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Project Title: Influencer Engagement & Sponsorship Coordination Platform (V2)

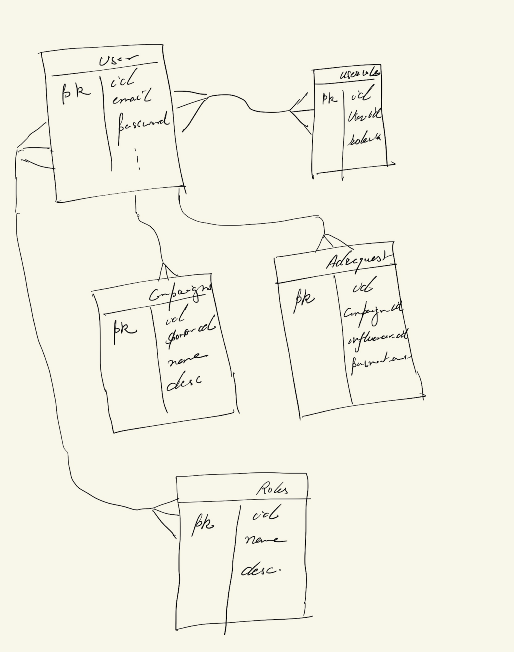
Problem Statement: This project aims to create a platform that connects sponsors and influencers for advertising campaigns. Sponsors can start the campaign and advertisements while influencers can accept the ad, negotiate or reject it. The project involves developing a web-based solution that facilitates seamless coordination between these parties, including campaign creation, advertisement management, and tracking.

Approach to the Problem Statement: To address the requirements, the platform has been designed with three key user roles: Admin, Sponsor, and Influencer. The platform provides different dashboards and functionalities tailored to each role, enabling users to manage campaigns, connect, and collaborate effectively. The project utilises a Model-View-Controller (MVC) architecture, ensuring scalability and separation of concerns. Data persistence is handled with SQLite, and performance optimisation is done via caching with Redis. Flask APIs are employed for backend services, and VueJS is used for the front end to create a dynamic and responsive user interface.

Frameworks and Libraries Used:

- **SQLite**: For persistent data storage, ensuring efficient access and retrieval.
- **Flask**: As the web framework for developing RESTful APIs to serve the front end.
- **VueJS**: For creating a responsive and interactive user interface.
- **Bootstrap**: For UI styling, providing a clean and cohesive user experience.
- **Redis**: For caching data to improve performance and reduce load on the database.
- **Celery**: To handle batch jobs and asynchronous tasks, including reminders and report generation.

ER Diagram



API Resource Endpoints

1. **/logout (POST):** Logs out the current user and clears the session.
2. **/ (GET):** Renders the home page.

3. **/user-login (POST):** Logs in a user by verifying email and password, returning a token and user details upon successful authentication.
4. **/campaign (POST):** Creates a new campaign by a sponsor (requires 'sponsor' role).
5. **/campaign/int:id/create-ad (POST):** Creates a new ad request for a specific campaign (requires 'sponsor' role).
6. **/campaign/int:campaign_id/ads (GET):** Retrieves all ads associated with a specific campaign (requires authentication).
7. **/ad-request/int:id (DELETE):** Deletes an ad request (requires 'sponsor' role).
8. **/ad-request/int:id (PUT):** Updates an ad request with the specified ID (requires 'sponsor' role).
9. **/campaign/int:id (PUT):** Updates an existing campaign (requires 'sponsor' role).
10. **/delete-campaign/int:id (DELETE):** Deletes a campaign (requires 'sponsor' role).
11. **/export-campaigns (POST):** Exports campaigns as a CSV file using Celery for asynchronous processing.
12. **/current_user_info (GET):** Retrieves information about the currently logged-in user.
13. **/change-password (POST):** Changes the password for the current user after verifying the old password.
14. **/public-campaigns (GET):** Retrieves all public campaigns, with optional filtering by niche.
15. **/search-influencers (GET):** Searches for influencers based on niche and minimum reach (requires 'sponsor' role).
16. **/my-campaigns (GET):** Retrieves campaigns created by the current user (requires authentication).
17. **/campaign/int:campaign_id (GET):** Retrieves details of a specific campaign (requires authentication).
18. **/influencers (GET):** Retrieves all influencers (requires authentication).
19. **/ads/negotiating (GET):** Retrieves all ad requests with a status of 'Negotiating'.
20. **/ads/accepted (GET):** Retrieves all ad requests with a status of 'Accepted'.
21. **/all-ad-requests (GET):** Retrieves all ad requests (requires 'sponsor' or 'admin' role).
22. **/sponsors-pending (GET):** Retrieves all pending sponsors awaiting approval (requires 'admin' role).
23. **/all-users (GET):** Retrieves all users in the system (requires 'admin' role).

Presentation Video Link: https://drive.google.com/file/d/1r4I4voGs10WED--j-PUPJrN-7r5LZlCG/view?usp=sharing

Conclusion

This project effectively bridges the gap between influencers and sponsors, offering a well-rounded solution for advertising coordination. By utilizing a combination of robust frameworks and libraries, it provides efficient campaign management, performance optimization, and a user-friendly interface. The architecture ensures a scalable and maintainable system, addressing the needs of all user roles in a cohesive manner.