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Review each of your objectives and explain if you met that objective and how you met that objective or if you did not meet that objective and why.

My project is to build a personal blog using Spring Framework. I got the following primary goals:

- Have an administrator login page.
- Build subsystems for the administrator to manage blogs.
- The administrator can add, edit, and delete posts and comments.
- Other users can view the homepages of the blog.
- If users sign in, they can make comments under posts.

For this blog system, I didn't build the administrator and user login page separately. Instead, I use a database to save user information and roles. Therefore, administrators and users all have the same pages. Once they logged in, I used Thymeleaf to show or not show buttons, selections, and so on based on the roles of the user.

- If the administrator logged in, the admin can add, delete posts.
- Visitors can see all the pages available, they can choose to register to make comments.
- Registered users can make comments under the post.

I didn't complete any of my secondary and tertiary goals.

If you had more time, what else would you do?

- 1. I would explore more ways to test during the implementation process. I only used the Postman service to see if web requests are handled correctly.
- 2. Build error pages or reminders to show users what's wrong. I should have at least built those things, but I got too many bugs during the process...
- 3. Implement the rest goals.

What did you learn from this project?

I learned a great deal from the project. At first, I didn't know anything about the front-end techniques and spring framework. So, I started on building a single static web page to see how it works.

After knowing the basic concepts of Spring, I built databases for posts and comments and have the corresponding controllers. Although I have a user database at that time, it doesn't do anything. Anyone can do the same operations. During this time, I also learned basic HTML and CSS stuff and build my initial HTML pages, which is the view part for my project. So this was a new way for me to test connections rather than simply using Postman.

Then I implemented a users database, and use Thymeleaf to show different things on the same page based on roles on users. Also, how to use spring security to register, log in, and log out took me a great deal of time.

Beyond the tech stacks I used, I got a deeper understanding of how the MVC design pattern works and where to start for similar projects in the future. What's more, how to identify bugs and find solutions are what I have learned as the essential skills for programmers.

Do you feel you would have done better or would you have preferred a structured project instead? Explain.

I like my project pretty much and I think I would have done better if I had more time or more instructions on this one. Because most TAs don't have a similar project experience, I only got broad help on this one. I had a long hard time trying to understand all the concepts and implementations because of many unknown bugs. I have watched many tutorial videos and learned from other's blog systems on Github.

If given a structured project, it would be easier for me to get help and make sure I'm always on the right track. But having such experience really helps me to know how to build a project from scratch and how to find useful resources online.

What grade do you feel you deserve on this project? Explain.

85%. I think the unfinished goals, error checking, and error pages for web requests are worth 20% of the project. However, I think I have tried my best for the rest and deserve 5% bonus points.