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CVWO Final Writeup 2023

Source Code:
https://github.com/purivirakarin/cvwo-asssignment-2023
remarks:

 client folder: the previous (template) version of the frontend fork from Ginux Tech
 clientv2 folder: the current version of the frontend
 server folder: the backend folder
 docs: documents including the midassignment and the final writeup

Deployed Website:
https://cvwo-asssignment-2023-ikjxdl5tq-purivirakarin.vercel.app/

Frontend Learning (Phase 1):

 Even though I had almost no background in web development before working on this project, it taught me from the fundamental concept to the hands-on skills and valuable tools in building a web app. It resulted in my steep learning during the past few months. I started this journey in early December by watching tutorials for Javascript, Html, CSS, Yarn, relational databases, and Web Fundamental. This was a fun experience to learn the backbone and the basics behind websites, and it gave me further encouragement to learn more. One week after, I took a look and worked on a basic git operation, typescript tutorials, and many more website crash courses by writing codes following online tutorials, which gave me more understanding of how things connect and work in web development. Moreover, I watched crash courses online on HTML, CSS, js, MongoDB, Nodejs, and mainly frontend developer fundamentals. While this was an overwhelming experience and might not help me much in the beginning, it gave me a deeper understanding of the fundamental structure and concept of how website work, tools, and techniques. After a few projects I tried, I went through more frontend development tools such as TailwindCSS and Mantine, which made me view things in frontend development much more simpler. After tons of crash courses, I looked into it; I have learned more about different hooks and understand how each works.

Backend Learning (Phase 2):

 After a long front-end journey, I started to learn more about backend development. I began by searching for differences between Ruby and Go and came to a conclusion to work on Go because Ruby seems outdated and slower than Go. Although writing Go is considered more complex than Ruby, I decided on this path to challenge myself and thought that Go would be more beneficial to my upcoming projects. Then I looked deeper into Go, such as React x Go projects, JWT Authentication, and Simple Todo apps by several YouTubers.

Full-stack Learning (Phase 3):

 Although I have watched several crash courses previously, I merely understood the entire process. Therefore, I went to web dev online tutorials again, for example, Todo App by React and Golang, Forum App by React, MUI, and NodeJS. I also went to some react necessary concepts, React Router, and worked on more Mantine and TailwindCSS to familiarize myself with them.

Working on the Project (Phase 4):

 After more than a month of learning phases, it came to me to work on this project. I initially planned to use Mantine to ease my frontend development process, but I have changed my mind about using TailwindCSS instead. This is because the elements written

by TailwindCSS allow me more rooms to customize and edit them. For the Backend, the project structures were inspired by the Ginux Tech forum tutorial. However, the original project had only the basic API for posts (Get Post Delete) and basic user authentication. The authentication process originally stored the user id locally, which is not secure; therefore, I changed it to jwt. I have also added more API for comments and checking the user's identification in each action. To be more precise, only the owner of the posts/comments can edit their own posts/comments. I also created useUser API for identification purposes to allow frontend to check the user identity (e.g., to show the edit button for the post/comment owner, to hide "My Post" and "Create a new Post" buttons in the Navigation bar if the user has not logged in).

Finalize the Project (Phase 5):
        I was adjusting the API between the middleware to allow access to non-login users and login users correctly. In addition, I modified the correctness of the frontend by adding some missing elements and buttons. I also deployed the Frontend to Vercel and Backend to Heroku. Lastly, I changed my database from local to PlanetScale for Production purposes.

Reflection:
        Building this project was a fun and challenging experience for me. I have learned many new topics and programming languages. I also gained more coding skills besides competitive programming and deep learning, which opened more room for me to develop my skills. From this point, I have understood, to some extent, web development and feel proud of myself for making this project successful. To grow things further, I hope to have a chance to work with more skillful people to horn my skills further and make a bigger impact on others.

User Manual:
1. App Navigation
        Navigation Bar
        - The navigation bar consists of HomePage, My Post, Crate new post, and Log Out buttons (with the current username on the left of the Log Out button) when the user has already signed in. On the contrary, there are only HomePage and Log In buttons.
        HomePage (https://cvwo-asssignment-2023.vercel.app/)
        - The HomePage shows all the posts in the forum and includes the dropdown filter feature to display only the specific category.

 2. User Authentication
        New User (https://cvwo-asssignment-2023.vercel.app/register)
        - Sign up by clicking the login button at the top-right corner in the navigation bar. Afterward, click "here" in Don't have an account? Register here. Then, fill in the desired username and password and click the register button for confirmation.
        - After the registration, the website will redirect to the Login page.
        Log in to the existing User (https://cvwo-asssignment-2023.vercel.app/login)
        - Login by clicking the login button at the top-right corner in the navigation bar. Then, fill up the username and password and click "Log In" for the confirmation.
        - After the login process, the website will redirect to the HomePage.
        Log out from the current user
        - Click on the "Log Out" button at the top-right corner of the navigation bar.

3. Managing Posts

Read the post

- Posts by all users can be accessed from the homepage by clicking the "CVForum" button at the top-left corner of the navigation bar.
- Posts by the logged user can be accessed from the MyPost page by clicking "My Post" in the navigation bar at the top of the website.
- Posts' descriptions listed on HomePage and MyPost pages are shorter. To view the full version, click on the post's card, and you will be navigated to the page for an individual post.

Posting, editing, deleting a post

- To create a new post, click "Create new post" on the navigation bar, and you will be directed to the create post page. Afterward, fill in the post's title and description, and select the tag of the post. Then, check the correctness of the post before clicking on the post button for confirmation. However, if the user intends to abandon the post, they can click on the cancel button and will be directed to the MyPost page.
- To edit a post, in the individual post page "/singlepost/:id," if the user is the owner of the post, they can click the "Edit Post" button on the top right corner of the post and will be directed to the Edit Post page. Then, kindly edit the post title and description and select the new desired category. Then, click the "Edit" button for confirmation; then, you will be directed to the My Post page.
- To delete a post, in the individual post page "/singlepost/:id," if the user is the owner of the post, they can click the "Edit Post" button on the top right corner of the post and will be directed to the Edit Post page. Then, click on the "Delete" button, and will be directed to the My Post page.

4. Managing comments

Read the comment of a post

- Click on the post to be read in order to go to the individual post page. Then, all the comments on the post will be shown at the bottom of the post.

Posting, editing, deleting a post

- To create a new comment, go to the individual post page, and the comment box to be written is in between the bottom of the post description and comments that have been already written. The user has to fill in the comment and click the "Post" button for confirmation.
- To edit a comment, go to the individual post page, and click the "Edit" button on the bottom right corner of the comment to be edited. Then, fill in the new comment in the text area shown. Afterward, click the "Done" button for confirmation.
- To delete a comment, o to the individual post page and click the "Edit" button on the bottom right corner of the comment to be deleted. Then, click on the "Delete" button for confirmation.

5. Filtering Posts

Filtering the posts by all users

- Go to the Homepage by clicking the "CVForum" button on the top-left corner. Then Click the dropdown list after "Category"; then select the desired category of posts to be shown in the feed.

Filtering the posts by the current user

- Go to the My Post page by clicking the "My Post" button on the navigation bar. Then Click the dropdown list after "Category"; then select the desired category of posts to be shown in the feed.