**Student Name: Meron Weight: 15%**

**Marks:** **/25**

# Assignment: Architectural Decisions

**Architectural Decision Record (ADR) - Mobile App Development**

**Scenario 2**

You are a team responsible for developing a social networking mobile app for a university. The app will allow students to connect with each other, share information about classes, view events and clubs, and manage their schedules. The app will also have a feature for professors to post announcements, assignments, and grades. The following requirements must be considered:

**Context**

We are tasked with developing a social networking mobile app for a university. The app is intended to connect students and professors, provide class information, support offline usage, optimize performance, integrate with an Active Directory system, enable push notifications, prioritize data security, and ensure inclusivity.

**Decision 1: Cross-Platform Framework**

**Decision:** We will use React Native framework for app development.

**Rationale:** React Native allows us to efficiently develop and maintain the app for both iOS and Android platforms with a single codebase. React Native allows for a high degree of code reusability between iOS and Android, saving development time, supports easier adoption and accessibility. Our team is already on the process of learning JavaScript and React, transitioning to React Native can help minimize the learning curve as it is influenced by these technologies.

**Decision 2: Offline Support**

**Decision:** We will implement offline capabilities and data synchronization mechanisms.

**Rationale:** Offline support ensures users can access certain features and data even without an internet connection, enhancing user experience and usability.

**Decision 3: Performance Optimization**

**Decision:** We will employ performance optimization techniques, including code optimization and data usage minimization.

**Rationale:** Optimizing performance ensures the app runs smoothly on a variety of devices, regardless of their specifications, and minimizes data usage, which is important for users with limited connectivity.

**Decision 4: Integration with Active Directory**

**Decision:** We will integrate the app with the university's Active Directory system for user authentication and access control.

**Rationale:** Integration with Active Directory ensures secure user authentication and role-based access control, protecting sensitive data and user privacy.

**Decision 5: Push Notification Provider**

**Decision:** We will select a push notification service that supports both iOS and Android platforms.

**Rationale:** A cross-platform push notification provider ensures consistent communication with users, keeping them informed about important updates and events.

**Decision 6: Data Security**

**Decision:** We will implement encryption and secure data transmission protocols to protect user data. We will also adhere to relevant data protection regulations.

**Rationale:** Data security is essential to safeguard sensitive information, maintain user trust, and comply with legal requirements.

**Decision 7: Accessibility Features**

**Decision:** We will design and develop the app with accessibility features, including text-to-speech, high contrast modes, and support for assistive technologies.

**Rationale:** Prioritizing accessibility ensures inclusivity, making the app usable by individuals with diverse needs and abilities.

**Consequences**

By following these architectural decisions, we ensure that the app is accessible, secure, efficient, and compatible with both major mobile platforms. These choices contribute to a positive user experience and the successful adoption of the app within the university community.

* link to ADR in GitHub:

https://github.com/WeldSD/Architectural-Decision-Record--ADR----Mobile-App-Development.git