

÷ TSA Portfolio

Software Development

“NearSign: Social Media For The Deaf”

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Table of Contents

Title.....	1
Table of Contents.....	2
Problem Statement.....	3
Target Audience.....	4
Overview of Solution.....	5
Key Features.....	6
App Runthrough and UI Design.....	7-23
Signup/Login.....	7-10
Default Color Theme.....	11
High Contrast Mode.....	12
Discover.....	13-15
Groups.....	16-17
Events.....	18
Messages.....	19-20
Profile.....	21-23
Technical Implementation.....	24-28
Focus on Accessibility.....	29
Impact and Benefits.....	30
Competitive Analysis.....	31
Future Improvements.....	32
Conclusion.....	33
Work Log.....	34-36
Reference.....	37
Sources and Citations.....	38

Problem Statement

In today's world, Deaf people have no easy way to find their community, which makes something as important as making friends much harder than it should be. There is no dedicated space where they can easily connect with other Deaf individuals nearby, discover local events, or meet people who share the same interests and life experiences. While millions of people use social media every day, Deaf individuals are often left trying to fit into platforms that were not designed with them in mind. Because of this, forming genuine friendships can feel frustrating, inconsistent, and sometimes even out of reach.

This leads to a deeper issue of isolation. Many Deaf individuals, especially those living in smaller towns or areas with limited resources, go through daily life without regularly interacting with others who understand their experiences. Even when they are surrounded by people, there can still be a sense of disconnect. Social opportunities that come naturally to others, like casually meeting new people or building friendships online, often require much more effort and can feel less accessible.

Traditional social media platforms are dominated by hearing users, and the way people interact on these platforms does not always translate well for Deaf individuals. As a result, many Deaf users struggle to make friends and are often overlooked or unintentionally excluded in both online and offline interactions. Conversations move quickly, communication styles differ, and without a shared understanding, it becomes harder to form deeper connections. Over time, this can make social media feel less like a place for connection and more like a space where they don't fully belong.

At its core, the problem is not just about accessibility, but about belonging and connection. The easiest and most natural way for Deaf individuals to build friendships is by connecting with others who share similar experiences, communication styles, and interests. Being able to relate to someone on that level makes conversations easier, more meaningful, and more comfortable. However, current platforms do not provide a simple or effective way to make those connections.

The solution is clear. There needs to be a platform built specifically for the Deaf community, where finding people like you is not difficult, but expected. A space where users can connect based on shared interests, discover others nearby, and build real friendships without barriers. Instead of feeling overlooked or disconnected, Deaf individuals would finally have a place where they feel understood, included, and empowered to form meaningful relationships.

Target Audience

This app was made for Deaf and Hard of Hearing people who want a real place to meet others, join groups, and feel like they belong, all in one spot! Right now, most social media platforms aren't built with the Deaf community in mind, and it shows as they are dominated by people without the disability. Therefore, connecting with people and finding friends has been especially difficult for the Deaf community. This app significantly changes that.

- **Deaf and Hard-of-Hearing Users:** These are the main people this app is built for. About 1 million people in the U.S. are functionally deaf, and millions more live with some level of hearing loss. Despite being a close, vibrant community, finding other Deaf people and building connections online is harder than it should be. Mainstream platforms weren't designed for them. This app was. It gives Deaf and hard-of-hearing users a place to meet people who share their experiences, join groups based on interests or location, message each other, and actually feel at home on a social platform for once.
- **ASL Users:** ASL is more than just a way to talk; it carries a whole culture and identity with it. There are an estimated 500,000 to 2 million ASL users in the U.S. alone, including Deaf individuals, hard-of-hearing people, and CODAs (Children of Deaf Adults, who grew up with Deaf parents). For a lot of these users, finding spaces online where ASL and Deaf culture are treated as normal, not as something rare or different, is genuinely difficult. This app gives them that. A place where their language fits in naturally, and their community is front and center.
- **Allies and Interpreters:** Hearing allies, interpreters, and friends or family of Deaf individuals are part of the community too. They aren't the main focus, but they have a place here, whether that's joining group spaces, keeping in touch with Deaf friends and family, or simply being a part of a world that matters to them. The app makes room for them while keeping the experience centered on the Deaf community first.

Overview of Solution

NearSign is a social media platform built specifically for the Deaf and Hard of Hearing community. Instead of adapting to apps that were never made with them in mind, Deaf users finally have a space that speaks their language from the ground up. NearSign combines social connection, local discovery, and accessibility-first design into one platform, making it easier than ever for Deaf individuals to find friends, join events, and feel like they belong.

- **Social Media Platform:** A dedicated space where Deaf and Hard of Hearing users can post, share, and interact using video, ASL, and visual-first content without workarounds or limitations
- **Nearby Friend Matching:** Connect with other Deaf and Hard of Hearing individuals in your area based on location, interests, and signing language so the community is always close to home. Math percentages and insights are given to guide users to finding someone perfect to befriend.
- **Event Discovery:** Find and share local Deaf-friendly events, meetups, and gatherings all in one place so no one has to miss out on what is happening around them.
- **Accessibility First Design:** Every feature on NearSign is built with the Deaf community in mind from day one not added later, not a checkbox, but the foundation everything is built on

Key Features

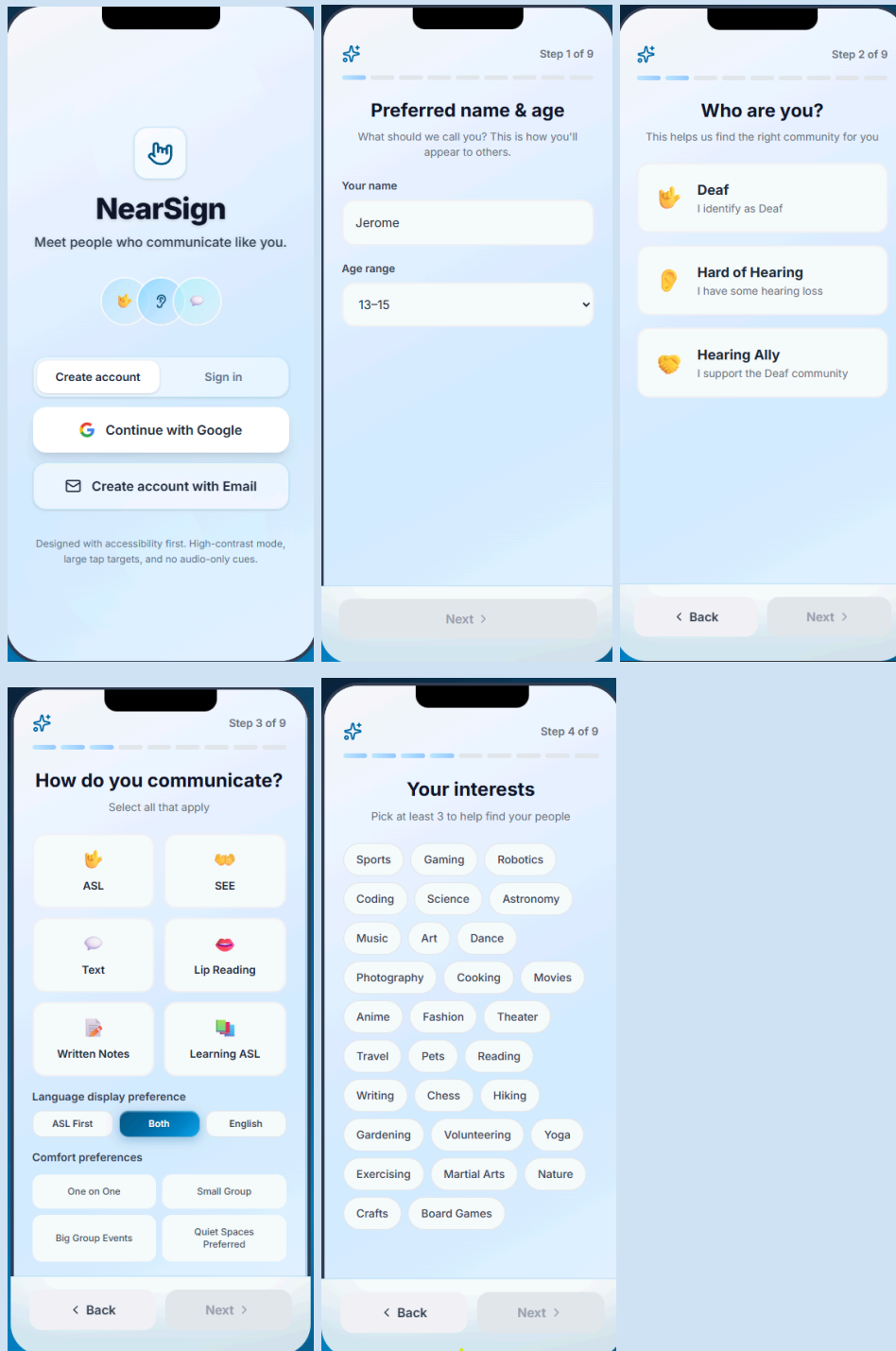
Our app, NearSign, is built to create a space where Deaf and Hard of Hearing individuals are not just included, but truly understood. Instead of forcing users to adapt to platforms that were never designed for them, NearSign is built from the ground up with their language, culture, and experiences in mind. It goes beyond being just a social app, it's a community where people can connect, express themselves freely, and feel a real sense of belonging, changing their perspectives to match those around them.

