Team 21 - Aryan Jumani, Annsh Navle, Pranav Bansal, Shriyan Bachigari

1. Problem Statement
    a. Contextual information is often shared through generic platforms (cloud drives, social feeds) that ignore *where* the information is actually relevant. This leads to clutter, poor discoverability, and security risks when sensitive or location-specific data (e.g., Wi-Fi passwords or instructions) is shared too broadly. Our application, *Anchor*, addresses this gap by binding digital content to physical locations, ensuring information is only accessible at the right place and time. Unlike existing maps or social networks, the application enforces location-based unlocking combined with group-based permissions, making it ideal for local and context-aware information sharing.

2. Project Objectives
    a. Build a mobile application that enables users to create, discover, and unlock location-locked "Anchors" (text, links, images, files) only when they are physically within a configured radius of the pin.
    b. Implement a spatial backend to support fast proximity queries, geofenced unlock checks, and efficient map discovery.
    c. Develop a robust "Circles" permission system (public, private, group-based) so sensitive Anchors can only be decrypted and viewed by authorized users.
    d. Build real-time updates for nearby Anchors and scavenger-hunt progress using push-style notifications, including live expiration and availability changes.
    e. Create a safe, abuse-resistant content system including reporting, admin moderation tooling, rate limiting, and an audit log of critical actions.
    f. Support time-bound and event-driven Anchors through expiration timers, limited unlock counts, and optional "hunt" mechanics (multi-step clues, completion tracking, leaderboards).
    g. Deliver an extensible architecture that can support an AR "Anchor HUD" as a stretch goal, where Anchors are visualized in-camera with distance and direction cues using a GPS-to-local coordinate bridge.

3. Stakeholders
    a. Primary Users: students, people who want to share/receive things on a location-basis (parties sharing wifi/entry codes, notices for laundry rooms, PRs at gym machines, etc.)
    b. Secondary Users: Local businesses (cafes/gyms) interested in providing location-based digital menus or updates.
    c. Developers: Aryan Jumani, Annsh Navle, Pranav Bansal, Shriyan Bachigari
    d. Project Manager: Rachit Kumar
    e. Project Owners: Aryan Jumani, Annsh Navle, Pranav Bansal, Shriyan Bachigari

4. Deliverables
    a. Robust and intuitive GUI.
    b. Viewable "Anchors" on a map if you are close enough.

c. Cross-platform applications: A compiled .apk file for Android and an XCode build for iOS.
d. Utilizing React Native for the frontend, PostgreSQL for database services, FastAPI for the backend, ARFoundation for Cloud Anchoring, Unity as a Library (UaaL) for AR Services.