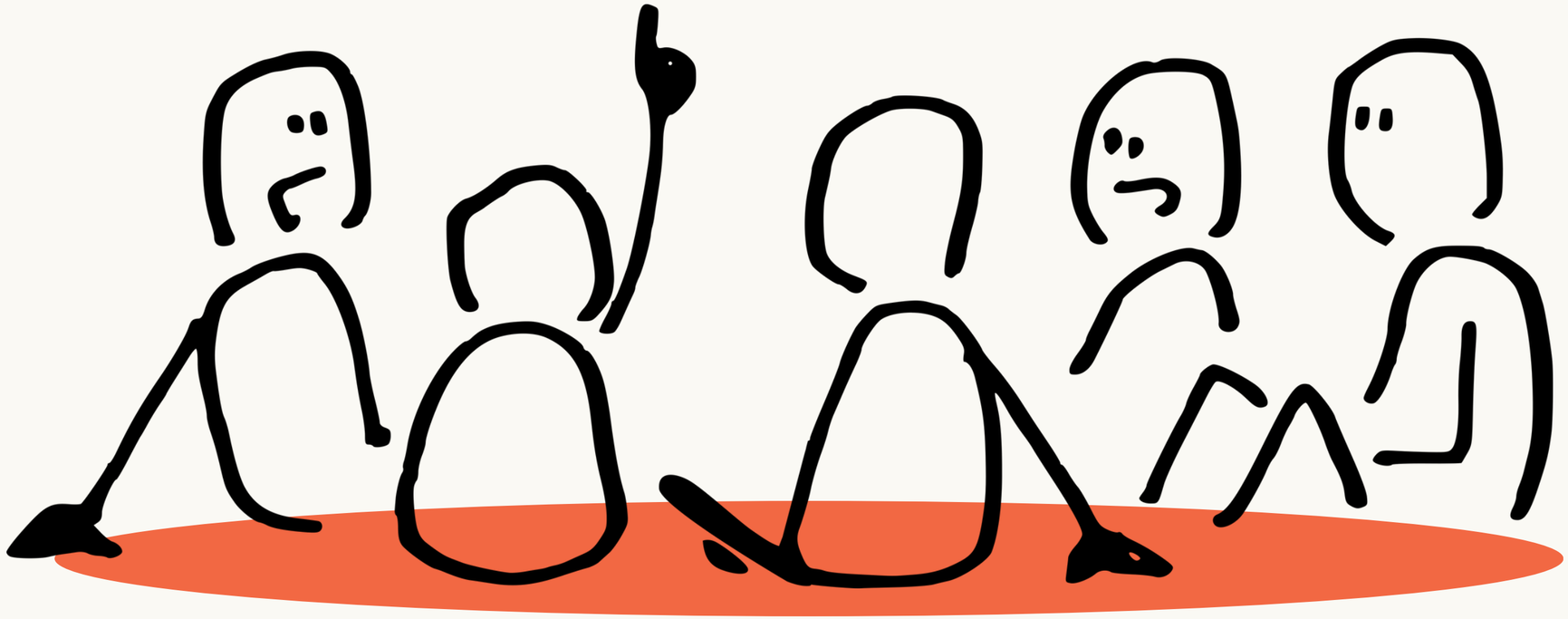
TALKTHROUGH

Amrita Arun,
Riya Shenoy,
Sai Raina



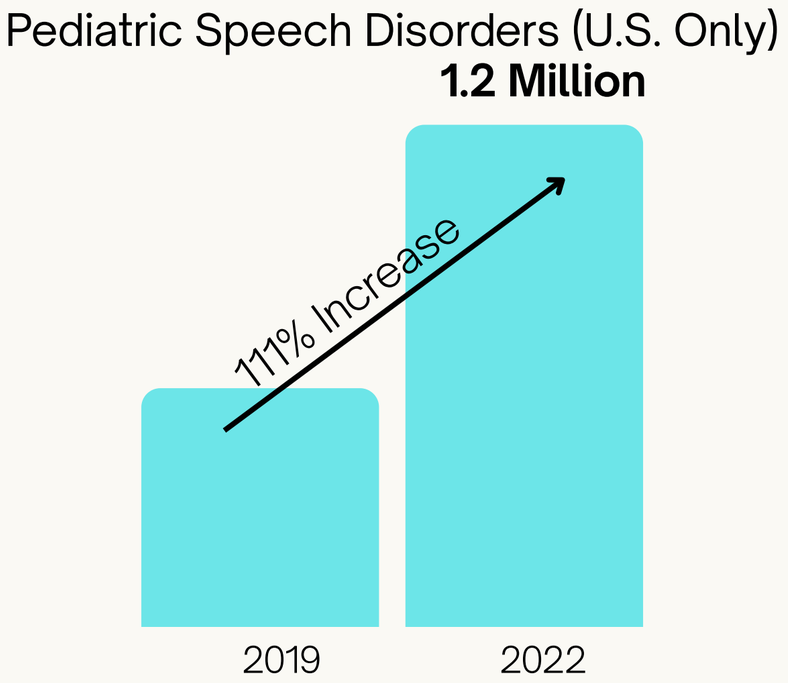
Simulating Social Experiences

Unlocking personalized immersive experiences

Providing speech therapists unique insights on patient progress

8% of U.S. children (ages 3–17) have a communication disorder, including speech and language

Approximately 1 in 36 children in the U.S. is diagnosed with ASD, with many experiencing