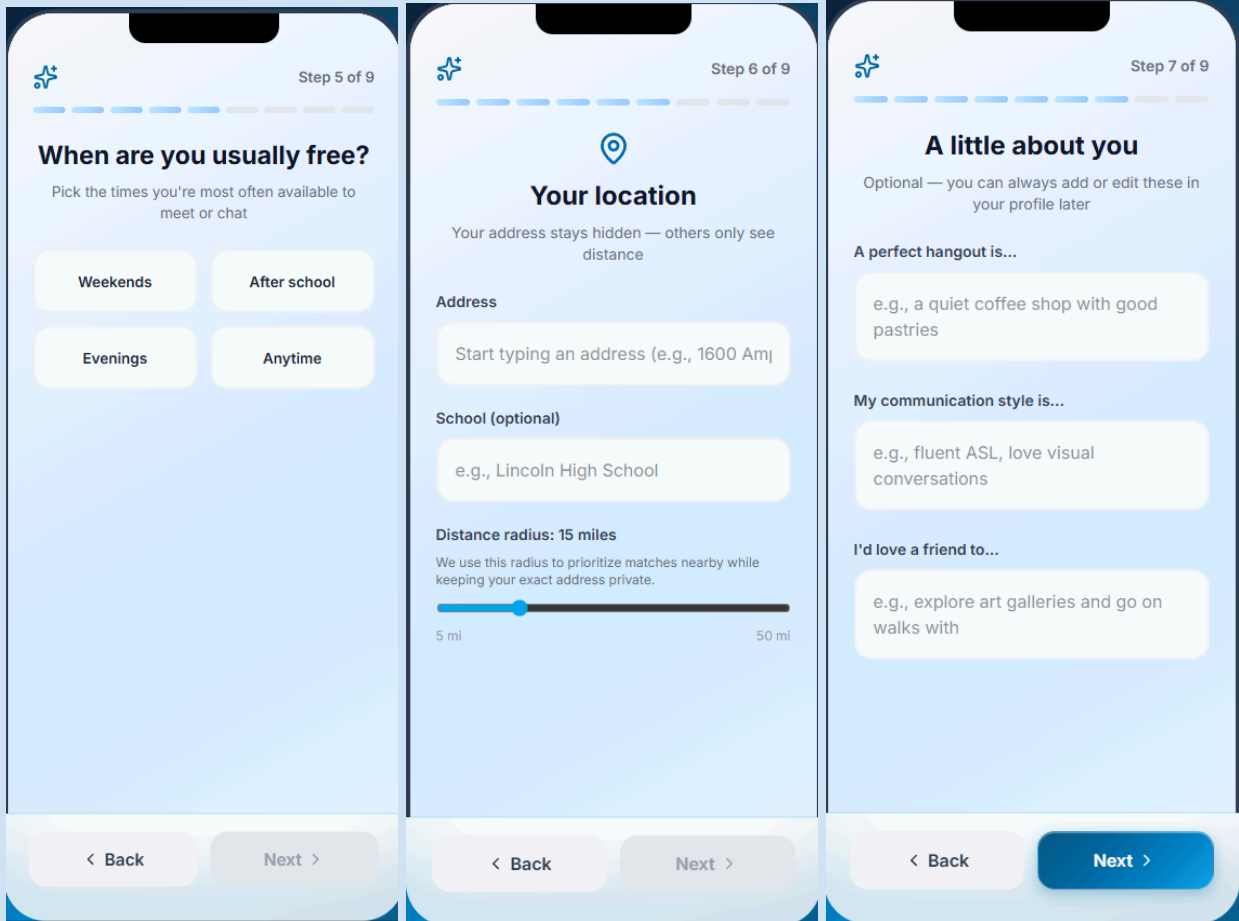
NearSign's core features are designed to create meaningful, accessible, and community-driven connections for Deaf and Hard of Hearing users.

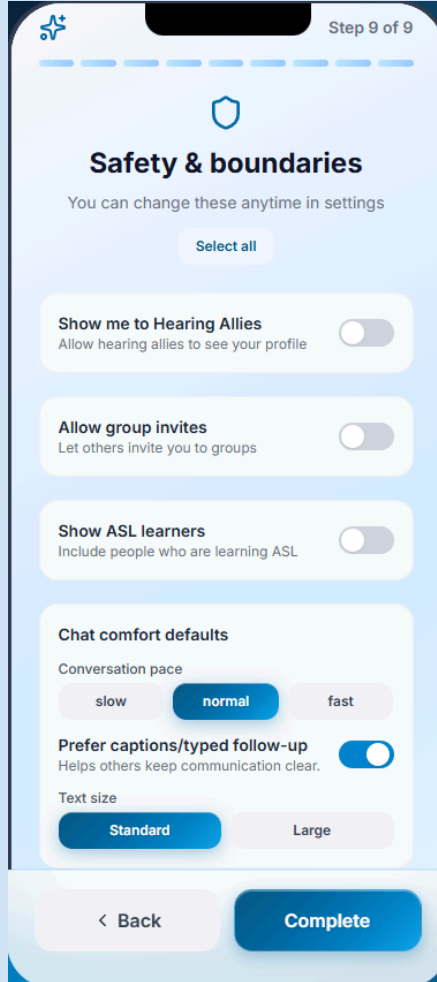
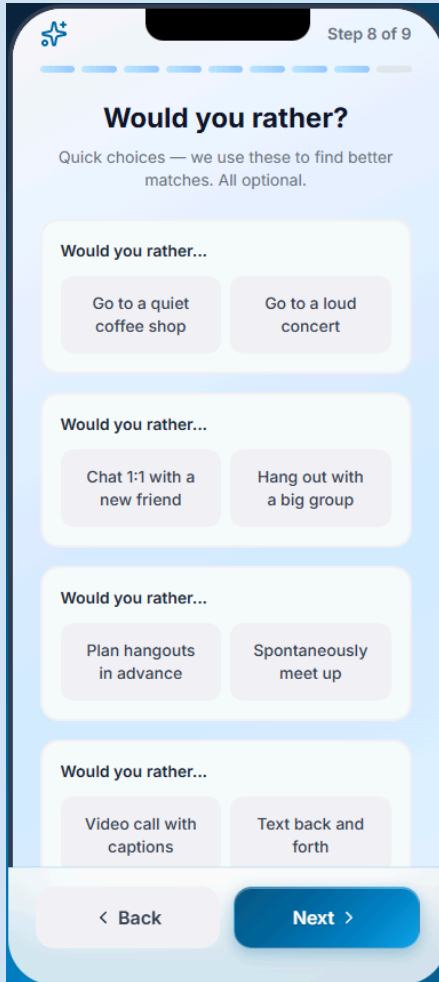
- **Friend Matching:** NearSign helps users connect with others nearby by combining location-based and profile-based matching, so suggestions feel relevant both geographically and personally. Each potential match includes a match percentage plus insights into shared interests, communication styles, and overall compatibility, making it easier to spot people who are likely to be strong friend candidates. Users can pass another user or connect when they want to take the next step if they like their profile.
- **Join Groups:** allows users to become part of communities centered around shared interests, identities, or experiences, making it easy to find belonging beyond one-on-one connections.
- **Event Discovery:** makes it simple to find and share Deaf-friendly events, meetups, and gatherings in the local area so users never miss opportunities to engage with their community.
- **Messaging(with enhanced video communication):** is built to be visual-first and ASL-friendly, supporting video communication(generates captions for videos) and expressive interaction rather than relying on text-heavy formats.
- **Social Feed:** provides a space for users to post, share, and engage through video and visual content, creating an inclusive environment where communication feels natural and barrier-free.
- **Accessibility Features:** are integrated into every part of the platform, ensuring that all tools are designed with Deaf users in mind from the start, prioritizing clarity, usability, and equal access without compromise.

App Runthrough and UI Design

Signup/Login:

