

SnapSort App

1. Content of the Task

The SnapSort app is a photo management application that allows users to organize and sort their photos into albums. The app provides features such as creating albums, uploading photos, adding tags to photos, renaming albums, and more. The main goal of the app is to provide users with a convenient way to manage their photo collections and easily search for specific photos based on albums and tags.

2. Design Analysis and Architecture

The SnapSort app follows a client-server architecture, where the frontend and backend are separate components communicating over HTTP. The frontend is built using Next.js, a popular JavaScript framework for building server-rendered React applications. Next.js enables server-side rendering, routing, and API handling, providing a seamless user experience.

On the backend, the app utilizes the Spring Framework, specifically Spring Boot, a Java-based framework that simplifies the development of robust and scalable web applications. Spring Boot provides a comprehensive set of features for building RESTful APIs, handling database interactions, and managing application dependencies.

The backend follows a layered architecture, separating concerns into different modules. The application layer handles incoming requests, performs validation, and orchestrates business logic. The service layer encapsulates the business logic and interacts with the data access layer, which communicates with the database. The app uses an appropriate database system MySQL to store and retrieve photo-related data.

3. Technologies Used and Justification

The technologies used in the SnapSort app are:

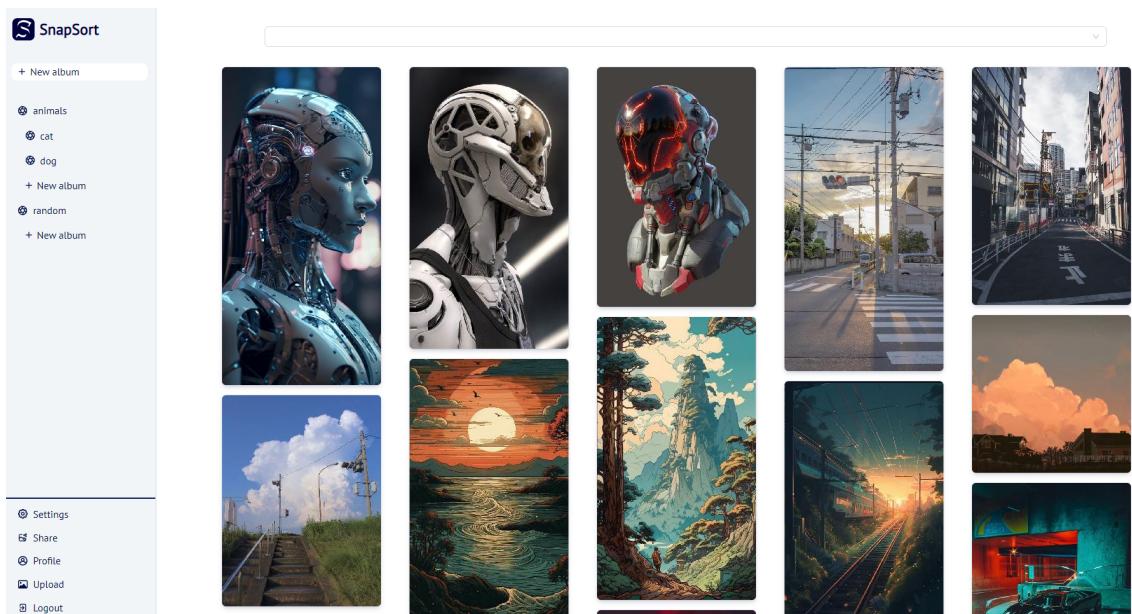
- **Spring Java:** Spring is chosen for the backend due to its extensive ecosystem, which provides powerful features like dependency injection, transaction management, and security. It offers excellent support for building RESTful APIs and integrates well with databases like MySQL.
- **Next.js:** Next.js is selected for the frontend because of its server-side rendering capability, which improves performance and SEO. It simplifies the development of React-based applications by providing features like automatic code splitting and hot module replacement.
- **MySQL:** MySQL is used as the database for SnapSort to store user information, albums, photos, and tags. It is a widely-used relational database management system known for its reliability, scalability, and performance. MySQL provides

ACID-compliant transactions and supports complex queries, making it suitable for data-intensive applications like SnapSort.