social communication deficits and anxiety in social situations



The Problem

Track progress

Speech therapists aren’t able to gain insights on patient practice at home

Lack of reflection opportunities

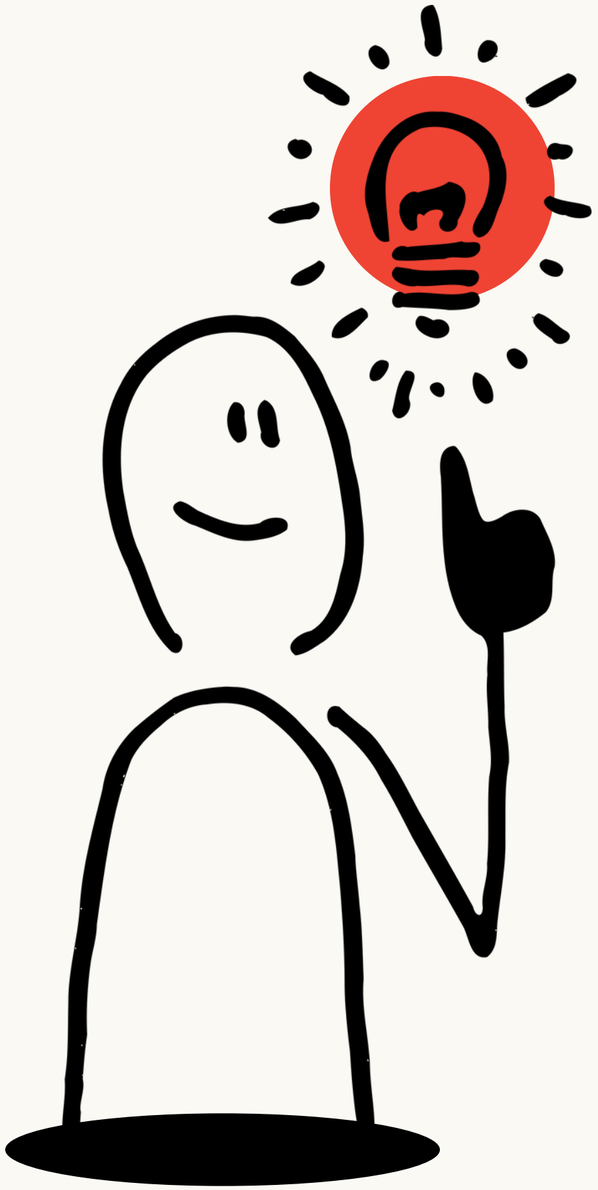
Students are unable to see actionable insights in real-time

Unrealistic experiences

Speech therapists are only able to talk about social experiences 1-1, which means they’re not immersive or realistic