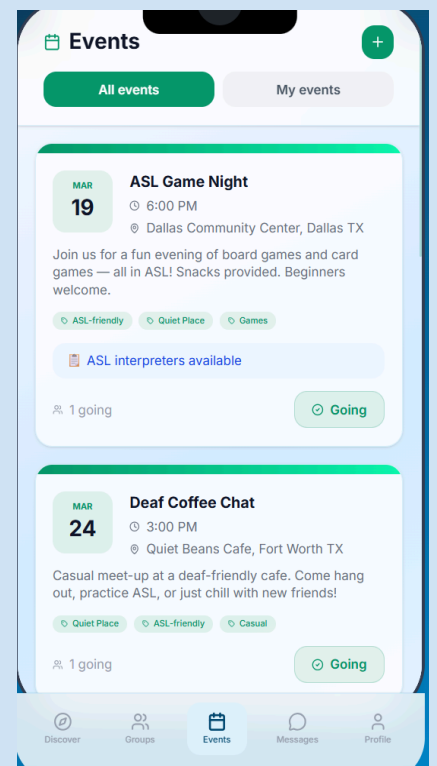
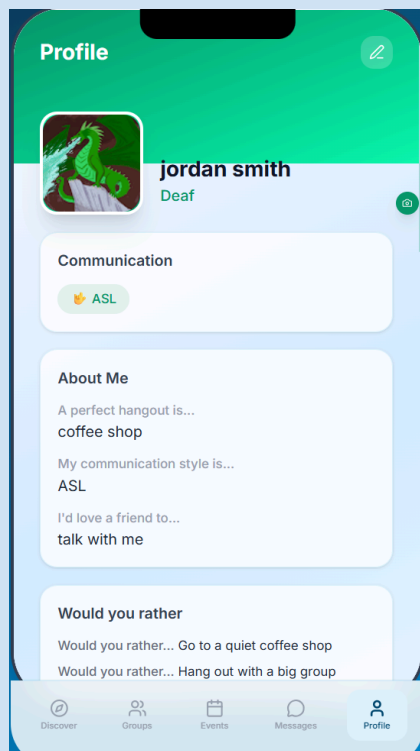
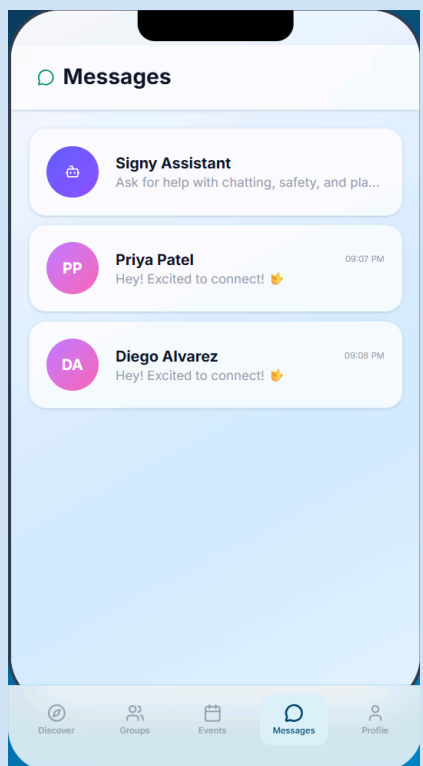
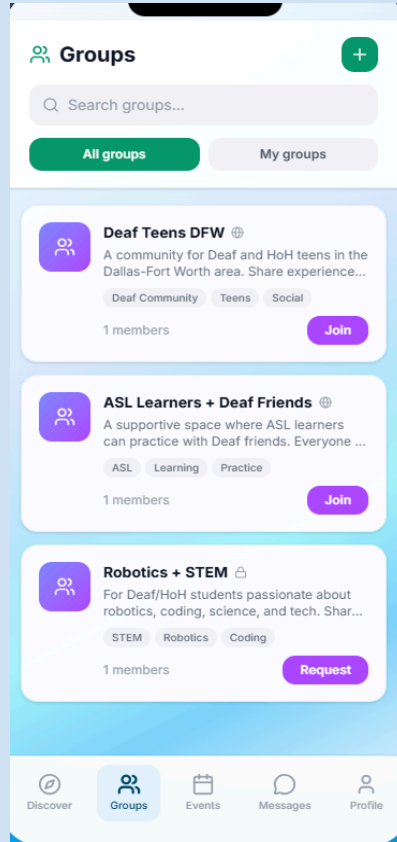
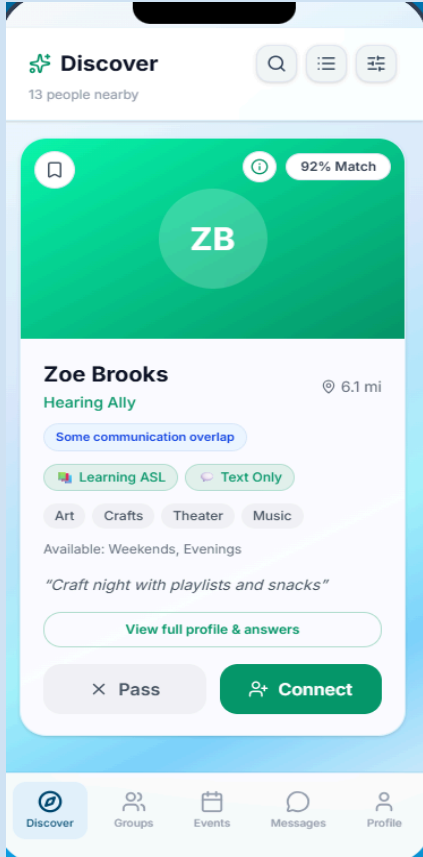




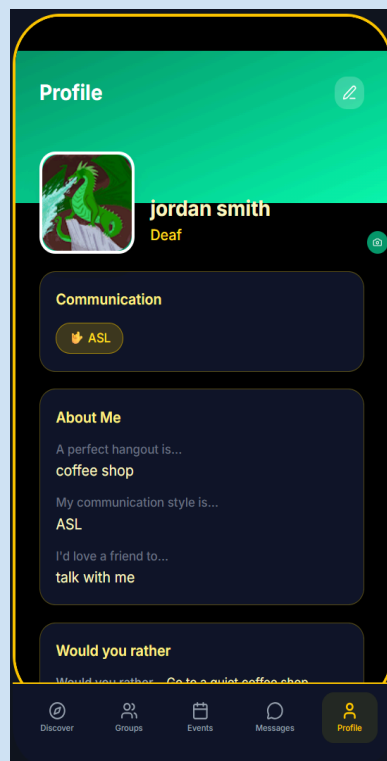
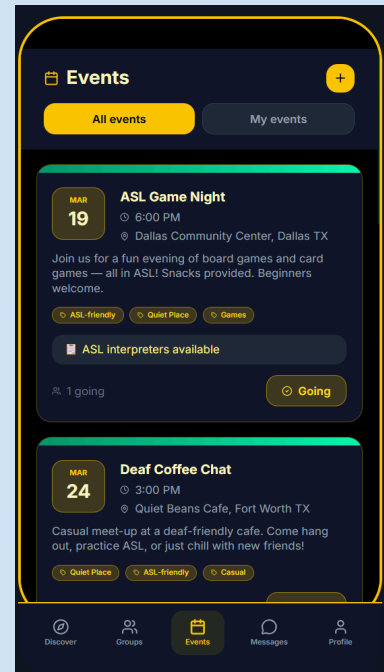
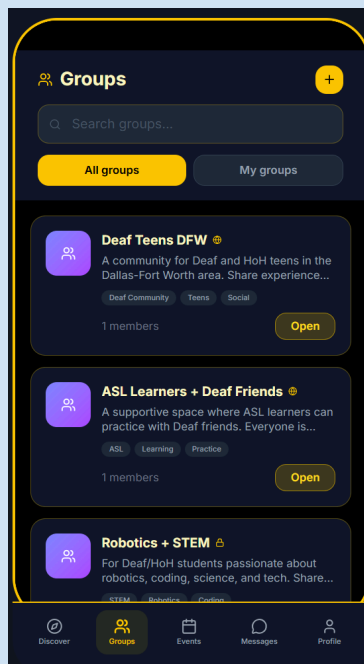
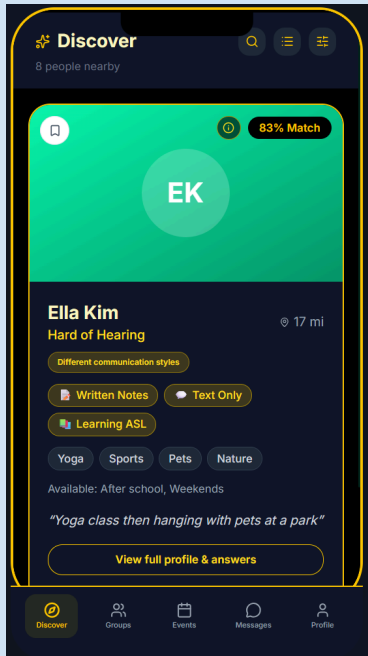


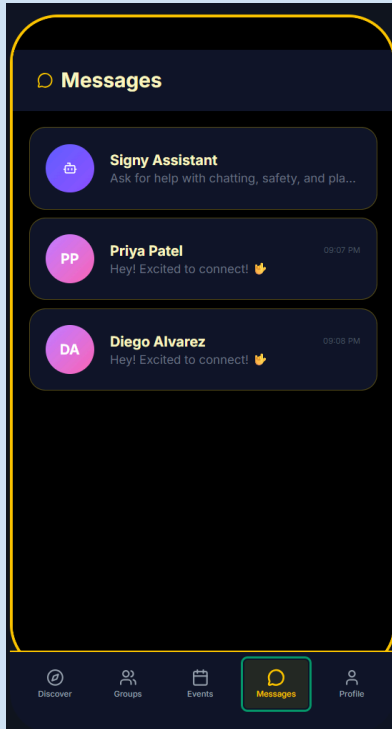
#	Title	Step	Description
1	Welcome screen	-	Introduces NearSign with options to create an account or sign in via Google or email.
2	Sign up form	-	User enters their name and email to create a new account.
3	Name & age	1 of 9	User sets their display name and selects an age range to personalize their experience.
4	Identity	2 of 9	User identifies as Deaf, Hard of Hearing, or a Hearing Ally to find the right community.
5	Communication style	3 of 9	User picks how they communicate - ASL, SEE, lip reading, text, or written notes.
6	Interests	4 of 9	User selects at least 3 interests like gaming, art, or nature to match with like-minded people.
7	Availability	5 of 9	User selected time they are available to hangout/chat
7	Your location	6 of 9	User enters their address and school, and sets a distance radius to find nearby matches while keeping their exact location private.
8	A little about you	7 of 9	User fills in optional prompts about their ideal hangout, communication style, and they'd love in a friend.
9	Would you rather?	8 of 9	User answers quick preference questions (e.g., quiet cafe vs. loud concert) to help find better-fitting matches.
10	Safety and boundaries	9 of 9	User customizes privacy settings - who can see their profile, group invites, conversation pace, caption preferences, and text size - before completing setup.