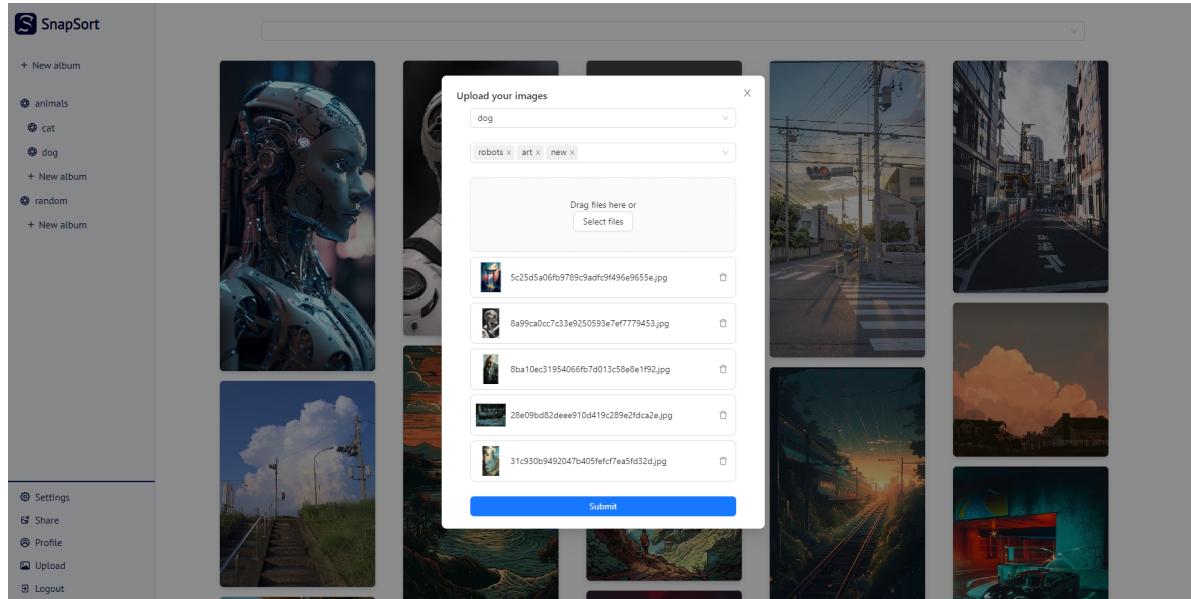
- **Blob Storage:** SnapSort stores images as BLOBs (Binary Large Objects) in the database. This approach simplifies the management of images by eliminating the need for separate file storage and ensuring data consistency. However, it's worth noting that storing images as BLOBs can impact database performance and scalability in large-scale applications.
- **Ant Design:** Ant Design, a UI library based on React, is utilized for building the frontend interface of SnapSort. It offers a rich set of customizable and pre-built components, which accelerates frontend development and ensures a consistent and visually appealing user experience.

4. External Specification (Screenshots)

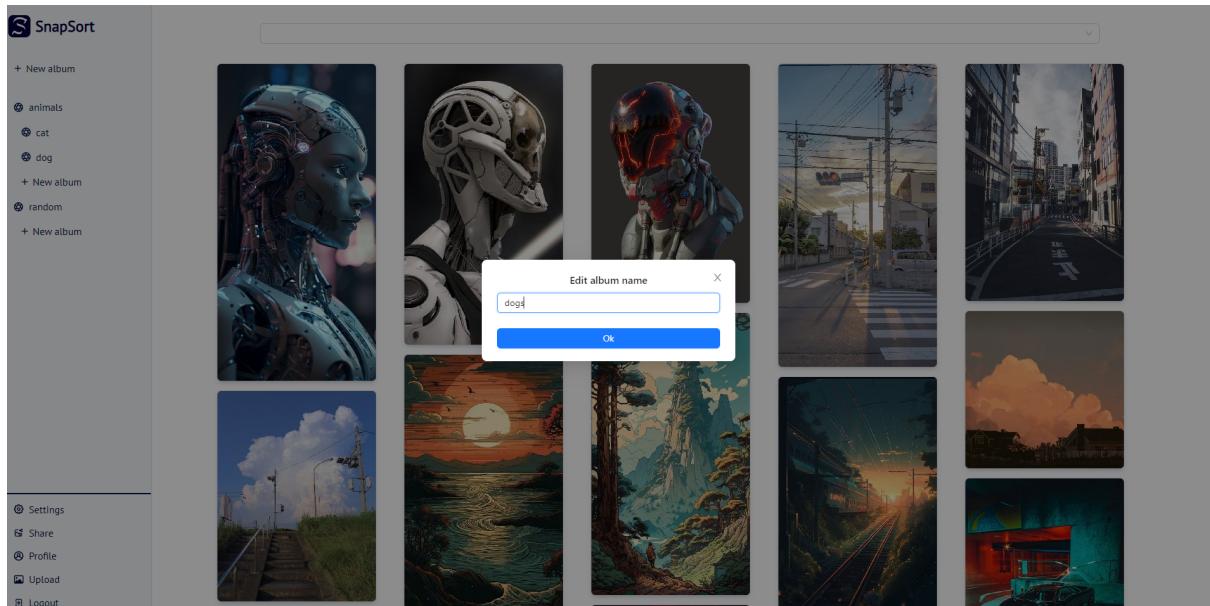
Here are some screenshots of the SnapSort app:



The SnapSort app homepage displaying albums and photos.



Uploading multiple photos with tags and associating them with an album.



Renaming an album using the app's interface.

