Discussion on Frontend Frameworks

The group discussed between Angular and React as front-end framework options. In Angular, inbuilt routing and form validation is present. However, Angular is heavier as compared to React[1]. React utilizes virtual DOM[2] and has minimalistic approach towards UI building[1]. Both have state management but React provides newer options like “hooks” for state management[1]. Also, React has relatively more job opportunities in Canada than for in Angular[1].

Frontend Framework Chosen

Based on the above discussion, the **group has chosen React framework** because of its ease, performance, state management capabilities, more scope of job opportunities and the skill set of the group members.

Discussion on Backend Frameworks

The group discussed between SpringBoot and NodeJS as backend framework options as group members had prior experience in both these technological stacks. NodeJS is a better combination with ReactJS as compared to SpringBoot[3]. NodeJS is typically used for non-blocking input-output tasks[4] while SpringBoot is preferred for CPU intensive tasks[5]. SpringBoot is memory intensive whereas NodeJS has less memory consumption[5]. Moreover, NodeJs is scalable[6]. Also, deployment of SpringBoot backend is cumbersome as compared to NodeJS deployment[5].

Backend Framework Chosen

Based on the above discussion, the **group has chosen NodeJS** because of its memory efficiency, suitability for real-time data streaming and its compatibility with ReactJS.

Discussion on Database Solutions

The group discussed between MySQL and MongoDB as the database solutions. MySQL is a relational database wherein data is fetched from multiple tables[1]. MySQL can also be used where transactions are involved[7]. On the other hand, MongoDB is a NoSQL database which provides easy modifications as there is flexible schema[8]. MongoDB also supports transactions[9].

Database Solution Chosen

Based on the above discussion, the **group has chosen MongoDB** as the database solution because it provides scalability, flexible schema, and support for transactions.

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