

Requirements Analysis

Project overview and objective

Problem Statement

I'm trying to create a dating Progressive Web App for Neurodivergent Dating. My mission is to create a safe and inclusive space for people to connect and chat.

Target Audience

- **Mental Disabilities:** Includes neurodiverse conditions (e.g., autism spectrum disorder, ADHD), intellectual disabilities, and mental health conditions (e.g., anxiety, depression, bipolar disorder).

Core Features (MVP)

===== phase 1 =====

1. User Authentication & Profiles
 - a. Sign up/log in (email, phone)
 - b. Profile creation: name, age, bio, location, gender, sexual orientation
 - c. Upload profile pictures
2. Swipe / Match / Like Mechanism
 - a. Like, pass
 - b. limit on likes
 - c. View other user profiles (cards, like tinder/hinge)
 - d. Matching logic: when two users like each other → "It's a match!"
3. Chat/Messaging System
 - a. Once matched, open a chat
 - b. Basic text messaging
 - c. Maybe allow GIFs, emojis, or image sharing later (with mutual consent)

===== phase 2 =====

4. Privacy & Safety
 - a. Block/report users
 - b. Profile visibility settings
 - c. Consent-based messaging (no unsolicited messages)
5. Location-based Discovery
 - a. Use GPS/location to show nearby profiles
 - b. Distance filters (e.g., within 10 miles)
6. Search/Filter Options
 - a. Age range, gender preferences, distance
 - b. Show only online users, etc.

Functional Requirements

User Authentication

- The system shall allow users to sign up using an email address, phone number, or social authentication (Google or Apple accounts).
- The system shall require users to create a profile including name, age, bio, location, gender, disability, and sexual orientation.
- The system shall allow users to upload up to 6 profile pictures, each with a maximum size of 5MB.
- The system shall implement verification with AI-based ID verification, storing only minimal data (e.g., verification status, not the ID itself) to comply with data protection laws, and a friend (existing user) vouch.
- The system shall allow users to edit their profile information at any time.
- The system shall validate user inputs (e.g., age must be 18 or older, valid email format).
- The system shall allow for an option to delete account and all associated data permanently, with confirmation.
- The system shall provide a clear privacy policy during sign-up, explaining data usage and user rights.

Notifications

- The system shall notify users when they get a new match.
- The system shall notify users when they get a new message.
- The user can toggle each of these notifications in settings.

Swipe / Match / Like Mechanism

- The system shall allow users to view other users' profiles
- The system shall allow users to "like" or "pass" on a profile.
- The system shall limit users to X likes per 24-hour period for free accounts.
- The system shall notify both users with a "It's a match!" message when two users mutually like each other.

Chat / Messaging System

- The system shall allow matched users to initiate a private text-based chat.
- The system shall support sending emojis in chats.
- The system will not allow users to send images to each other
- The system shall store chat history for matched users until one user unmatched or deletes the conversation.

Privacy & Safety

- The system shall allow users to block another user, preventing further interaction or profile visibility.
- The system shall allow users to report inappropriate behavior or profiles, submitting a report to moderators.
- The system will not allow users to send images to each other.
- The system shall provide profile visibility settings (e.g., hide location). When users hide their location, show either only the city they're in.
- The system shall prevent unmatched users from sending messages to other users.
- The system shall implement age verification to restrict access to users 18+.

Location-based Discover

- The system shall use the user's GPS coordinates or rounded coordinates.
- The system shall allow users to set a distance filter (e.g., 5, 10, 50 miles) for profile discovery.
- The system shall update nearby profiles dynamically as the user's location changes (if location services are enabled).

Search/Filter Options

- The system shall allow users to filter profiles by age range, disability, gender preferences, and distance.
- The system shall save a user's filter preferences for future sessions.

Accessibility Features (Specific to Target Audience)

- The system shall allow users to specify their disability type(s) in their profile, with an option to keep it private.

perceivable

- **Color Contrast:** Ensure text has a contrast ratio of at least 4.5:1 (normal text) and 3:1 (large text).
- **Text Resizing:** Support text resizing.
- **Alt Text for Pictures and Icons (Application-Wide):** Profile pictures and icons must have descriptive alt text for screen readers.
- **Alt Text for Emojis and Icons Within Private Message:** Ensure emojis, icons, and images in message include aria-labels or contentDescriptions.
- **Screen Reader Support:** Provide support for screen readers.
- **Text-to-Speech:** Provide support for text to speech

Understandable

- **Consistent Layout:** Navigation and interaction (swipe, chat) should behave the same throughout.
- **Error Prevention and Feedback:** Give real-time validation for invalid inputs and clear error messages with suggestions.

Non-Functional Requirements

Performance

- The system should feel quick, it shouldn't be noticeably slow based on user input.

Scalability

- The system shall handle up to 1,000 concurrent users without performance degradation.
- The system shall support up to 10,000 registered users within the first year.

Reliability

- The system shall achieve 99% uptime, excluding maintenance.
- The system shall ensure no loss of chat history for active conversations, unless explicitly deleted by a user.

Security

- The system shall encrypt all user data in transit and at rest using industry-standard protocols.
- The system shall comply with GDPR, CCPA, and other applicable data protection laws, including:
 - User consent for data collection and processing.
 - Right to access, rectify, or delete personal data.
 - Data minimization for ID verification (store only verification status).
- The system shall implement robust age verification to ensure compliance with COPPA and other child protection laws.

Usability

- The system shall have an intuitive interface, requiring no more than 5 minutes for a new user to complete profile setup.
- The system shall support both IOS and Android platforms with consistent functionality.

Maintainability

- The system shall allow developers to deploy updates without downtime.
- The system shall log errors and performance metrics for debugging and monitoring.