**Research and Development** Technical Test

**LL20-2** – Lionel Ritchie

Application and technology design

**Application**: Food recipe app

**Database:**

1. 1 **recipe** could have **many images** <-> 1 **image** belong to 1 **recipe**
2. 1 **recipe** could have **many nutritions** (carbohydrate, protein, dll with different amount for each nutrition) <-> 1 **nutritions** could included in **many recipes**
3. 1 **recipe** could have **many steps to make** <-> 1 **step** belong to 1 **recipe**
4. 1 **recipe** could have **many tags** (western, italian, dll) <-> 1 **tag** could be used by **many recipes**
5. 1 **user** could save **many recipes** <-> 1 **recipe** could be saved by **many users**
6. 1 **user** could own **many recipes** <-> 1 **recipe** owned by 1 **users**
7. 1 **recipe** could be rated by **many users <->** 1 **users** could rate **many recipe**

**Technologies and Libraries**:

1. **Front End**: Svelte (<https://svelte.dev/>)

*Consideration*: Svelte does not use virtual DOM, it compiles the code directly to vanilla js then serve it to browser, making it fast. Svelte is also still maintained and have good community.

1. **Back End**: Hasura (<https://hasura.io/>)

*Consideration*: Hasura could makes relational database like Postgres to a graphql based on the postgres schema. It will automatically determine relationship between each table and make graphql schema from it. It is also have Hasura cloud, so the database is automatically hosted (with heroku). This is very useful because graph is very readable and I do not to resolve each query / mutation manually.

1. **Text Autocomplete Library**: Svelte Typeahead (<https://metonym.github.io/svelte-typeahead/> )

*Consideration*: One of the recipe app’s main feature is its search function, because people will search for the recipe he/she want to cook. So, by using this text autocomplete library , the development of this app will be faster since I only need to provide data to it, and the library will do the rest.

1. **File upload library**: Filepond with Svelte adapter ([https://pqina.nl/filepond/](https://pqina.nl/filepond/?ref=madewithsvelte.com#profile-picture-code))

*Consideration*: Filepond could make the ui / ux of uploading file really satisfying. It automatically show the preview of user uploaded image. This feature will be used for adding recipe. The library will also automatically get the uploaded file and pass it using POST to specified route.

**Features:**

1. **Home**

* Show some top rated recipe from backend (fetch with apollo to hasura)
* Show a text input to search with autocomplete using Svelte Typeahead (data will be fetched from hasura graphql endpoint according to user input)

1. **Recipe detail**

* Show detail of the recipe including images, nutritions, and steps to make
* User could save the recipe from this page.
* User could rate the recipe from this page.
* The recipe owner could update and delete the recipe from this page.

1. **Add recipe**

* User can add recipe from there
* The image upload input will use filepond library with svelte adapter.

1. **Update recipe**

* User can update their owned recipe from this page.
* Will looks exactly like add recipe page

1. **Login / Register**

* Will show a form to login / register

1. **Admin page**

* Admin could view all the posted recipe and its detail from this page.

Notes:

* All CRUD operations to database will use apollo client to interact with graphql from Hasura.