Requirements Specification for **Hobby-Based Social Media** App/Website (G8)

Contributors

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1. Introduction

1.1 Purpose

A hobby-based social media platform tailored for college students;
aiming to facilitate meaningful connections through shared interests.
Thereby overcoming social isolation and mismatched friend groups.

1.2 Scope

In scope:

- Google login for authentication.
- Compatibility-based matching system using weighted preferences.
- Anonymous friend suggestions based on mutual connections and similarity.
- Hobby-based group invites for activity-based communities.
- One-on-one and group chat functionality.
- Users can update preferences after sign-up.
- Users can reject friend suggestions and group invites.
- Web app optimized for smartphones, with basic support for desktops/laptops.

Out of scope:

- Manual user search functionality.
- Content moderation features (flagging/reporting inappropriate behavior).
- External integrations (e.g., Discord, Google Calendar).
- Voice/video chat features.
- Advanced security measures beyond Google authentication.

1.3 Overview

- This document outlines the system's functionality, user characteristics, operational environment, and non-functional aspects.
- **Section 2 :** gives an overall description of the product and the expected users.
- **Section 3 :** briefs the specific requirements the software must meet.
- **Section 4 :** possible future extensions of the software
- **Section 5 :** example visuals of the software

2. Overall Description

2.1 Product Perspective

The product is a web-based social media platform specifically designed for college students to connect based on shared hobbies and interests. Unlike traditional social media platforms, this application emphasizes anonymity and privacy, allowing users to interact without revealing their identities until they choose to do so.

The system leverages graph-based recommendations and an interactive questionnaire to match users with similar interests, fostering meaningful connections and group formations.

The platform is institution-exclusive, ensuring that only verified students can join, thereby creating a safe and trusted environment for social interactions.

2.2 Product Functions

Class of use case	Use cases	Description
System Authorization	Login SignUp Logout	Users log in using their institutional email through Google Authorization, ensuring secure and verified access.
Profiling	Onboarding Edit Profile	Create profile Update profile getting user info
Preferencing	Get preferences Update preferences	Get preferences of user Update preferences of user
Preference based matching	Friend/Group Recommendation Group invite based on intrests	Match users based on shared hobbies and interests. Suggest friends based on mutual connections and preferences.
Request Handling	Send Friend Request Send group invite Group Invite Accepted/Rejected Friend Request Accepted/Rejected	Users can send, accept, or reject friend requests and group invites to others. Joining anonymously.
Chatting	Chat with others anonymously Reveal Identity to Another User Ask Another User to Reveal Identity	Users can chat anonymously with others, revealing their identity at their discretion. Users can request others to reveal their identity.
Disbanding	unfriend another user Leave a group	Users can unfriend others and leave groups.

Table 1: Detailed Product Functions

2.3 User Characteristics

- **Target Users:** The platform is designed for all students within a college or university, including both undergraduate and postgraduate students. This ensures a wide range of users with diverse interests and hobbies.
- **Technical Expertise:** The platform is user-friendly and does not require any technical expertise beyond basic smartphone usage. Users should be familiar with standard web navigation and basic app functionalities.
- **User Roles:** There are no administrative roles within the platform. All users have the same privileges and access to features, ensuring a uniform experience. This design choice promotes equality and inclusivity among users.
- **User Demographics:** The platform caters to a diverse student population, including different age groups, academic disciplines, and cultural backgrounds. This diversity enriches the user experience by fostering connections among students with varied perspectives.

2.4 Operating Environment

- **Mobile Compatibility:** The platform is designed to be compatible with both Android and iOS mobile browsers, ensuring accessibility for users on various mobile devices.
- **Browser Requirements:** The application does not have specific browser requirements.
- **Device Optimization:** While the web app is optimized for smartphones to provide a smooth and intuitive user experience, it is also fully functional on laptops and desktops, ensuring versatility and accessibility across different devices.
- **Responsive Design:** The user interface is designed to be responsive, automatically adjusting to different screen sizes and orientations to provide a consistent and user-friendly experience.
- **Performance:** The platform is optimized for performance, ensuring quick load times and smooth interactions, even on devices with varying hardware capabilities.

- **Security:** The application ensures secure data transmission and storage, leveraging HTTPS and Firebase authentication to protect user information across all devices.

3. Specific Requirements

3.1 Functional Requirements

- **Authentication:** Google login via Firebase.
- **Matching System:** Friend suggestions based on mutual connections and interest similarity.
- **Group Formation:** Hobby-based group invites (e.g., Chess Club, Music Club).
- **Chat Features:** One-on-one and group messaging.
- **Privacy:** Users remain anonymous until they choose to reveal their identity.
- **User Preferences:** Users can update their preferences after sign-up.
- **Graph-Based Recommendations:** Suggestions prioritize mutual connections and shared hobbies.
- **Friendship Confirmation:** Users can chat anonymously after accepting request.

