Main Technologies

Front-end

- React https://react.dev/learn
  - React is a popular and widely adopted JavaScript library that offers numerous benefits, making it a valuable skill for future job opportunities.
  - It is very convinient for use to create interactive user interface with React.
  - Why choose it compared with Vue:
    1. Team experience: The team's front-end developers are more familiar with React.
    2. Flexibility: React's design philosophy favors providing more flexibility, while Vue provides a more guided solution.
- Antd Ant Design of React - Ant Design
  - AntD can let us reuse some of the basic components.
- Scss Sass: Syntactically Awesome Style Sheets (sass-lang.com)
  - Choosing SCSS for styling enhances code maintainability and modularity through its powerful features like variables, nesting, and mixins.
- pnpm Fast, disk space efficient package manager | pnpm
  - Its performance surpasses that of npm and yarn
- echarts Apache ECharts
  - Selecting ECharts enables visually appealing and interactive data visualization for effective communication of insights.
  - Why choose it compared with javascript:
- Node Node.js (nodejs.org)
  - Node.js is chosen for its efficient, event-driven architecture, enabling high-performance server-side applications and unified JavaScript programming.
- Nextjs Next.js by Vercel - The React Framework (nextjs.org)
  - Selecting Next.js accelerates web development with built-in SSR, routing, and automatic code splitting, enhancing both user experience and SEO.
- typescript TypeScript: JavaScript With Syntax For Types. (typescriptlang.org)
  - It can enhance code robustness and maintainability.
  - Why choose it compared with javascript:
    - Static type checking: This is a core feature of TypeScript. The static type system can catch many errors at compile time that would be difficult to find in a normal JavaScript runtime.
    - Higher maintainability: type information and tooling support can make large code bases easier to maintain and refactor.

Back-end

- Java + SpringBoot https://spring.io/blog/2022/05/24/preparing-for-spring-boot-3-0
  - This is the framework used to build the back-end server
  - The back-end developers have experience with Java spring boot framework.
- MyBatis https://mybatis.org/mybatis-3/
  - The tool to manipulate the data base
- Mysql https://www.mysql.com/
  - We are going to use Mysql as our database, as our application is more suitable with using relational database.
- Spring security https://spring.io/projects/spring-security
  - Provide the validation of the user authentication
- Api Fox https://segmentfault.com/a/1190000041005164/en
  - The GUI toll to test api