Lack of personalization

Children need to practice social experiences that relate to their life and their unique struggles



THE SOLUTION

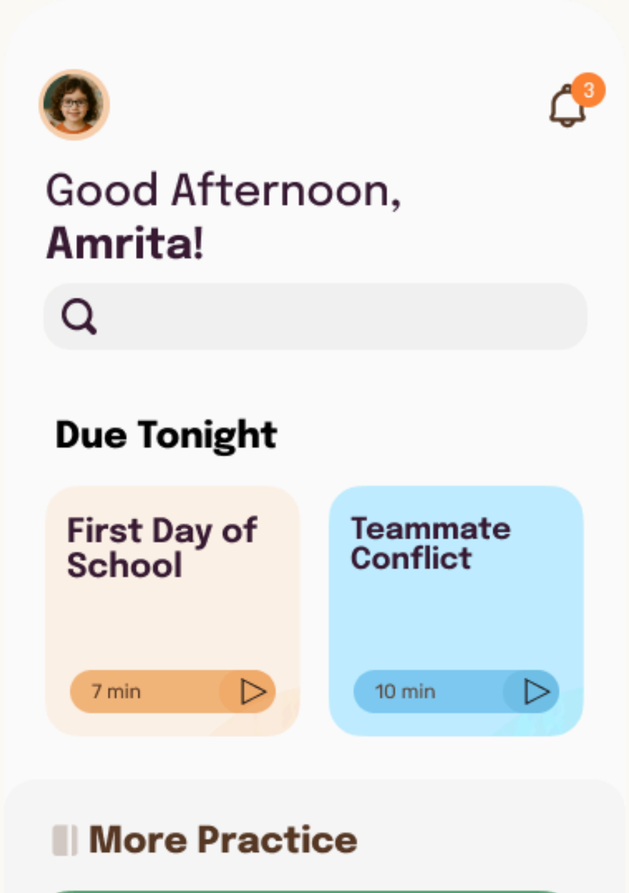
An app and accompanying VR experience that allows K-12 children with high-functioning autism to **talk through** real-life scenarios

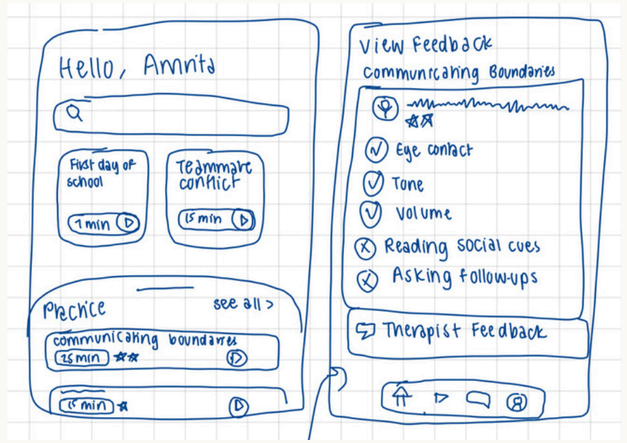
PATIENT-SIDE

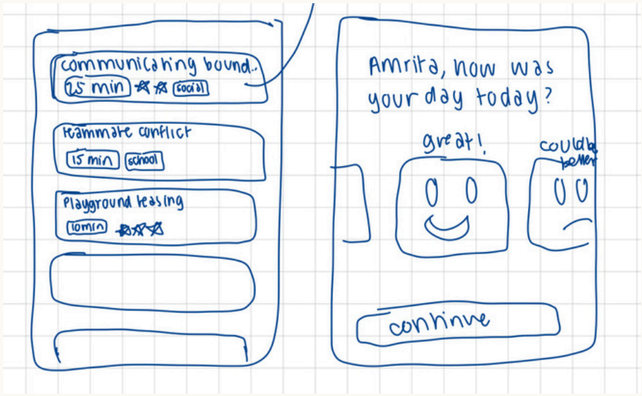
At Home VR Modules

At Home Activities

Children can go through assigned activity modules through a mobile app + VR headset pairing. After completing interactive module scenes, they can listen to their transcript and view feedback through rubric items that align with official speech therapy frameworks