3.2 Use Cases

3.2.1 Use Case 1: User Signup

Actors: Student (User)
Preconditions: User must not have an existing account.
Main Flow:

1. User selects the option to sign up with Google Account.
2. System verifies the email and creates an account.

Alternative Flow:

- If the email is already registered, the system notifies the user.
- If verification is not completed, the account remains inactive.

3.2.2 Use Case 2: User Onboarding

Actors: Student (User)
Preconditions: User must have a verified account.
Main Flow:

1. User selects interests and hobbies in various categories such as cultural, sports, and management.
2. System provides an initial set of recommended groups and friends based on the selected preferences.

Alternative Flow:

- If the user does not choose to provide atleast some preferences, the account remains inactive.
- User can update their preferences later to receive more personalized recommendations.

3.2.3 Use Case 3: User Login

Actors: Student (User)
Preconditions: User must have an active account.
Main Flow:

1. User selects the option to login with Google Account.
2. System verifies credentials.
3. If valid, user is granted access to the app.

3.2.4 Use Case 4: User Logout

Actors: Student (User)
Preconditions: User must be logged in.
Main Flow:

1. User selects the logout option.
2. System ends the session and logs the user out.

3.2.5 Use Case 5: Edit Profile

Actors: Student (User)
Preconditions: User must be logged in.
Main Flow:

1. User accesses profile settings.
2. User updates profile details (e.g., user name, bio, profile picture, hobbies).
3. System saves changes and updates the profile.

Alternative Flow:

- If the user does not save changes, the profile remains unchanged.

3.2.6 Use Case 6: Friend/Group Recommendation

Actors: System, Student (User)
Preconditions: User must have an active account.
Main Flow:

1. System analyzes user's interests and activity.
2. System suggests friends and hobby-based groups.
3. User can choose to accept or decline recommendations.

Alternative Flow:

- If the user declines a recommendation, the system removes it from the list.

3.2.7 Use Case 7: Group Invite based on Interests

Actors: System, Student (User)
Preconditions: User must have an active account.
Main Flow:

1. System identifies user's interests and hobbies.
2. System sends group invites based on these preferences.
3. User can choose to accept or decline the invitation.

3.2.8 Use Case 8: Group Invite Accepted by User

Actors: Student (User)
Preconditions: User must have received a group invite.
Main Flow:

1. User views pending group invites.
2. User accepts the invitation.
3. User is added to the group.

3.2.9 Use Case 9: Group Invite Rejected by User

Actors: Student (User)
Preconditions: User must have received a group invite.
Main Flow:

1. User views pending group invites.
2. User declines the invitation.
3. The invite is removed.

3.2.10 Use Case 10: User Friend Request

Actors: Student (User)
Preconditions: User must be logged in.
Main Flow:

1. User sends a friend request to another user.
2. System notifies the recipient of the request.

3.2.11 Use Case 11: User Accepts Friend Request

Actors: Student (User)
Preconditions: User must have received a friend request.
Main Flow:

1. User views pending friend requests.
2. User accepts or declines a request.
3. If accepted, both users are added as friends.

3.2.12 Use Case 12: User Rejects Friend Request

Actors: Student (User)
Preconditions: User must have received a friend request.
Main Flow:

1. User views pending friend requests.
2. User accepts or declines a request.
3. If declined, the request is removed.
4. The sender is notified of the rejection.

3.2.13 Use Case 13: User Chats Anonymously in a Group

Actors: Student (User)
Preconditions: User must be part of a group.
Main Flow:

1. User joins an anonymous chat session in a group.
2. Messages are exchanged without revealing identities.

3.2.14 Use Case 14: User Chats Anonymously with a Friend

Actors: Student (User)
Preconditions: User must have a chat session open with a friend.
Main Flow:

1. User starts an anonymous chat session with a friend.
2. Messages are exchanged without revealing identities.

3.2.15 Use case 15: User Reveals Identity to Another User

Actors: Student (User)
Preconditions: Users must be in an anonymous chat session.
Main Flow:

1. User chooses to reveal their identity to another user.
2. Recipient is notified of the identity reveal.
3. Recipient can now see the real name of the user.

3.2.16 Use Case 16: User Asks Another User to Reveal Their Identity

Actors: Student (User)
Preconditions: Users must be in an anonymous chat session.
Main Flow:

1. User sends a request for identity reveal.
2. Recipient can choose to accept or decline.
3. If accepted, the recipient's identity is revealed.

3.2.17 Use Case 17: User Leaves a Group

Actors: Student (User)
Preconditions: User must be part of a group.
Main Flow:

1. User accesses group settings.
2. User selects the option to leave the group.
3. System removes the user from the group.