Default Color Theme:

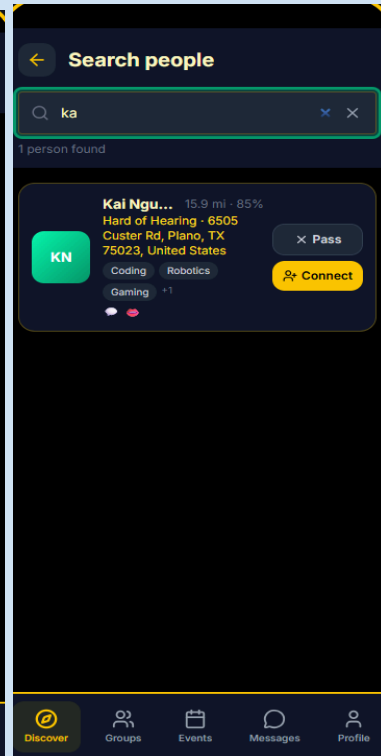
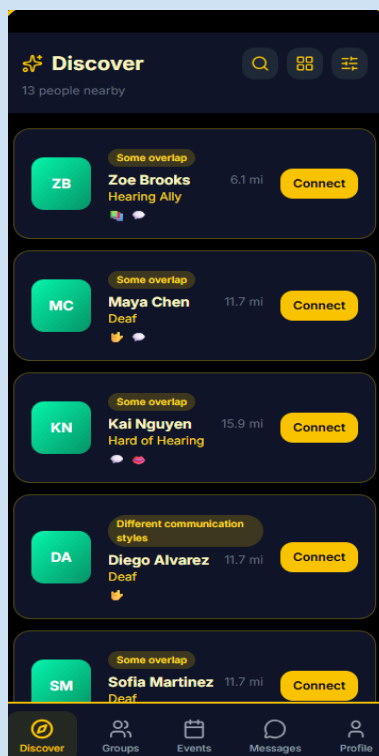
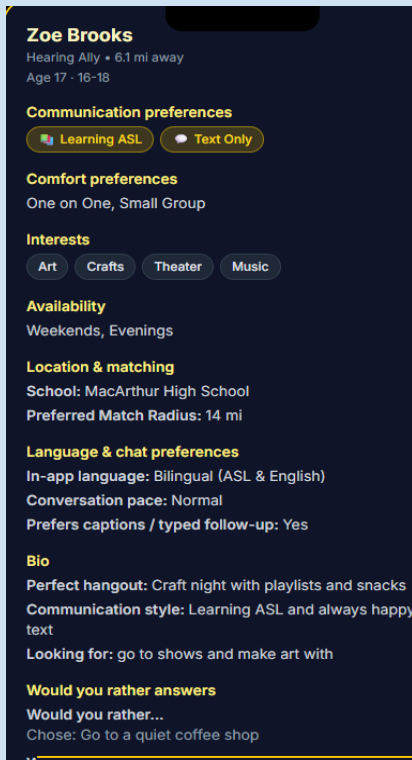
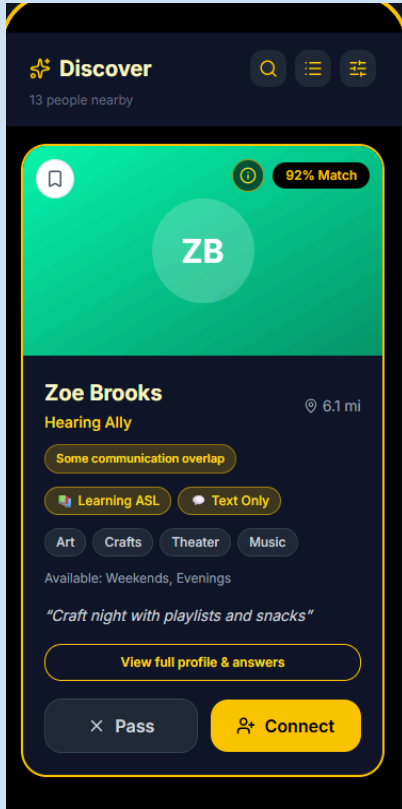


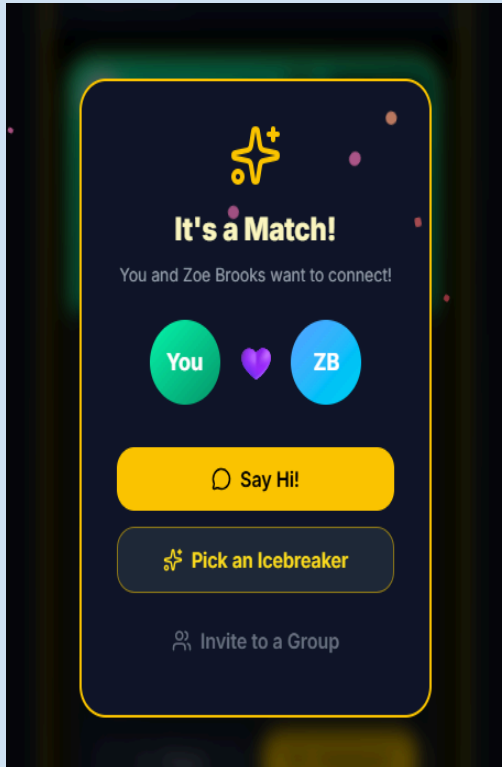
High Contrast Mode:





Discover:



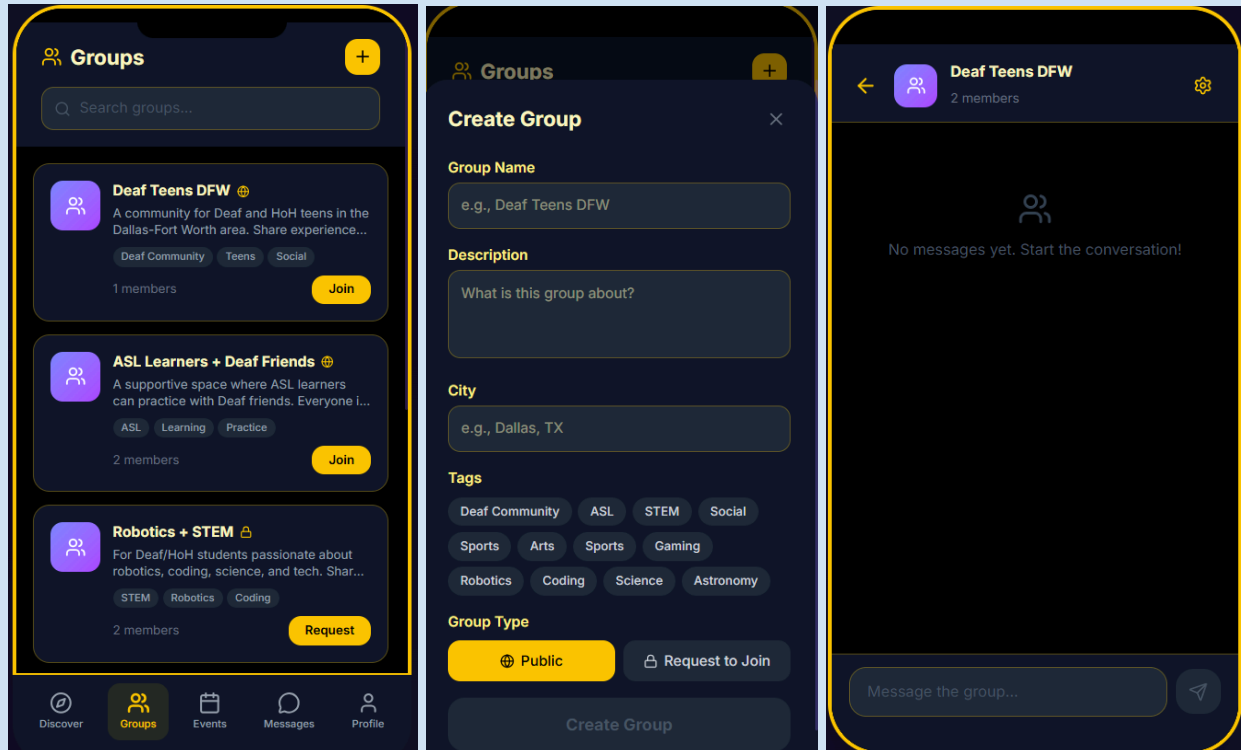


Feature	Visual	Purpose
Matching Percentage	Top right of user card telling user how strong of a match the other user would be to be their friend	Using interests, communication style and other profile information generates a match percentage to tell the user whether or not this would be a good friend candidate.
Nearby Count	“X people nearby” text	Gives instant feedback on how many matches are available.
Search Shortcut	Magnifying glass button	Lets users quickly jump to targeted people search.
View Toggle	List/Grid icon toggle	Switches between card-style browsing and compact list view.
Filter Control	Sliders icon button	Opens advanced filtering to narrow results by preferences.

Card Browsing Mode	Single swipe-style profile card	Focuses attention on one person at a time for easier decisions.
List Browsing Mode	Scrollable profile rows with avatar, tags, and distance	Enables faster scanning of many profiles at once.
Insight	The “I” icon next to match percentage	Gives quick understanding of communication fit, identity context, and distance relevance.
Distance Indicator	“X mi” label on each profile	Helps users prioritize local connections.
View Full Profile	Full-profile action/link from discover card or list	Lets users open complete profile details before deciding to connect.
Connect Action	“Connect” button	Starts the connection flow with a selected user.
Save/Bookmark Action	Save control in card mode	Lets users keep profiles for later instead of deciding immediately.
Pass Action	Pass control in card mode	Skips profiles that are not a fit.
Match Confirmation	Match pop-up/modal	Celebrates successful connection and prompts next conversation steps.
Filter Sheet	Slide-up filter panel	Applies discovery filters without leaving the page context.

