Full-Stack Engineer - Take Home Assignment

Context

- The aim of this exercise is to understand your _technical skills_, _communication / collaboration style_ and _ways of working_.
- To do this, we will ask you to build a simple app.
- Feel free to send through any clarifying questions you have whilst working through it. We will reply as soon as we can, so you can factor our responses into your thinking.

Take-home task

Summary

Part 1 - Coding task
- You are tasked with creating a React app that matches the design provided.
  - A simple design system can be found on this [Figma file](). You can download the [font file]() too.
  - You can choose what to use from the design system but it is important that the app matches the look and feel of the client.
- The app allows users to select and save their favorite dog breeds, displays a random dog image for each of those breeds using the https://dog.ceo/dog-api/, and allows users to like the photos.

Part 2 - Written task
- You will need to provide a written explanation of how you would refactor the solution. (!) Only a written explanation will be required.

Part 1 - Coding Task

- Create a React app that matches the design provided. You have creative control over the app flow, as long as it matches the look and feel of the design system.
- The app must have the following functionality;
  - Firebase Auth sign up with email and a password and logout
  - View and Select and save their favorite dog breeds (up to 3 breeds) - data should be sourced from https://dog.ceo/api/breeds/list/all
  - Navigate to the "View Feed" section and display a random dog image for each of the user's favorite dog breeds, and allow users to like a photo.
    - The data should be stored in Firestore.
  - You do not need to implement a solution for managing breeds, The user will simply select 3 breeds then view the feed of random dogs and logout.
  - The React App is expected to connect directly to Firestore using the Firebase client SDK /JS Libraries

- Deploy the solution on the free Firebase tier and send a link to the deployed app.
- Include a link to your GitHub/GitLab/Bitbucket repository that contains the code.

Written Task

- Provide screenshots of example Firestore documents to show the data structure of your app, please explain how and why your solution above is secure.
- Provide a written explanation of how you would refactor the solution to include a Node.js Firebase function that connects to the dog.ceo https://dog.ceo/api/breeds/list/all API endpoint and fattens the data into a single array of strings.
    - What type of things you would think about in this task and why.
    - You don't need to provide the code/or completed task, we are looking to understand if you have a low/med/adv level of understanding working with NodeJS.
- Write an explanation of your unit test approach, including an example of one unit test you would write, what parts of the code you would test, and why.

How your task will be evaluated

Your solution will be evaluated based on the following criteria (in order)

1. It works on the provided firebase web URL and when run locally
2. Look and feel: Ability to accurately implement the look and feel provided by the client.
3. React development skills: Good React development skills, and a functional app.
4. Git practices: Good Git practices, including small, meaningful commits.
5. Firestore/Firebase skills: Ability to work with Firestore and Firebase.
6. Firestore security: are things stored in a way that is secure and follows best practices
7. Node.js and Firebase function skills: A clear and concise explanation of how you would refactor the solution to include a Node.js Firebase function that connects to the dog.ceo API endpoint.
8. Unit tests: A clear and concise explanation of your unit test approach, and an example of one unit test you would write, what parts of the code you would test, and why.
9. Firestore data structure: Clear and well-structured Firestore documents.

Note: Your Firestore/Firebase skills are not expected to be perfect, as you can learn on the job. However, it's important to show a good understanding of the concepts, and understand why we would use this technology.

Next steps

- Task review by Needle

needle

- ○ We will review your document to confirm it's in line with how we like to think/work at Needle.
- ○ We will complete the review within a week of you sending it through.
- ○ **Note:** we may ask some additional clarifying questions. If we do, we will give you additional time to consider and send through your response.
- ○ If the task review is successful, you will proceed to a technical round call.