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Description

A lightweight blog application. Users can create posts and follow each other. Create a single page application using Vue. All UI should be powered by Vue only. Create a REST API for CRUD for posts. Allow export of posts. Add jobs for background tasks and periodic tasks

Technologies used

- Backend Web Framework: Python Flask
- Styling: Bootstrap CSS
- Frontend Web Framework: Vue
- DB: SQLite

Python packages used:

| Name | Purpose |
|--|--|
| flask, flask-restful | Web framework that forms the base of our application. Helps to create REST APIs by providing automatic route generation, request body parsing and validation, response marshalling |
| flask-sqlalchemy, flask-migrate, alembic | ORM for Python Helps to generate migration files and perform migration |
| flask-security-too | For user registration/login/authentication/authorization |
| flask_sse | Allows us to use server side events |
| celery | Helps to manage background tasks |
| Pydfkit, jinja | To create PDF reports |
| flask_caching | Used to cache API response or other function responses |

API Design

Post API: CRUD for POSTS







Followers API: /api/followers<user_id> [only POST and DELETE]

Users/Graph API: get_user_by_id, my_followers, my_following, my_profile, user_search_by_prefix

For CSVs: download_and_delete_export_csv, export_csv, list_jobs

Architecture and Features

server/application

-  **controllers**
 -  **restful:** CRUD API for Posts and follow/unfollow api
 - **export:** triggering CSV creation job and downloading, list of all jobs
 - **feed:** returns a list of posts by the current users
 - **user_graph:** getting user profile, list of followers/following, user search
-  **database:** Models and memoized data access methods
-  **background_workers:** definition and schedules for tasks
-  **extras:** Email sending and PDF creation
-  **templates:** for daily reminders and monthly reports

frontend/src

- **components** [reusable blocks used only in other views]
 - **Navigation**: Dynamic Navbar
 - **UserSummary**: Shows a user's basic info and links to user profile
 - **PostSummary**: Snippet of post with link. Option to show user profile
 - **icons**: svgs for loading icons, follow/unfollow buttons
- **views**
 - **accounts**: Login/Signup pages
 - **posts**: View post, New/Edit post
 - **graph**: User feed/search/profile
 - **extras**: Exporting Dashboard
- **stores**
 - **userAuth**: APIs for login/signup. Handles storing/retrieving token, provides token to stores
 - **graph**: APIs to get User feed, follow/unfollow, list followers/following
 - **posts**: CRUD for posts, exporting CSV

Features Implemented:

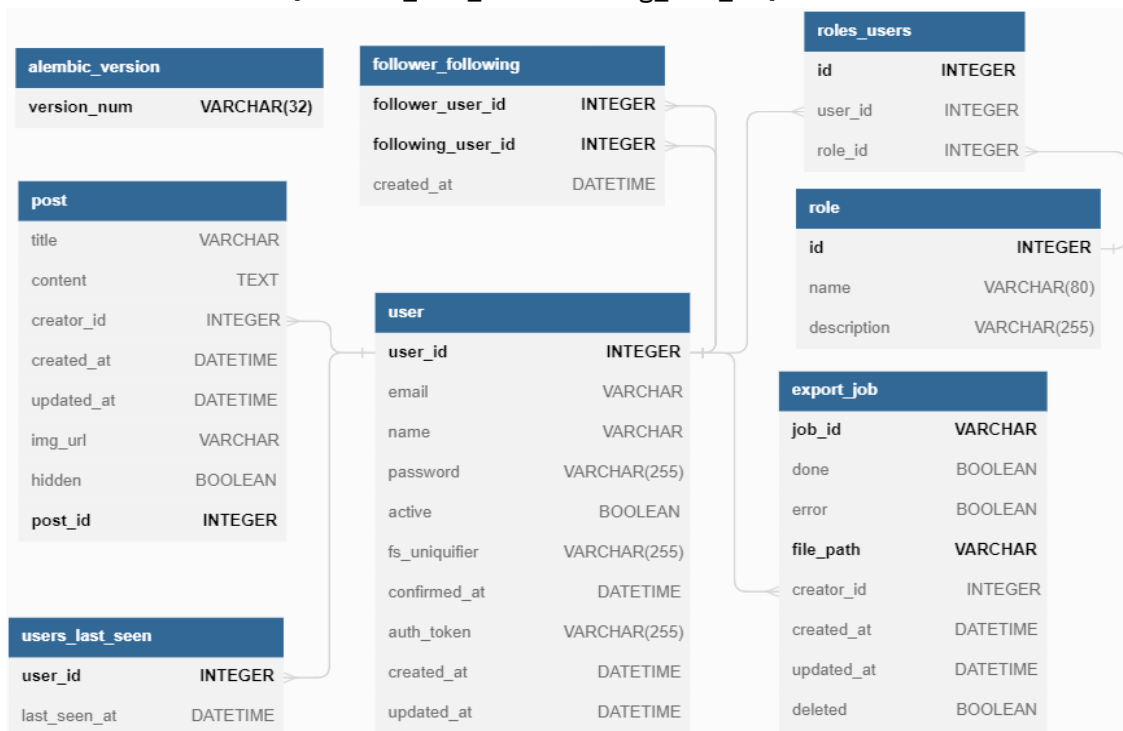
- User Signup, Login, Logout with token based authentication
- Posts - Create/Edit/Delete along with cover image and hidden feature
- Users can
 - follow/unfollow each other
 - see posts by users they follow [in reverse chronological order]
 - search users by their username [prefix only]
 - see other users' profile - all non hidden posts, count of who they follow, who follow them
 - see their own profile - all posts, who they follow, who follow them, export all their posts
- Can send monthly engagement report and daily reminders
- Import posts via CSV - CLI only

DB Schema Design

A user can create many posts [creator_id in posts]

A user can create many export jobs [creator_id in export_job]

A user can follow other others [follower_user_id -> following_user_id]



Video : <https://drive.google.com/file/d/1CSeEXJ-CBuxJ1CcDDKESoE0OCZ4-5d9A/view?usp=sharing>