Groups:

The Groups feature is where the community comes together. It changes the app from a one-on-one matching tool into more of a social network, where users can find others based on their location and interests. Instead of only interacting through profiles, users can join group spaces to share ideas, ask questions, and connect with people who have similar hobbies. This makes the app feel less focused on matching and more like a digital community space for the Deaf and Hard of Hearing (HoH) community.



Groups: Community & Connection

Feature	Visual	Purpose
Group Discovery	Scrolling Cards	Easily browse communities with clear titles, descriptions, and member counts
Search & Filter	Search Bar + Tags	Quickly find specific groups like “Robotics” or “ASL Practice” without having to scroll forever.
Privacy Levels	Globe & Lock Icons	Shows if a group is Public (join instantly) or Private

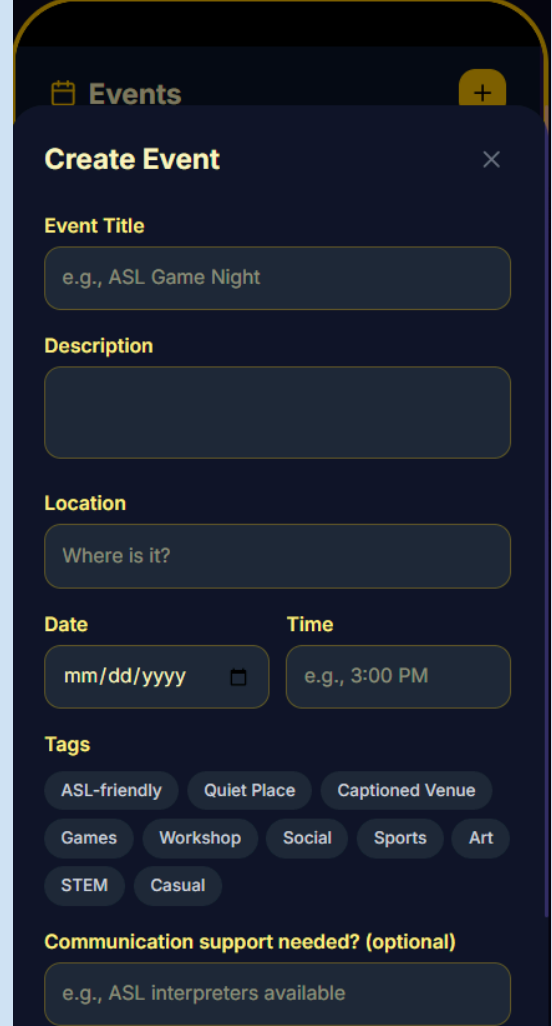
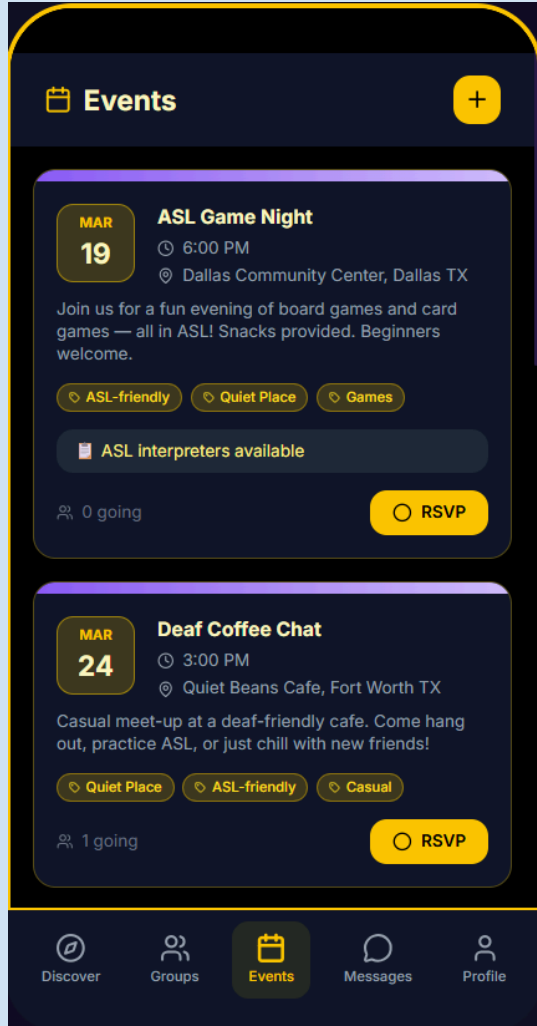
		(must request to join)
Group Creation	Plus (+) Button	Lets users take the lead and start their own community
Chat Interface	Message Field	Space for group conversations
Pop-Up that appears after you press connect	Pop-up screen	Once you connect, a pop up appears to ask you to message the user and communicate with them.

Why this is important:

- **Finding Your People:** By using tags like STEM, Gaming, or Deaf Community, the app allows users to quickly find groups that match their specific interests instead of spending time on unnecessary small talk.
- **Privacy and Safety:** The “Request to Join” feature allows group administrators to review members before they join, which helps maintain a safe and supportive environment.
- **Local Connections:** The city filter (such as Dallas, TX) helps users connect with people nearby, making it easier to build real-life friendships and attend local events.
- **Accessible Design:** The high-contrast yellow buttons on a dark background improve visibility, making it easier for users to navigate the app, especially in bright environments or for those with visual sensitivities.
- **Simple Interface:** The chat screen is clean and free of distractions, allowing users to focus on meaningful conversations.

Overall, while the app helps users initially meet new people, the Groups feature is what helps those connections grow into stronger and more meaningful friendships.

Events:



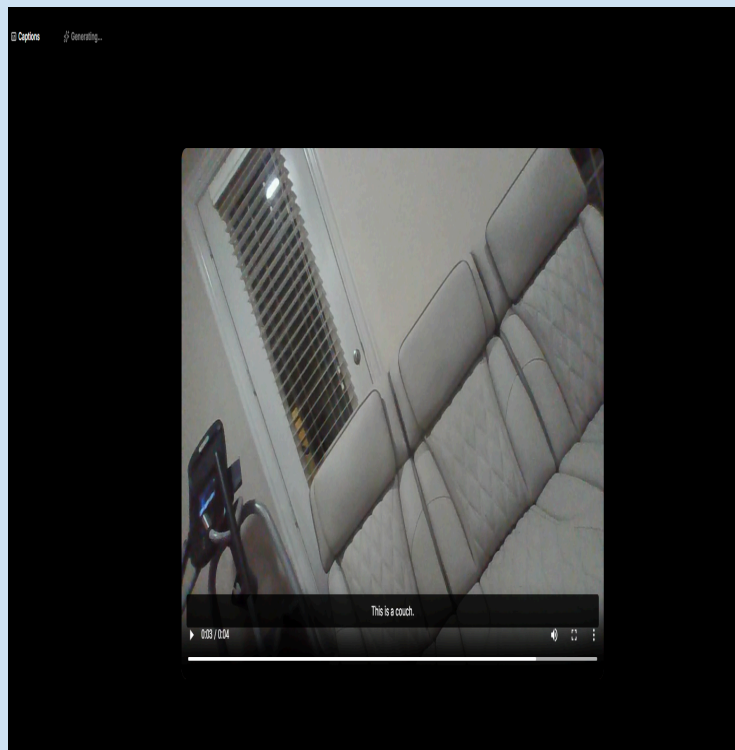
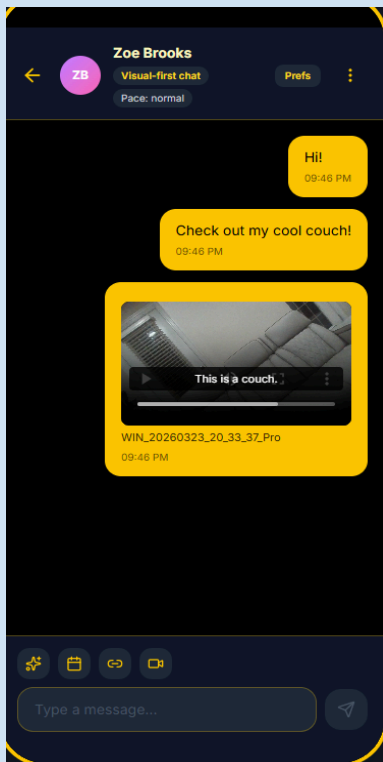
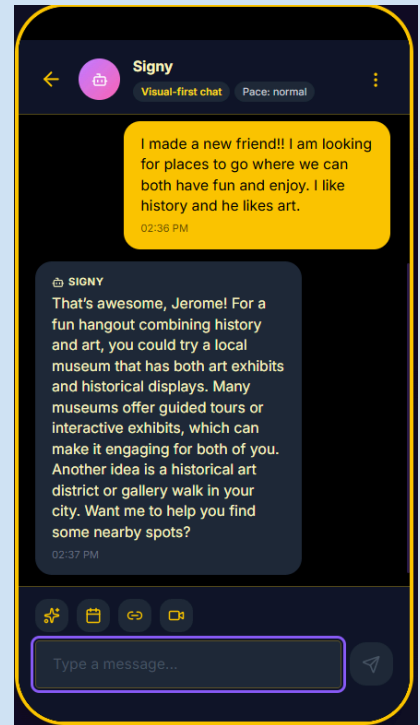
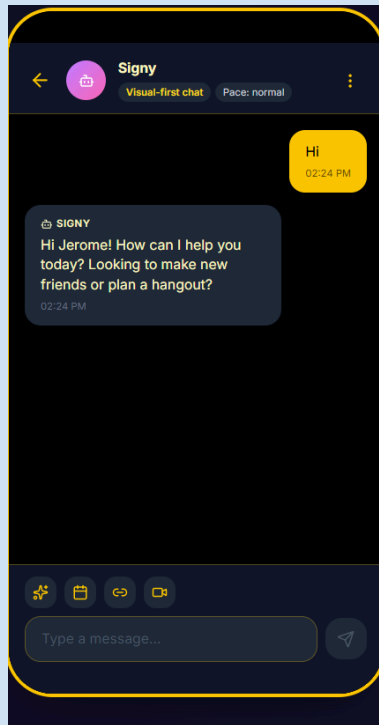
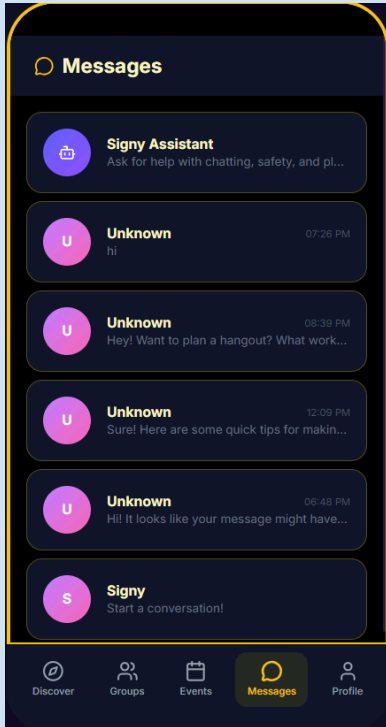
- **Screen 1 - Events feed**
Displays a list of upcoming local events with the date, time, location, tags (e.g., ASL-friendly, Quiet Place), and an RSVP button so users can join events near them.
- **Screen 2 - Create Event form**
Lets users create their own event by filling in a title, description, location, date, time, tags, and optional communication support info (e.g., ASL interpreters available).

