**Project Design Phase-I**

**Proposed Solution Template**

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| **Sr.No** | **Parameters** | **Description** |
| **1** | **Project Title** | ChatConnect – A Real-Time Chat and Communication App. |
| **2** | **Objective / Goal** | To build a secure, fast, and scalable real-time messaging platform that enhances collaboration among students and users through chat rooms, personalized profiles, and instant communication. |
| **3** | **Key Features** | -User Registration and Profile Creation   * Join/Create Chat Rooms * Real-Time Messaging (Text, Emojis, Media) * Notifications * Chat History * Feedback and Support |
| **4** | **Technology Stack** | * Frontend: Jetpack Compose (Android) * Backend: Firebase Authentication, Firestore (NoSQL DB),   Firebase Cloud Messaging   * Cloud: Google Firebase |
| **5** | **Target Users** | * Students (like Sophie) * Remote teams * Academic groups * Social and hobby communities |
| **6** | **Architecture Overview** | -Frontend (Android Jetpack Compose) handles UI and user state   * Firebase Authentication manages login & signup * Firestore stores chats, user data * FCM pushes real-time message updates |
| **7** | **Innovation / Uniqueness** | * No need for custom backend – Firebase handles everything in real-time * Personalized experience with profile, status, preferences * Minimal development effort but maximum scalability |
| **8** | **Scalability and**  **Performance** | Firebase provides real-time sync and horizontal scaling for high user traffic. Compose ensures smooth UI even with dynamic data updates. |
| **9** | **Future Enhancements** | * Voice/video calls * AI chatbot integration * Admin tools (mute, pin messages, analytics) - iOS/Web version |