**GROUP:2**

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**Scenario 3: Food Ordering app**

**Issue:** the issue for architectural decision is in selection of the appropriate mobile app architecture that meets the requirements while ordering food through a food ordering app. This includes real time updates security while doing transactions and managing the data.

**Decision:** developing a native mobile app for Android as well as iOS operating systems.

**Status**: approved

**Assumptions:**

* this app for ordering food focuses in providing the users a smooth and secure food ordering experience
* the expertise and resources needed to develop native apps for both iOS and Android operating systems are available.

**Restrictions:**

* The development end maintenance of two separate coding environments of Android and IUS platforms may need some additional efforts and resources

**Positions:**

* **web app development**
* **native app development**
* **hybrid app development**

There were several discussions and considerations which led to the final decision of developing a native mobile app for Android operating system and the iOS.

**User experience:** native apps have an extra advantage over the web or the hybrid apps when it comes to the user experience or performance related to the app. When achieving different functionalities like inserting orders, going through menus or tracking the delivery, users expect seamless experience, which can be met by a native app developed focusing for the particular operating system.

1. **Security:** as sensitive data maybe used in food ordering mobile apps such as the payment details and personal information, security is a must. Native apps are more secure than hybrid apps and can be designed with save methods to transfer data, encryption and can majorly decrease the risks to cybersecurity.
2. **Access to the features in the device:** in native apps the device features like the GPS and push notifications can be easily accessible. This makes implementing different features like tracking the delivery guy’s location, timely notifications and recommendations very easy and enhances the user experience greatly.
3. **Features specific to the platform:** the integration of the app with IOS and Android operating system is greatly enhanced and made possible by developing a native app. The user retention is greatly impacted by the user experience related to the app, thus helping to establish a strong place in the market protected from the rivals.

**Rationale:**

There have been various factors behind the choice of going with the native app development.

Firstly, native app development puts the performance first which ensures a seamless and positive user experience. So the hardware components of the device can also be used efficiently. The times of completing a process in native apps is also lower than hybrid apps and various steps like the animations, processing order is quite fast.

Secondly, a food ordering app has to handle sensitive user information like there Reddit card details and their personal data, therefore security is a must in such a app. This becomes possible in a native app because the app offers a secure environment, where all the Android protocols are met and this provides the user with a reliable experience which is free from cyber-attacks.

Additionally, native apps make it far easier to use the platform specific features which enhances the user experience and efficiency of the app. There are platform specific native user interface options also which make the development process far faster then starting from the scratch.

Furthermore, the ability of the app to function offline is also a must in uh food ordering app because the user may experience some issues with the connectivity to the Internet. With native apps offline mode helps user to still track the delivery even being disconnected from the Internet for some time.

Overall, the enhanced performance, security, ability to function offline and implementing the device hardware capabilities are made far possible by using a native development approach which is the main goal of any application. Ask customers also have high expectations from their food ordering place, using a native application also enhances the business as a whole.

**Inference**:

* additional development time may need to be invested to maintain separate code bases for different operating systems like the Android and the iOS.\
* as the development needs to take place for two operating systems , the initial cost of development may be higher than the hybrid apps but the investment is worth due to the and hence performance and user experience
* The development teams for each of the Android and iOS operating system may need to coordinate in form of regular meetings to provide users the best experience on each operating system.

**Decisions:**

1. **Real time order tracking:** choose the perfect technology and architecture for live order tracking
2. **push notifications integration:** users need to be notified at each step ohh the delivery, so using the perfect provider for this feature.
3. **Storage:** the client may need to upload some images and their description for the users to know about their food, so maintaining a proper database system.
4. **User feedback:** the app should be able to Collect the user feedback and reflect on the app for other users and the client to know
5. **Managing inventory:** determining the method to integrate the options available on menu and restaurants availability system management system.
6. **History:** choose a relevant data storage system to efficiently display history of the others
7. **payment system:** decide a reliable and secure payment system for the customers to use.

**Requirements:**

1. providing users the ability to monitor and track their orders.
2. Implement an efficient and secure payment gateway

**Notes:**

* the app should meet the evolving needs of the users, so gathering user feedback is a must
* the development should be flexible molding towards the change of requirements
* the architecture of the app should be able to accommodate large amounts of data in case of future growth
* testing the app properly for security purposes
* the app should support famous languages in the country to enhance user experience
* constantly keep improving depending on the user needs and innovating new features or success.