Understanding NYUAD with a Word Cloud

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Decoding Nature
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1. Background

Decoding nature is a course in the interactive department where students learned how to analyze the nature and visualize or understand by decoding what there is and what happened. We dive into the algorithms to understand the process of how things work and we try to use them to visualize based on its application- we decode, to code. With this, we gained the ability to understand the past and the present and to have a glimpse of what the future might be like.

As this course was heavy in other natural science like chemistry or physics, it was hard for a student like me to fully grasp the algorithms and the knowledge behind the natures we analyzed. So, when I was thinking about my final project, I decided to decode a nature that is very close to me, so close that I am actually part of it- New York University Abu Dhabi (NYUAD).

NYUAD puts forth diversity as one of its biggest strengths. Having diversity means that we are in an environment where even in the same situation or problem, we translate it and understand it in different ways, coming up with uncountable approaches of solutions.

Along with being diverse, NYUAD is a place full of debates and conversations. New issues come up everyday in our community- from social issues to internal campus issues. The speed and amount of conversation and ideas that pour out is so great that it's hard for us to keep track of these ideas.

From these thoughts, I set 2 objectives for my project. I decided that my project

(i) keep track of all the different ideas that pour out
(ii) should visualize how diverse our community's ideas and opinions are.

2. Idea

In this project, the system throws different keywords at the users. The users will be able to see those keywords and give inputs of what comes up to their minds regarding

the keyword. These will be stored and be displayed as a word cloud. If an idea is mentioned numerous time, the fonts of that idea will increase more and more. A word cloud of such algorithm will show what thoughts are overlapping and what ideas are unique.

In order to achieve this, I designed my project as below:

(i) A display screen will show a word cloud of a keyword

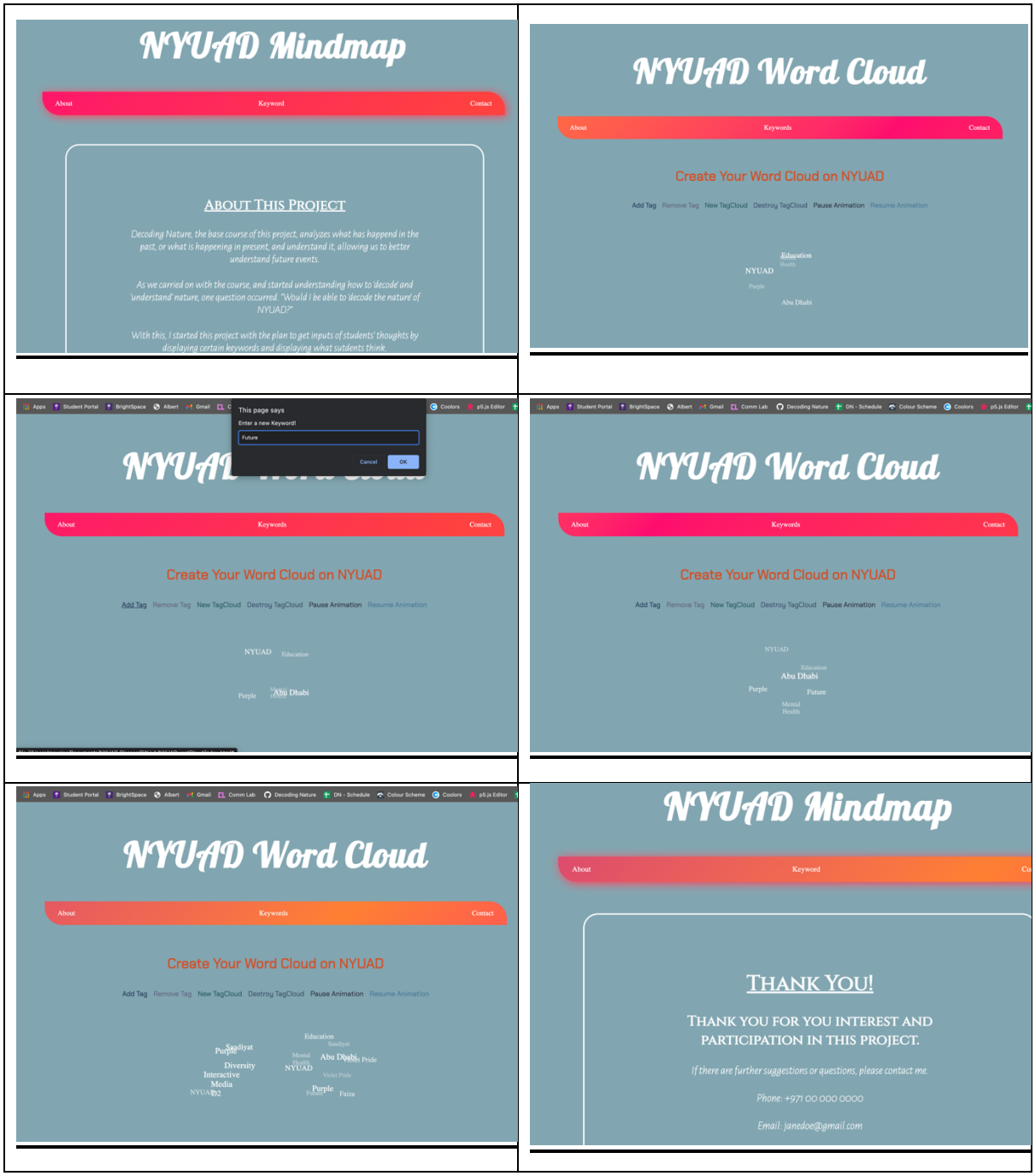
(ii) The keyword will be at the middle of the screen, and the input ideas will float around the keyword

(iii) When the input word is mentioned for the first time, it will appear on the screen with the basic font size

(iv) If the input word has been mentioned before, the already displayed word will get bigger in font size

(v) Overall, users will be able to figure out which ideas have come up numerous time and which ideas are unique based on this visualization.

3. Implementation



First, I created a website. I concluded that the visualization feature would be best if it is presented through the web and there can be some features users can play around with. So, I made a website using html, css, and javascript.

In this website are three tab- about, keyword, and contact. In the about tab, there are basic information about where this idea started from and where I am now and what the limitation was. On the keyword tab is the keyword and the word cloud. The user is able to remove and add tag, and even create a new cloud. Also, if the user wants to see more clearly, they can pause the animation. Lastly, in the contact page, there are my contact information in case an audience wishes to give me suggestions or further questions.

To create the word cloud, TagCloud.js was used. A lot of the features were already set in the js library. However, there were some glitches that stopped the cloud from showing or stopped the tag from being added. So, the code was customized further to suite my website.

4. Limitation and Future Development

Initially, I wanted to have a separate link, accessible through QR codes, for the users to access and give inputs. Then, these input will be stored. Naturally, we will have a stored data of what idea was given as a input, how many times for each keyword. This information would have led to my initial plan of the project.

However, this required me to fully understand and apply node.js. I have never used node.js before. So, even though I tried to study it and implement it in my project, there wasn't enough time.

In the end, I decided to at least create a word cloud that would allow two friends to compare each other's word cloud. However, my project doesn't stop here. I will be further implementing the word cloud and follow along my initial plan.