CSS 545 MOBILE COMPUTING

HW2 BASIC STORAGE

Various approaches to storage management on your platform of choice along with its pros and cons.

1. Shared Preferences / NSUserDefaults:
   * Pros:
     + Simple and quick to implement for storing small pieces of data, such as user preferences or settings.
     + Data persists across app restarts.
   * Cons:
     + Not suitable for storing large amounts of data or complex data structures.
     + Limited to key-value pairs, which might not be sufficient for the structured data typically associated with a blood bank application.
2. SQLite:
   * Pros:
     + Ideal for storing structured data, such as donor records, blood types, and donation history.
     + Supports complex queries, making it easier to filter and search through data.
     + Data is stored locally, which can be accessed offline.
   * Cons:
     + Requires more setup and management compared to simpler storage solutions.
     + Can increase the complexity of the app, especially for developers not familiar with SQL.
3. Core Data:
   * Pros:
     + Native to iOS, providing tight integration with the platform.
     + Supports complex data models and relationships, suitable for the structured data in a blood bank application.
     + Can automatically handle data migrations and versioning.
   * Cons:
     + Requires using platform channels to integrate with Flutter, adding complexity to the codebase.
     + Steeper learning curve compared to other storage solutions.
4. File Storage:
   * Pros:
     + Suitable for storing documents or images, such as donor ID proofs or medical reports.
     + Provides direct control over file management and organization.
   * Cons:
     + Not ideal for structured data or for data that requires frequent querying.
     + Managing files and directories can become cumbersome as the amount of data grows.
5. Cloud Storage:
   * Pros:
     + Enables easy sharing of data across different devices and platforms.
     + Provides scalability and offloads the responsibility of data management to the cloud provider.
     + Facilitates real-time updates and synchronization.
   * Cons:
     + Requires an internet connection for access, which might not always be available.
     + Ongoing costs associated with cloud storage services.
6. Keychain:
   * Pros:
     + Highly secure, ideal for storing sensitive information like user credentials or confidential medical data.
     + Data is encrypted and protected by iOS's security features.
   * Cons:
     + Limited to storing small pieces of data.
     + Not suitable for storing large amounts of structured data.