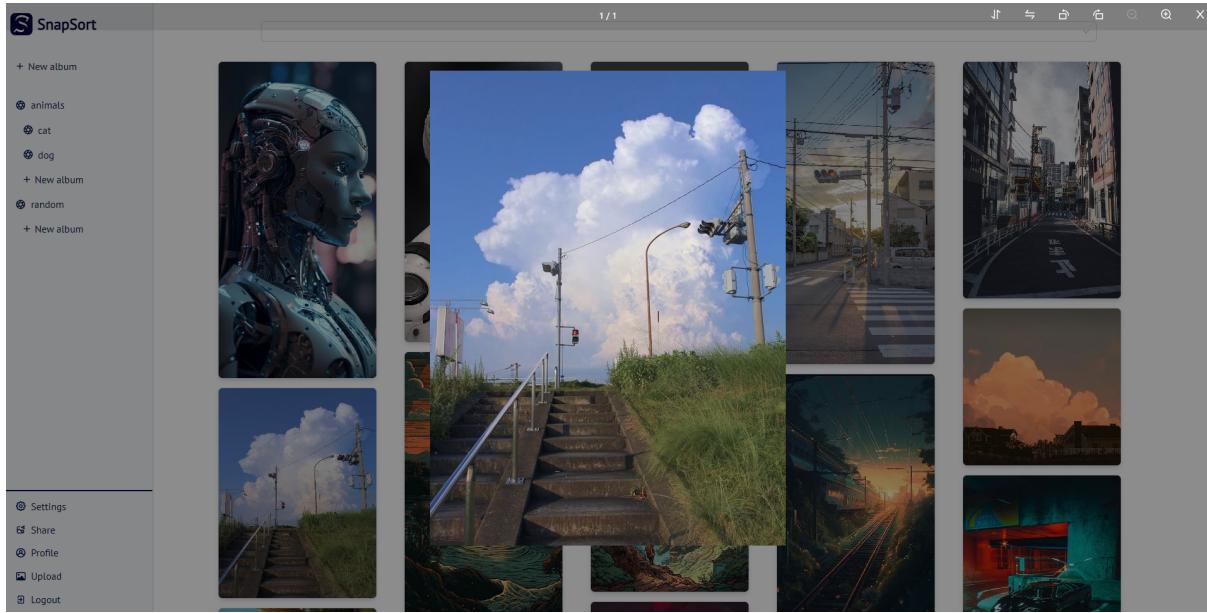
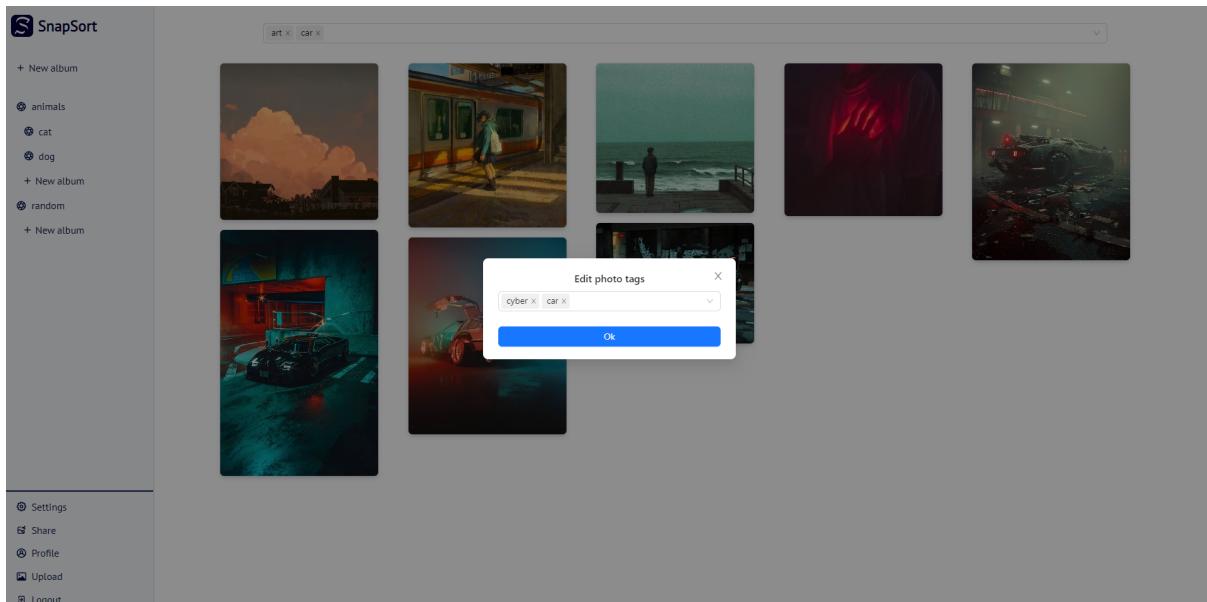


Photo view



Change of tags for photo

5. Conclusions Summary

In conclusion, SnapSort is a photo management application that provides users with a convenient way to organize and manage their photo albums. The app utilizes Spring Java for the backend and Next.js for the frontend, leveraging the strengths of these frameworks to deliver a robust and user-friendly experience.

The use of MySQL as the database ensures data persistence and allows efficient retrieval and storage of user-related information. Storing images as BLOBs simplifies the management of photos within the application, although considerations should be made for scalability and performance in large-scale deployments.

The adoption of the MVC design pattern in the backend architecture promotes code organization, reusability, and maintainability. The frontend design is facilitated by Ant Design, which offers a wide range of pre-built components and a consistent visual style.

Overall, SnapSort provides users with an intuitive interface for organizing their photo collections, making it a valuable tool for photo enthusiasts and individuals who want to