Example events shown:

ASL Game Night - Mar 19 at 6:00 PM, Dallas Community Center. A board game and card game evening held entirely in ASL. Snacks provided, beginners welcome.

Deaf Coffee Chat - Mar 24 at 3:00 PM, Quiet Beans Cafe, Fort Worth, TX. A casual meet-up at a deaf-friendly café to hang out, practice ASL, or make new friends.

Messages:



- **Screen 1 -Messages inbox**
Shows all active conversations in one place, including chats with other users and the built-in Signy Assistant. Users can quickly see recent messages and jump into any conversation.
- **Screen 2 & 3 - Signy Assistant chat**
Signy is an AI assistant built into the app that helps users socialize more confidently. In the example shown, Jerome tells Signy he made a new friend who likes history and art - Signy then suggests going to a local museum with both art exhibits and historical displays, offers ideas like guided tours or gallery walks, and even offers to find nearby spots for them.
- **Screen 4 & 5 - Chat with connected user and video attachment with captions**
This shows a chat with a connected user. You can do video attachments as well so that users can communicate in ASL. If there is a spoken language, we have captions generated using deepgram API so that the user can understand.

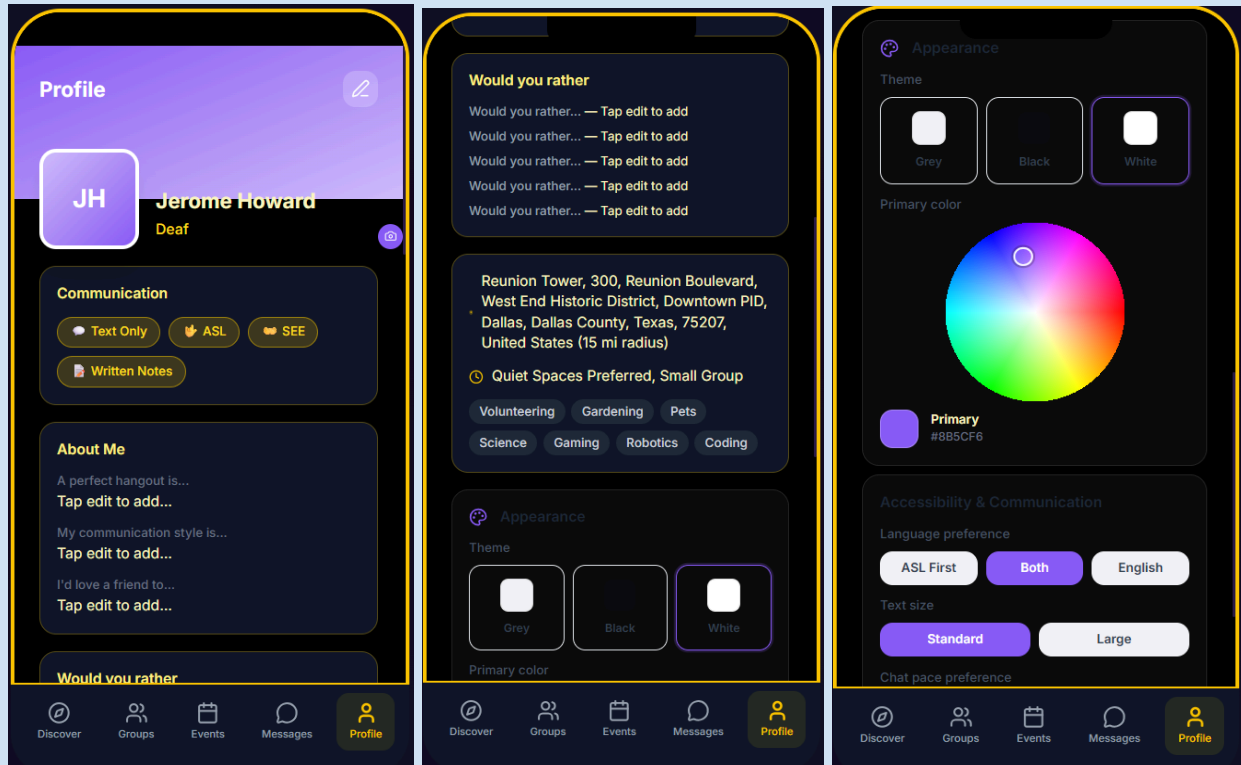
How it helps users:

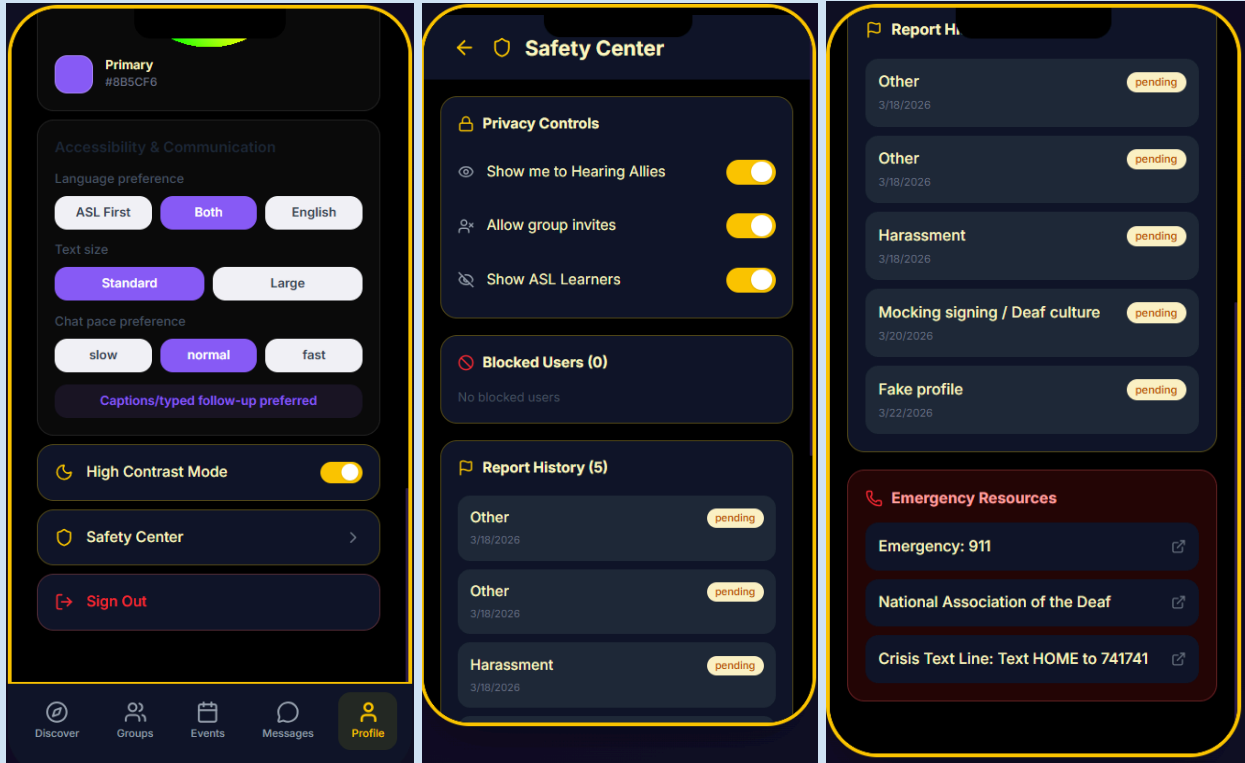
- **Social confidence** - users who may struggle with initiating plans (common in Deaf and Hard of Hearing communities due to communication barriers) can ask Signy for help brainstorming hangout ideas, conversation starters, or event suggestions.
- **Personalized suggestions** - Signy takes the user's specific situation into account (shared interests, location) rather than giving generic advice.
- **Safe space to plan** - users can privately work through social plans with Signy before reaching out to friends, reducing anxiety around communication.
- **Visual-first & paced** - each chat shows "Visual-first chat" and "Pace: normal" labels, meaning conversations are adapted to the user's communication preferences set during onboarding.

