AWP - Project Proposal

1. **Name:** Mentum

2. **Team:**
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3. **Description:**

Mentum is designed to support university students, particularly those in their first year, who often face challenges adapting to the academic demands of higher education. A key feature of the platform is its flexible dual-role system, allowing users to function both as students and mentors, depending on their needs and expertise.

One of the core functionalities is the skills-based matching algorithm. When users create their accounts, they list the academic subjects or skills they are proficient in. This information is used both for seeking and offering help. When a user needs academic support, they search for mentors based on the required skill or subject area. The platform's algorithm matches them with mentors whose skills closely align with their needs, ensuring personalized and effective tutoring.

As students, users can search for specific skills and find mentors with the highest match, either to schedule one-on-one sessions or to access educational resources that mentors have uploaded to the platform. This system ensures that students receive tailored academic support in their areas of difficulty.

As mentors, users can offer help based on the skills they have listed. Mentors can be upper-year students who have already completed the relevant courses or professors who voluntarily provide academic guidance. They can assist students through tutoring sessions or by contributing learning materials, such as notes or practice problems, to the platform's resource repository.

Additional features include:

- Resource repository for uploading and downloading study materials.
- Feedback system for rating mentors, helping to ensure quality and accountability.

By allowing users to alternate between the roles of student and mentor, and by using a skills-based matching system, the platform promotes a collaborative academic community. This helps students not only receive personalized help but also contribute to the learning of others.

4. **Target:**

Mentum application is aimed at university students, particularly first-year students who need additional academic support while adjusting to the demands of university life. It also encourages participation from upper-year students and professors who can provide guidance and tutoring.

A distinctive feature of the platform is that each user can function both as a student and a mentor. The platform's skills-based matching algorithm allows users to:

- As students, search for mentors based on the academic skills or subjects they need help with. The matching algorithm returns mentors whose skills most closely match the student's needs, ensuring personalized assistance.
- As mentors, share their skills and offer academic support. Users can help through direct tutoring or by uploading resources to the platform.

This flexibility in roles allows users to benefit from both receiving and providing academic help. The app fosters a peer-to-peer support system that makes it easier for students to find and offer targeted assistance.

5. **Technologies:**

To build the app, the following technologies have been selected:

React: A JavaScript library for building user interfaces, React is well-suited for creating dynamic and responsive front-end applications. It allows developers to build reusable components and manage the user experience efficiently. React's flexibility and strong ecosystem make it an ideal choice for a modern web application.

Node.js: A runtime environment that enables server-side JavaScript, Node.js is highly efficient in handling asynchronous operations and real-time data exchanges. It is widely used for developing scalable web applications, particularly those requiring fast interactions between the client and server.

MongoDB: As a NoSQL database, MongoDB allows for flexible, document-based data storage. It is well-suited for applications where data structures may evolve over time or do not require a rigid schema. Its scalability and ease of use make it a strong choice for managing user profiles, session data, and other application data.

These technologies provide a robust, scalable, and efficient stack to support both the front-end and back-end development of Mentum.

6. **Mid-term project presentation:**
    a. Authentication and authorization
    b. Profile page for both student and mentor
    c. Matching algorithm