Django framework, the project can overcome challenges and create a robust foundation for delivering engaging content. Emphasizing content delivery, scalability, authentication, and content management is essential for ensuring a seamless user experience. However, to remain competitive and meet evolving user expectations, future enhancements are crucial. Incorporating features such as personalized recommendations, multi-language support, and advanced search capabilities can enhance user engagement and expand the platform's reach. Embracing emerging technologies like Artificial Intelligence, integrating interactive features, and leveraging advanced analytics will contribute to a cutting-edge user experience. Continuously evaluating user feedback, monitoring market trends, and staying abreast of industry developments will guide future decision-making and drive further innovation. With meticulous planning, technical expertise, and a user-centric approach, Pinster has the potential to become a successful and innovative platform that delivers high-quality content to a diverse audience.

11. REFERENCES

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