All-in-one inbox - direct messages with other users and the assistant live in the same place, making the app simple to navigate without switching between tools.

Profile:

The Profile and Settings screens are like the brain of the app. This is where users decide how they want to be seen by others. For an app made for the Deaf and Hard of Hearing (HoH) community, these pages are even more important than on regular social media. They are not just for changing a profile picture. They let users build their digital identity, choose how they communicate, and set their own privacy rules. By giving users a space to customize everything from their hobbies to text size, the app helps everyone feel represented and safe.





Feature	Visual	Purpose
Profile Overview	Avatar + Stats	Shows your "Friends" count and "Groups" joined to track your community activity
Bio & Info	Text Block	A space to tell people about yourself and show your communication style
Interest Tags	Scrolling Bubbles	Displays your hobbies so others can see why you have a high match percentage.
Account Settings	List Menu	Let's you manage sensitive info like "Password" and "Security."
Preferences	Toggle	Changes the app's behavior, like switching to a larger text size for accessibility. Also can change the primary color of the app.

Why this is important:

- **Identity is Key:** In the Deaf and HoH community, how you communicate is a huge part of who you are. The profile lets people set these preferences once so they don't have to explain them in every new chat.
- **Custom Fit:** The settings aren't just for show. Including Text Size and Language Display options makes the app actually usable for everyone, no matter their vision or language preference.
- **Building Trust:** By having a clear, organized settings page, the app feels professional and safe. Users need to know they have total control over their data and privacy before they feel comfortable meeting new people.
- **Clean Look:** The design uses a lot of spacing and clear icons. This keeps the screens from looking cluttered, making it way easier for users to find what they need without getting lost.
- **Making Connections Count:** Showing Interest Tags right on the profile helps jumpstart conversations. It's way easier to talk to a stranger when you can already see you both like "Robotics" or "Gaming."

Technical Implementation

Overview

NearSign is a mobile-first web app designed for Deaf and hard-of-hearing youth to discover nearby peers, chat, join groups and events, and receive AI-assisted match explanations.

The client is built as a Next.js App Router SPA-style experience using TypeScript, React 19, and Tailwind CSS v4.

Global UI state and most application data are managed through a Zustand store, with optional Firebase Firestore synchronization when environment variables are configured. If Firebase is not enabled, data is persisted locally using a per-user storage owner ID keyed by email.

Frontend Architecture

Framework:

- Next.js 16 (App Router)
- React 19
- TypeScript

Styling & UX:

- Tailwind CSS v4
- Framer Motion (animations and transitions)
- lucide-react (icons)
- Custom CSS variables for theming (including onboarding-based primary colors)

State Management:

A centralized Zustand store manages:

- Current user profile
- Discover feed
- Saved and passed profiles
- Friend requests and matches
- Chats and messages (including attachments)
- Groups and group messages
- Events

- Blocks and reports
- High-contrast mode
- Persistence helpers (loadFromStorage / saveToStorage)

Routing (File-Based):

- Home
- Onboarding
- Profile
- Discover
- Search
- Chat list
- **/chat/[id] (dynamic)**
- Groups
- **/groups/[id] (dynamic)**
- Events
- Safety
- **/user/[id] (public profile)**

Backend & APIs (Next.js Route Handlers)

Server-side logic is implemented under **src/app/api/**.

Route	Purpose
/api/auth/[...nextauth]	Handles authentication via NextAuth.js (Google OAuth, session handling)
/api/match-insight	Uses OpenAI (gpt-4.1-mini) to generate safe, structured match explanations
/api/signy-chat	AI assistant (“Signy”) with context window and accessibility-aware responses
/api/upload-video	Handles video uploads, validation, storage, and transcription
/api/search-address	Proxy to OpenStreetMap Nominatim for geocoding

External Services & Integrations

OpenAI:

- Used for match insights and Signy assistant
- Server-side only via **OPENAI_API_KEY**
- Graceful fallback if key is missing

Deepgram:

- Speech-to-text transcription for uploaded videos
- Uses **DEEPGRAM_API_KEY**
- Does not process sign language (audio only)

Firebase:

- Optional Firestore sync using **NEXT_PUBLIC_*** config
- Supports real-time updates via **onSnapshot**

Google OAuth:

- Integrated via [NextAuth.js](#)
- Incorporates secrets in `.env.local` **NEXTAUTH_SECRET**, **GOOGLE_CLIENT_ID**, **GOOGLE_CLIENT_SECRET**, **NEXT_AUTH_URL**

OpenStreetMap Nominatim:

- Used for address search
- No API key required
- Includes proper User-Agent headers

Data Model (High-Level)

User Profiles Include:

- Identity information
- Communication and comfort preferences
- Interests
- Availability
- Location (latitude/longitude, radius, school)
- Bio

- “Would You Rather” responses
- Safety settings
- Chat preferences
- Font scaling and theme settings

Chat System:

- Text messages
- Attachments (video, links)
- Optional captions for videos

Groups:

- Members and admins
- Rules and tags
- Posts and discussions

Events:

- Organizer
- RSVP system
- Tags
- Communication support notes

Security & Privacy

- Sensitive keys stored server-side only (OpenAI, Deepgram, OAuth secrets)
- Firebase config is the only client-exposed environment data
- Match insights avoid exposing private user data (e.g., exact location or email)
- Video uploads are validated (type + size), and filenames are sanitized
- Transcriptions are processed server-side to protect API keys

Accessibility & Product Features

- High-contrast mode available and persisted
- Custom chat preferences (e.g., captions preferred)
- Manual caption editing supported for videos
- Automatic transcription available when audio is present

Tooling & Quality

- TypeScript (strict mode)
- ESLint (Next.js configuration)
- Consistent typing across components and API routes

Build Commands:

- **next build**
- **next start**

Development:

- Dev server runs on **0.0.0.0** for LAN testing

Focus on Accessibility

Accessibility is not just a feature in NearSign, it is the heart of everything our app stands for. Our goal is to create a space where Deaf and Hard of Hearing users feel fully seen, understood, and empowered without ever needing to adjust how they naturally communicate. Every detail is thoughtfully designed to remove barriers and replace them with clarity, comfort, and confidence. This is not about making small accommodations, it is about building an experience where accessibility is the foundation and where every user can connect without limitations.

Visual First Communication: this is at the core of how NearSign works. Instead of prioritizing text or audio, the platform is designed around video and visual interaction so users can communicate through expressions, body language, and signing. Features like instant video posting, visual reactions, and expressive content sharing allow conversations to feel more human and natural, closely reflecting real life communication within the Deaf community.

ASL Friendly Features: they go beyond simply allowing video. NearSign is built to support American Sign Language as a primary language, with high quality video optimized for clear hand movement and facial expression visibility. The interface ensures that signing is never cut off or compressed in a way that loses meaning, and tools are designed to respect the grammar and flow of ASL so users can communicate comfortably and authentically.

Minimal Reliance on Audio: means users never have to depend on sound to fully participate. Important information is always delivered visually, whether through captions, visual alerts, or clear on screen indicators. Notifications, interactions, and content are designed so that nothing essential is hidden behind audio, removing the stress of missing out and allowing users to engage with confidence.

Clear UI Icons and Cues: make navigation simple, intuitive, and stress free. Every button, feature, and interaction is supported by strong visual symbols and consistent design patterns so users always understand what to do next. Instead of relying on text heavy instructions, NearSign uses clear icons, animations, and visual feedback to guide users, creating an experience that feels smooth, accessible, and easy to trust from the very first use.

Impact and Benefits

NearSign creates real impact by addressing challenges that Deaf and Hard of Hearing individuals face every day, turning moments of isolation into opportunities for connection and belonging. It is not just about providing features, it is about improving lives in meaningful, lasting ways by making communication easier, more natural, and more inclusive.

Reduces Isolation: by helping users find and connect with others who share their language and experiences. Instead of feeling left out in spaces that rely heavily on sound, users can open NearSign and instantly find people nearby who understand them. For example, a Deaf high school student who often sits alone at lunch can use NearSign to connect with other Deaf students in their area, leading to real friendships both online and in person.

Builds Community: by bringing people together through shared interests, local events, and group spaces. Users are no longer limited to small or hard to find networks. They can join communities that match their passions and identities. For instance, someone passionate about art might join a Deaf artists group, collaborate on projects, and eventually attend a local showcase where they meet others face to face.

Improves Mental Health: by creating a space where users feel seen, understood, and valued. Being able to communicate freely without barriers reduces frustration and loneliness. Imagine a Deaf teenager who struggles to express themselves on traditional apps finally being able to share videos in ASL and receive supportive responses from people who truly understand, helping them feel more confident and less alone.

Real World Scenarios: is seen when online connections turn into meaningful offline experiences. A college student new to campus might use NearSign to find a Deaf meetup happening nearby, attend with people they connected with on the app, and build a close friend group. Another user might discover a support group for Deaf individuals navigating career challenges, gaining advice, mentorship, and opportunities they would not have found otherwise. These moments show how NearSign goes beyond the screen, creating connections that truly change lives.

