Project Planning

At the start, it was imperative to identify which technologies would further enhance the website's performance and speed up the responsiveness of the website. I employed the MERN stack due to the following reasons:

1. MongoDB-Atlas: Chosen because with MongoDB, one can manipulate JSON data directly, it will be easier and faster in managing data. Since the number of participants involved is relatively small, only forty competitors; there is no need for complex relationships between the various data.

2. Express: This is a good framework to work with Node.js. Hence, Express will ease the creation of APIs, which will be quick and efficient.

3. React: React is famous for its friendly interface and its speed, which allows it to deliver a seamless user experience. I added it using Vite, which gives a very serious boost to the development process.

4. Node.js: Considering the great integration with React, Node.js was the best option for developing the backend part.

Website Structure: My aim was to develop something simple yet nice, which would include four basic pages:

1. Homepage: It would contain an encouraging message with a button leading the user directly to the competitions page.

2. Competitions Page: This page contains an overview of the competition, which entails detailed explanations of each contest, including a countdown of how many participants can enter into solo and group competitions.

3. Contact Us: This allows for direct communication between the user and the university through email just in case problems arise.

4. Competitions Page: Lists all competitions with basic tables of the scores participating.

Requirements

1. Simplicity: All things were supposed to be effortless and intuitive to work with.

2. Uniqueness: This was achieved through the use of Framer Motion, which enhanced the feel of the user, apart from glass effect graphics.

3. Database Arrangement: The database was arranged on paper through a flow diagram to make clear everything.

4. API Integration: APIs had been created accordingly for seamless functionality.

5. Background Image: A serene background image of high quality was chosen to create an eye-pleasing design in a more aesthetic way.

6. Interactive Buttons: Designed some buttons in a friendly and harmonious way for the site, either for color or font, to make it easy and clear for users.

7. Overall Design: Only a simple header and footer have been added to put all the emphasis on the content.

Design Planning

All the designs were combinations of materials that were taken from the web and altered to suit the conceptual idea of the project. Paper sketches were made in which the layout and important features that needed to or would feature on the website.

Product Development

The tools and technologies were picked with considerable care to ensure ease and usability while making the site look more attractive and compatible.

Product Testing and Integration

It was then tested, and the results were very good. The background image was changed because its high quality created several problems concerning performance on lower-end devices. It needed to be replaced with a less demanding image.

Final Objectives of the Website

The website is supposed to serve the concept of organizing individual and team competitions-each team comprising five members-alongside individual participants. The proposed competitions include:

1. Rubik's Cube Solving: The judgment will be performed by time.

2. Device Hacking Test: The fastest one who does it wins.

3. Photography: Submit a picture of your best work.

4. IQ Questions: A test on how smart the contestant is.

5. Problem Solving: Tests on problem-solving, trying to get efficient solutions.

To RUN THE WEBSITE

```
CMDER 1
* cd  BTEC_U4_Task2_Website\client\
* npm I
* npm run dev
```

```
CMDER 1
* cd  BTEC_U4_Task2_Website\server\
* npm I
* npm start server
```