3.2.18 Use Case 18: User Unfriends another User

Actors: Student (User)
Preconditions: Users must be friends.
Main Flow:

1. User acceses chat settings.
2. User selects the option to unfriend the other user.
3. System removes the user from the friend list.

3.3 Non-functional Requirements

- The system shall provide a seamless user experience across different devices.
- The user interface shall be intuitive and responsive.
- The system shall maintain anonymity unless a user explicitly chooses to reveal their identity.
- Firebase authentication will be used for security.
- The platform shall provide a smooth and efficient matching process.

4. Future Extensions

- Password-based authentication.
- Mobile application development.
- Block/report feature.
- Enhanced chat features (multimedia sharing, reactions, etc.).

5. Appendix

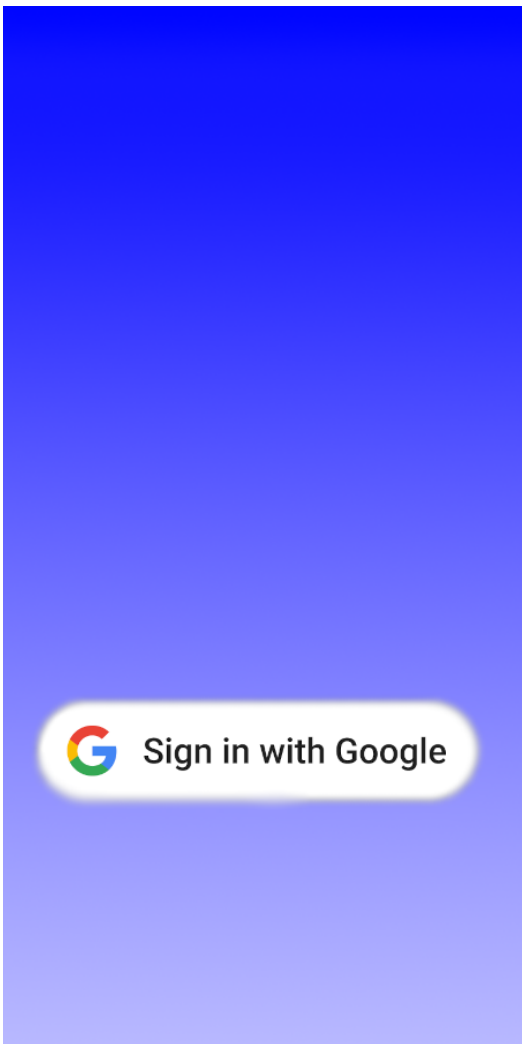

Figure 1: Login Page

Figure 2: Edit Profile

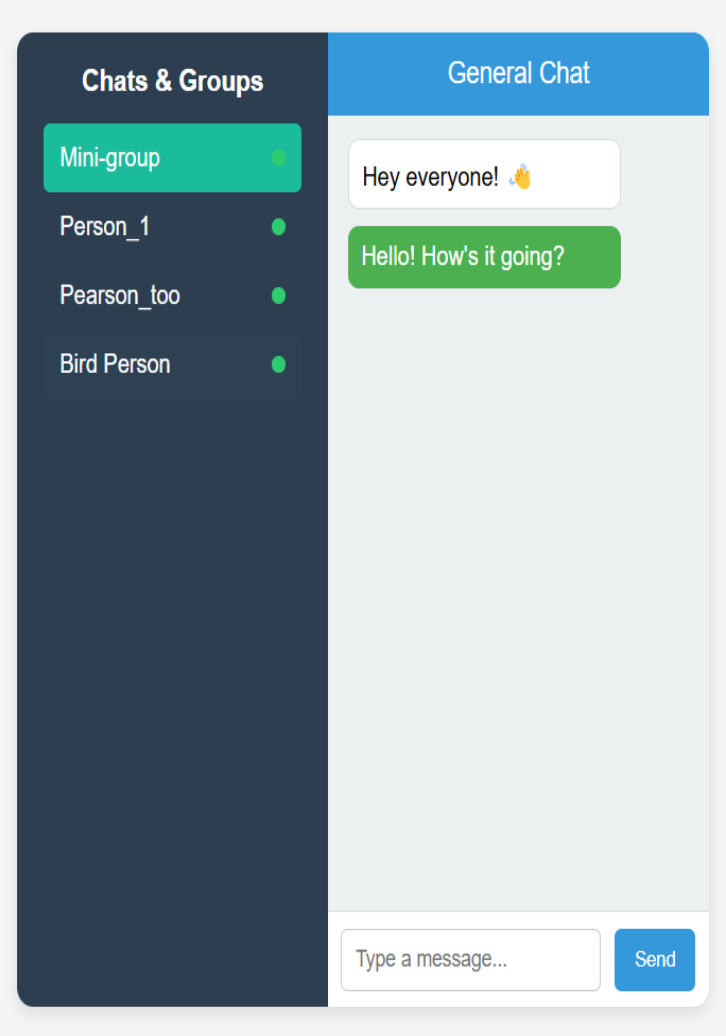

Figure 3: Chats

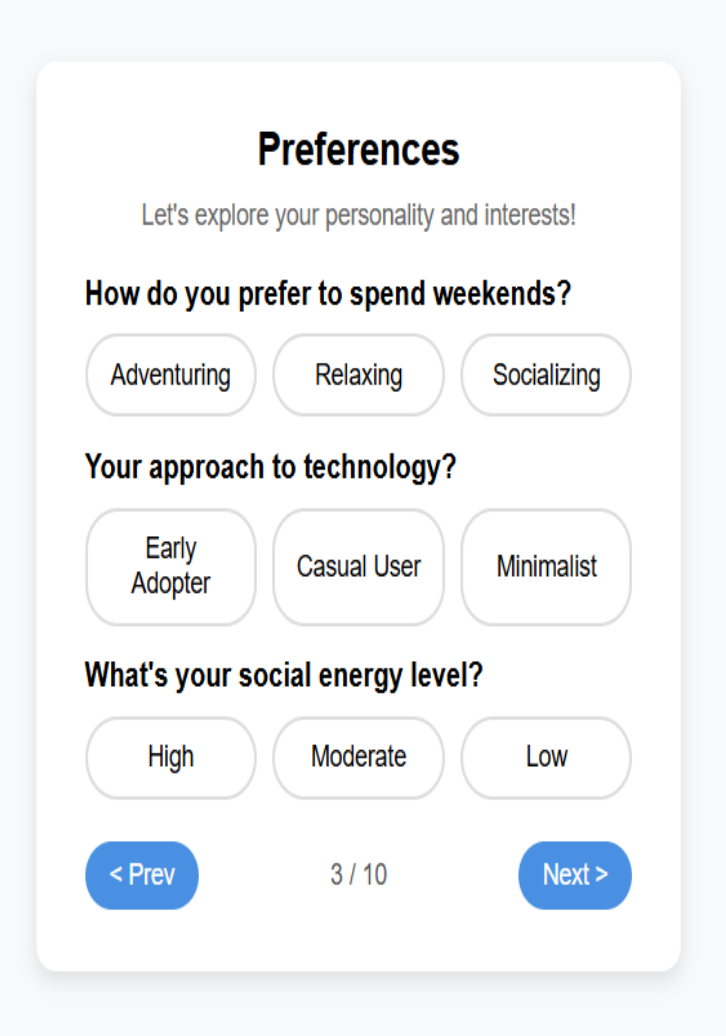

Figure 4: Questions to find like minded people

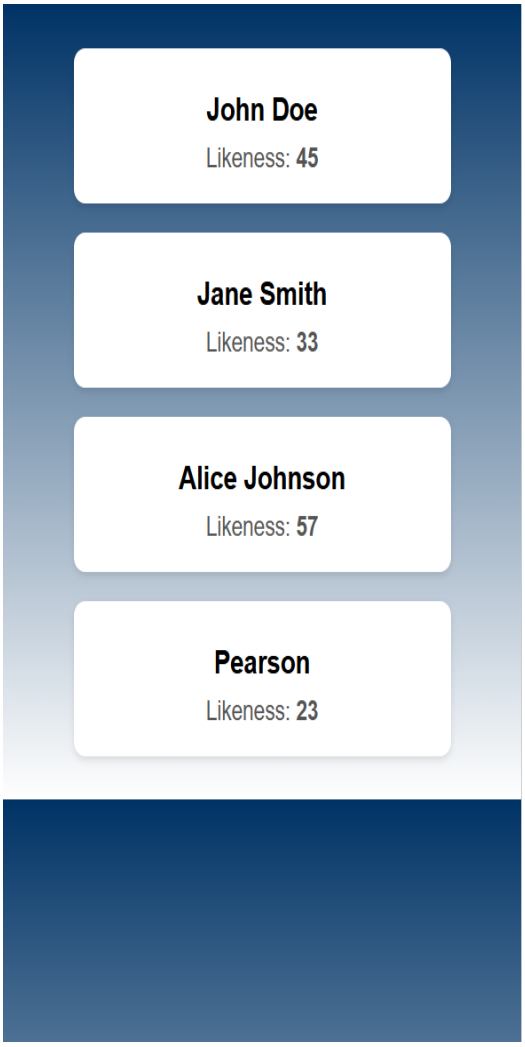

Figure 5: Suggested people based on our answers