Competitive Analysis

NearSign stands apart from mainstream social media platforms by focusing entirely on the needs, experiences, and communication styles of Deaf and Hard of Hearing users, rather than trying to retrofit accessibility into systems that were never designed for them.

Instagram / Facebook are widely used platforms, but they are fundamentally built around text, audio, and algorithms that prioritize content not optimized for Deaf communication. While they offer some accessibility features like captions, these are often inconsistent, inaccurate, or treated as secondary add-ons rather than core design elements. Communication on these platforms can feel limiting for Deaf users, as video content is not always optimized for signing, important context is often delivered through sound, and there is little emphasis on building Deaf-centered communities. As a result, users may feel excluded or forced to adapt their natural way of communicating just to participate.

What makes NearSign Unique is its accessibility-first foundation. Every feature is intentionally designed for visual communication, ensuring that ASL and other sign languages are fully supported rather than accommodated as an afterthought. The platform prioritizes clear video quality for signing, visual interaction over audio, and intuitive design that does not rely on sound cues. Beyond communication, NearSign also emphasizes community through location-based friend matching, Deaf-friendly event discovery, and group spaces that bring people together both online and in real life. Instead of simply connecting users, NearSign creates a true sense of belonging by aligning with the culture, language, and everyday experiences of the Deaf community.

Future Improvements

NearSign is built with a strong foundation, but in the future we are focused on growing alongside the needs of the Deaf and Hard of Hearing community, continuously improving how users connect, communicate, and feel supported.

AI Sign Language Translation will help bridge communication gaps between Deaf and hearing individuals by translating sign language into text or spoken language, and vice versa. This feature can make interactions in mixed environments smoother and more inclusive. For example, a user could sign a message in a video and have it translated for someone who does not know ASL, opening up more opportunities for connection beyond the Deaf community.

Video Based Communication Tools will continue to evolve to make conversations more expressive and seamless. Future updates could include enhanced video quality, real time visual reactions, collaborative video spaces, and tools that make group signing conversations feel more natural. This ensures users can communicate in ways that truly reflect how they interact in real life.

Event Partnerships will expand opportunities for users to engage with their community in meaningful ways. By partnering with schools, organizations, and local groups, NearSign can bring more verified Deaf friendly events onto the platform. For instance, users might discover workshops, career fairs, or cultural events directly through the app, making it easier to stay connected and involved.

Safety Features will be strengthened to create a secure and trusting environment for all users. This includes improved moderation tools, reporting systems, and identity verification to prevent misuse and protect the community. Users should feel safe expressing themselves, knowing that the platform is actively working to maintain a respectful and supportive space.

Conclusion

NearSign is more than just an app, it is a platform built to give Deaf and Hard of Hearing individuals a space where they are fully understood, not accommodated. By centering accessibility, visual communication, and community, it removes barriers that have long made social connection difficult. NearSign turns isolation into belonging, creates opportunities for real relationships, and empowers users to express themselves freely. Its impact goes beyond the screen, building a stronger, more connected community where everyone has a voice and a place to belong.

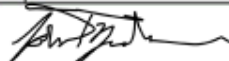
Work Log

TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK				
Date	Task	Time involved	Team member responsible (student initials)	Comments
1. 2/9/26	Post-Regionals: Brainstormed project ideas, identified problem space, chose to focus on Deaf and Hard of Hearing community	01:24:37	SR, AR, DS, RS, YR, AG	Concept chosen, need to research Deaf community needs, define target audience
2. 2/13/26	Researched Deaf community challenges, isolation statistics, reviewed competitor platforms	02:11:52	SR, AR, DS, RS, YR, AG	Research complete, need to outline core features, begin planning document
3. 2/20/26	Defined core features, created app flowchart, mapped out user flow from onboarding to main screens	01:58:04	SR, AR, DS, RS, YR, AG	Flowchart done, features locked in, need to start UI mockups
4. 2/24/26	Designed UI mockups for onboarding, Discover feed, groups, events, messaging, and profile screens	02:33:19	SR, AR, DS	Mockups done, need to finalize color palette, accessibility design decisions
5. 2/27/26	Chose tech stack, planned component structure, assigned coding responsibilities to team members	01:03:41	SR, DS, YR, AG	Planning complete, ready to begin coding, scaffold app next session
6. 3/2/26	Began coding, built initial app structure, implemented core layout and navigation	02:09:56	SR, AG, DS	Coding started, foundation in place, need to scaffold full Next.js project

TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK

Date	Task	Time involved	Team member responsible (student initials)	Comments
1. 3/8/26	Scaffolded Next.js app with Tailwind CSS, TypeScript, and NextAuth authentication, built basic sign-in	01:52:13	SR, AR	Project foundation done, need to build sign-in and onboarding flow
2. 3/11/26	Added to onboarding flow: preferred name, age, short responses, and would-you-rather quiz	02:44:07	SR, AR, RS, AG	Onboarding done, need to build Discover feed, match algorithm, messaging
3. 3/13/26	Built Discover feed, match algorithm, profile tab, shared UI components, and full messaging system (1:1 and group chat)	05:22:34	SR, DS, AG	Feed, matching, messaging all done, need to add events page, safety center
4. 3/14/26	Added events page, safety center, and custom 404 error page, worked on address autocomplete	01:37:49	SR, AR, DS, YR	Events and safety done, need to polish match UI, add compatibility insights
5. 3/17/26	Updated matching and profile UI, added compatibility insights to match cards, fixed block button UI	01:19:22	SR	Match UI polished, need to add location features, safety defaults, onboarding improvements, limit address autocomplete to DFW and finalize
6. 3/18/26	Added address autocomplete with DFW geofencing, updated onboarding safety defaults, finalized interest options	02:51:08	DS	Location and safety features done, need to add AI assistant, captioning, backend sync

TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK				
Date	Task	Time involved	Team member responsible (student initials)	Comments
1. 3/19/26	Added primary color theming setting and improved overall UI polish, accessibility chat features, started on Firebase Backend	00:58:31	AG	Theming done, still need AI features, Firebase backend before next session, start on AI assistant
2. 3/20/26	Added AI Assistant, video attachment with auto-generated captions, Firebase Firestore backend, onboarding styling updates	05:06:17	SR, AR, DS, RS, YR, AG	AI assistant, captioning, cloud backend all done, need to fix state persistence, test cross-device sync
3. 3/21/26	Integrated Firebase sync backend and fixed persisted user state handling, edited privacy settings	01:28:44	SR, AR, DS, RS, YR, AG	Sync and state bugs resolved, need to finish people search, profile routes before competition
4. 3/22/26	Added people search, user profile routes, onboarding availability section, added filters for groups and events lists	01:44:53	SR, AR, DS, RS, YR, AG	All core features complete, app ready for state competition
5. 3/23/26	Change default color gradient of the app to match onboarding pages	00:45:00	SR, DS	Default color gradient matches the background color gradient of the creating profile page. High contrast mode for a darker them and primary color features are still in tact.
6.				


 Advisor signature _____

References

This project is inspired by both real human experiences and research that highlights the challenges faced by the Deaf and Hard of Hearing community, especially around communication, isolation, and mental health.

Personal Story / Inspiration

A close family friend of mine who is Deaf once shared how difficult it was to stay connected with others using traditional social media. They explained that most apps felt exhausting because communication was built around text and audio, not visual language. They said, *“I always feel like I have to adjust myself just to be included.”* Moments like that show how something as simple as communication can become a barrier, and how powerful it would be to have a space designed for them from the start. That experience directly inspired the idea behind NearSign.

Research and Statistics

Research shows that Deaf and Hard of Hearing individuals face significantly higher levels of isolation and mental health challenges compared to hearing populations, largely due to communication barriers in everyday life. Studies indicate that around 25.8% of Deaf individuals experience depression or anxiety compared to about 6.8% of hearing individuals, highlighting a major gap in mental health outcomes. Additionally, over 90% of Deaf children are born into hearing families, which can create early communication gaps and long term feelings of disconnection. Surveys and research also reveal that limited access to accessible communication, social platforms, and community resources contributes to increased stress and reduced opportunities for full participation in society, reinforcing the need for platforms like NearSign that are built with accessibility at their core.

Sources and Citations

Kushalnagar, Poorna, et al. “Prevalence of Anxiety or Depression Diagnosis in Deaf Adults.” *The Journal of Deaf Studies and Deaf Education*, vol. 24, no. 4, 1 Aug. 2019, pp. 378–385, www.ncbi.nlm.nih.gov/pmc/articles/PMC6786504/, academic.oup.com/jdsde/article/24/4/378/5542492.

National Institute of Mental Health. “Major Depression.” *National Institute of Mental Health*, National Institute of Mental Health, July 2023, www.nimh.nih.gov/health/statistics/major-depression.

National Institute on Deafness and Other Communication Disorders. “Quick Statistics about Hearing.” *NIDCD*, National Institute on Deafness and other Communication Disorders, 25 Mar. 2021, www.nidcd.nih.gov/health/statistics/quick-statistics-hearing.

Graphics Citations

Lucide Icons — used for UI iconography across the app

Source: <https://lucide.dev>

Package: lucide-react

License: ISC

Custom UI Graphics by Team — gradients, component styling, layout visuals, cards, modals, and interaction visuals were created by the team in code (React/Tailwind CSS/Framer Motion).

Next.js Starter SVG Assets — next.svg, vercel.svg, globe.svg, window.svg, file.svg

Source: Next.js starter template assets

Framework: Next.js

License context: included as framework sample assets

User-Uploaded Media (if displayed in-app) — user-submitted images/videos remain property of their respective owners and are shown in-app for demo/app functionality.