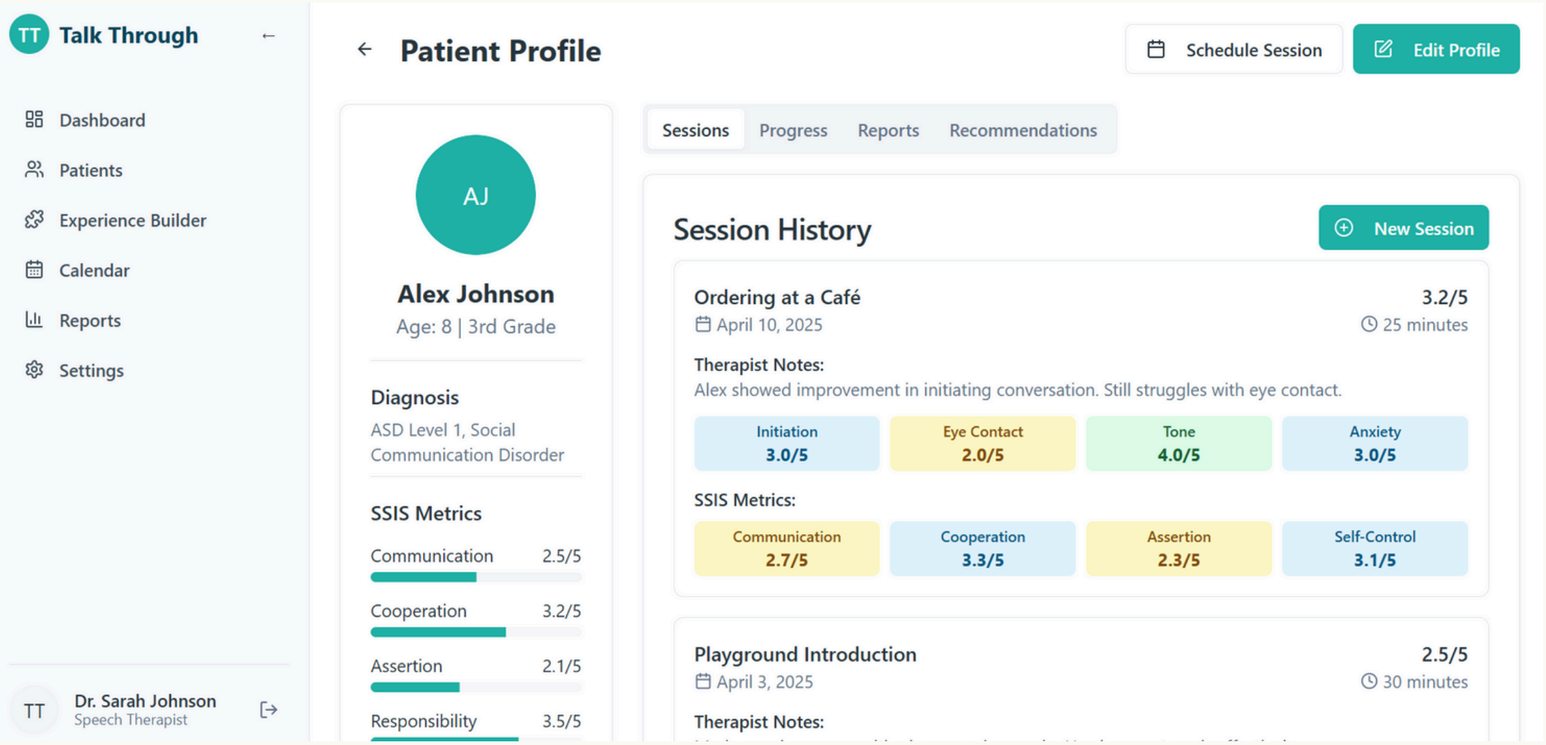


THERPIST-SIDE

Patient Tracking

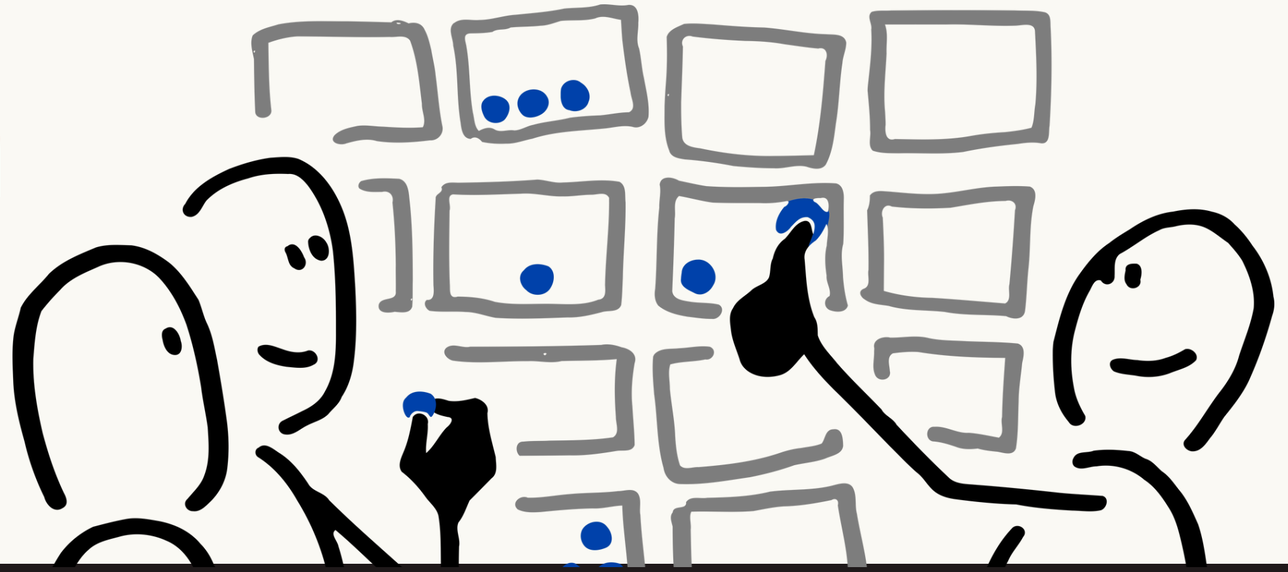
Therapist Portal

Therapists can assign relevant activity modules for the student to practice, give personalized guidelines, and view insights for them to tailor their next session.



