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| Team Name: **TechBloomers** | Date: **February 16, 2024** |
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# Architectural framework of StudySync

### Target Devices:

#### Decision: Android (pre-decided)

### CSS Framework:

### Decision: Bootstrap (pre-decided)

### Development Framework Selection:

* Decision: React Native

## Navigation strategy:

* Decision: Tab Navigation

## Hardware:

* Decision: GPS and Speaker

## Database Storage:

* Decision: Both Local and Remote.

### Development Framework Selection:

* Context: To decide the framework for our Study Sync mobile app while considering our team experience, and project needs.

#### Options Considered:

* 1. React Native
  2. Ionic
  3. Cordova
  4. Framework7
  5. Native Script
* Decision: React Native

#### Rationale:

1. Firstly, our team possess the knowledge of React and JavaScript which lowers the learning curve and increases development efficiency.
2. Secondly, its sizable community and robust library support offer tools for quick creation and problem-solving.
3. Most importantly, with a single codebase, React Native allows for cross-platform development and optimizing reach by targeting both Android and iOS devices.

#### Consequences:

Keeping up with React Native's upgrades will be part of continuing maintenance.

#### Follow-Up Actions:

1. Our team will set up code assessment sessions to ensure code quality and compliance.
2. We will keep up with React Native releases. Also, apply relevant changes to the project.

## Navigation strategy:

* Context: To decide the Navigation strategy for our Study Sync mobile app while considering our team experience, and project needs.
* Options Considered:

1. Tab Navigation
2. Stack Navigation
3. Drawer Navigation
4. Modal Navigation
5. Custom Navigation

* Decision: Tab Navigation
* Rationale:

1. The first reason is accessibility. As tab navigation provides visibility, the users can quickly find and navigate through the app's different areas without having to take extra steps.
2. Secondly, every tab has a unique feature/category that helps users find what they're looking for and complete tasks more quickly.
3. Moreover, our app consists of different sections such as a study calendar, upcoming assignments, progress tracking, and settings. With tab navigation, we can have all these sections in line and organised.

* Consequences:

The excessive number of sections in the tab bar can cause clutter and reduce usability. We have to carefully consider the quantity and layout of the tabs.

* Follow-Up Actions:

1. Our team will do user testing and feedback sessions to confirm that Tab Navigation is useful for promoting task completion as well as app exploration.
2. Then, we will iterate in tab navigation and branding based on results from user testing and feedback sessions.

## Hardware:

* Context: To decide the Hardware for our Study Sync mobile app while considering our team experience, and project needs.
* Options Considered:

1. GPS
2. Speaker
3. Fingerprint Scanner

* Decision: GPS and Speaker
* Rationale:

1. With GPS, we can set up our app to provide information to users about libraries, study locations or spaces on the campus.
2. GPS will be useful to us to provide users with resources and information which is tailored to their location and study needs. For instance, academic activities and college events.
3. With the use of a speaker, we will provide users with audible notifications and reminders. So that they don't miss any crucial updates or alerts even when they aren't actively using the app.
4. In addition to that, these notifications will accommodate the users with visual impairments.

* Consequences:

1. These hardware features might increase the intricacy of the development and testing process.
2. Some users may prefer silent notifications or have certain preferences for notification tones or sounds.

* Follow-Up Actions:

1. Firstly, we will make sure that these hardware integrations are reliable and compatible during our thorough testing.
2. In addition to that, we will add straightforward setup choices and instructions for these integrations.

## Database Storage:

* Context: To decide the Database storage for our Study Sync mobile app while considering our team experience, and project needs.
* Options Considered:

1. Local (encrypted or unencrypted),
2. Remote
3. None

* Decision: Both Local and Remote.
* Rationale:

1. Our team decided to go for local storage, to enable offline functionality and to have quick access to commonly used data to improve user experience.
2. Besides that, we decided to go for remote storage as it allows real-time data synchronization and scalability across multiple devices. On top, it also provides data consistency and reliability.
3. We decided to strike the perfect balance between online (cloud-based) data management and offline access by combining local and remote storage.

* Consequences:

1. Using both local and remote storage could make our app development more difficult and require more upkeep.
2. Additionally, we have to do necessary proper synchronization and error-recovery systems to preserve data integrity between local and remote databases.

* Follow-Up Actions:

1. Our team will track database performance and feedback from user input to find areas for improvement and optimization.
2. We will also program the data synchronization methods to have a smooth integration of both local and remote databases.