**Software Requirements Specification (SRS)**

Project: SkillSwap Mobile Application

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Version:1.0

**1. Introduction**

**1.1 Purpose**

The aim of this document is to outline the specifications of the SkillSwap Mobile Application. This application enables university students to swap skills among themselves. A student in need of a particular skill (e.g., Data Structures) can find another student who has that skill and exchange another skill (e.g., poster design). The application will act as a peer-to-peer skill exchange platform without financial transactions.

**1.2 Scope**

SkillSwap will enable:

* User Profiles (name, bio, skills, rating)
* Skill Listings (post offers and search for skills)
* Booking System (schedule sessions)
* Ratings & Reviews (feedback after sessions)
* Outside scope for version 1:
* Payments or money-based transactions
* In-app chat or video calling

**1.3 Definitions & Acronyms**

**Tutor:** A student who offers a skill.

**Learner:** A student who looks for a skill.

**CRUD**: Create, Read, Update, Delete.

**MVP:** Minimum Viable Product.

**UML:** Unified Modeling Language.

**2. Overall Description**

**2.1 User Roles**

**Student (Tutor/Learner):** Make profile, post deals, ask for skills, book sessions, post reviews.

**Admin:** Keep an eye on content, delete inapt posts, suspend/delete accounts.

**2.2 User Stories**

As a learner, I want to search tutors based on skills so I can quickly find assistance.

As a tutor, I want to make slots available so learners book me only when I'm available.

As a student, I want to know past and future sessions.

As admin, I would like to delete inproper skill offers in order to maintain the app secure.

**3. Functional Requirements**

FR1: User can register/login/logout securely.

FR2: User can edit/create profile (name, bio, skills, picture).

FR3: User can add a skill offer with title, description, category.

FR4: User can search skill offers.

FR5: User can book a session with tutor.

FR6: Notifications after booking.

FR7: User can review and rate others.

FR8: Average rating shown on profiles.

FR9: User can delete/cancel offers.

FR10: Admin can delete content or accounts.

FR11: All persistently stored data.

**4. Non-Functional Requirements**

**Usability:** Easy interface; any user can post a skill in ≤3 steps.

**Performance:** Pages loaded in 2 seconds on Wi-Fi.

**Security:** Passwords are encrypted; data transferred over HTTPS.

**Reliability:** 99.9% uptime; backups run regularly.

**5. Database Schema**

**Users Collection**: \_id, email, passwordHash, name, bio, profilePic, skills[], avgRating

**Offers Collection:** \_id, title, description, category, createdBy, createdAt

**Sessions Collection:** \_id, offerId, tutorId, learnerId, scheduledTime, status

**Reviews Collection:** \_id, fromUser, toUser, rating, comment, createdAt

**6. UML Diagrams**

**Use Case Diagram:** Students + Admin with actions (Login, Post Offer, Book, Review, Manage).

**Class Diagram:** Classes – User, Offer, Session, Review with relations.

**7. MVP Frontend Development**

**7.1 Login/Signup Screen**

**Dummy Data:** email: test@student.com, password: 12345

**7.2 Home Feed Screen**

Scrollable list of skill offers.

const dummyOffers = [

{id: 1, title: 'Python Tutoring', user: 'Ali'},

{id: 2, title: 'Guitar Lessons', user: 'Fatima'},

{id: 3, title: 'Drawing Basics', user: 'Ahmed'},

{id: 4, title: 'Yoga & Meditation', user: 'Sara'},

];

**7.3 Create Post Screen**

A form to post an offer of skills. On submit → logs data & redirects to Home.

**7.4 Profile Screen**

const user = {

name: 'Your Name',

skills: ['React Native', 'Guitar', 'Photography'],

bio: 'An enthusiast programmer and musician who wants to exchange my skills with the world.',

;

**8. Conclusion**

This SRS clarifies the requirements, features, and limitations of the SkillSwap Mobile Application. The MVP is centered on user registration, posting of skills, booking, and review system, laying a good foundation for future additions such as in-app communication and payments.