Patient Demo

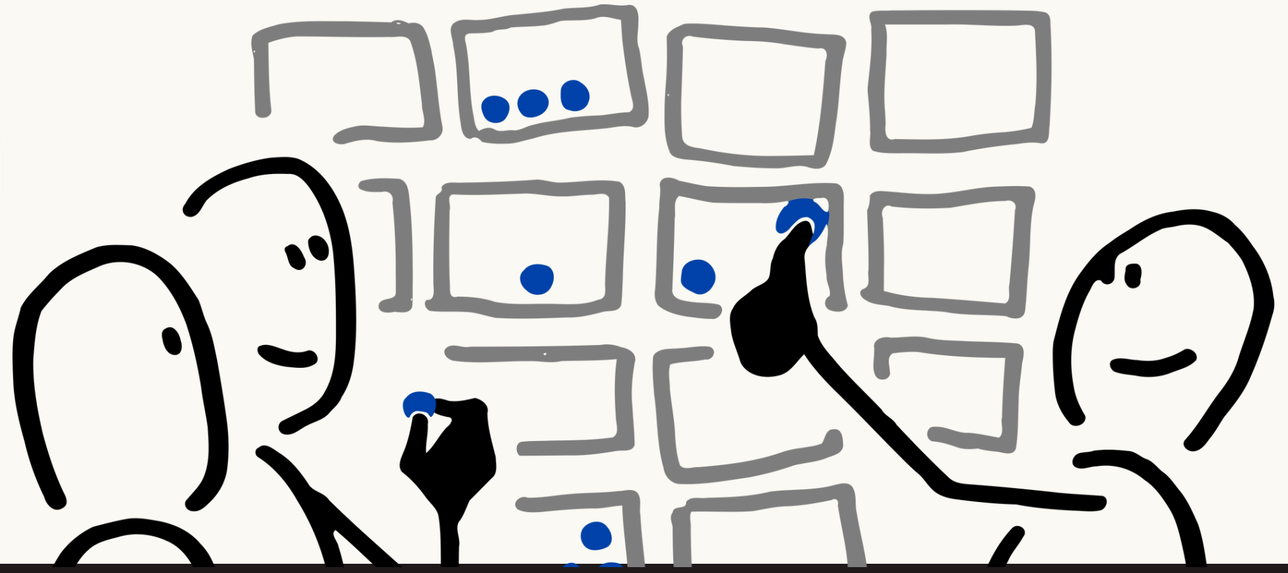
Implementation plan



Generating activity modules

Speech therapists already have a bank of scenarios that they practice with clients. This information is available largely publicly, and because these scenarios are typically common and every-day, we can use an LLM to generate scripts. Many of the backgrounds are also available as free scenes, so building new modules won’t take as much time as most of the scenes come from already existing templates. The personalization comes from different dialogues and scripts, which we can generate using speech-to-text audio (by using an LLM).

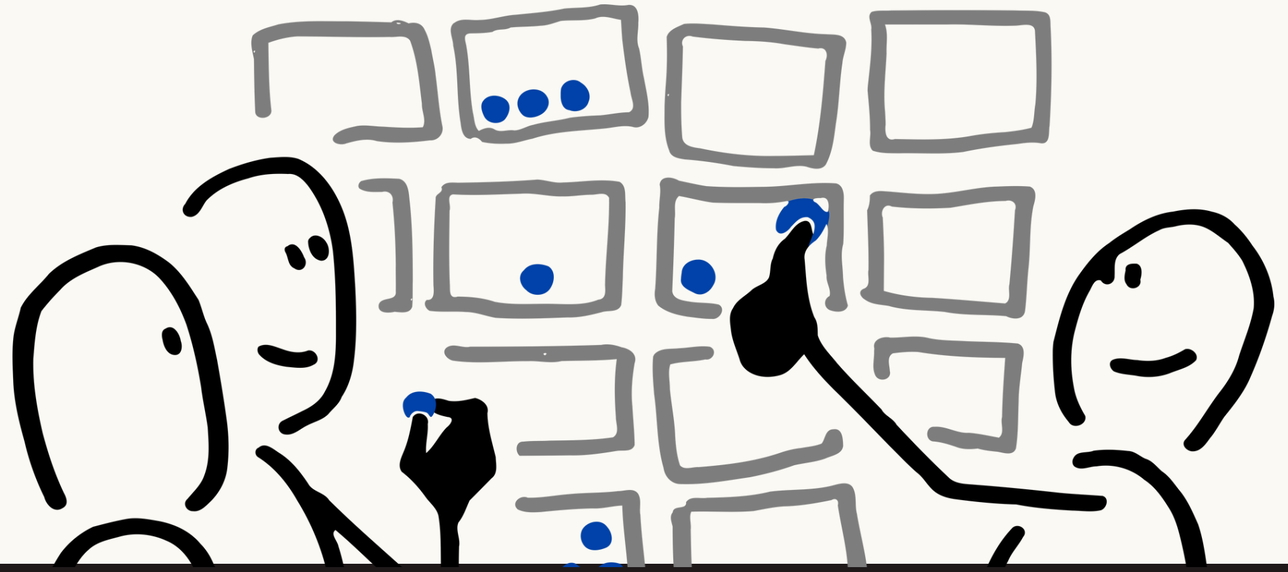
Implementation plan



Measures of Success

We'll provide therapists the ability to choose different commonly-used evaluation frameworks (Clinical Evaluation of Language Fundamentals, The Children's Communication Checklist, etc.) to grade the "success" of their patients. On the patient side, they'll get digestible, qualitative feedback through rubric items like "tone", "eye contact", etc., that allow them to gain actionable insights in real-time.

Ensuring Data Privacy and Compliance



COPPA (Children's Online Privacy Protection Act)

We'll obtain verifiable parental consent and give parents control over their child's data.

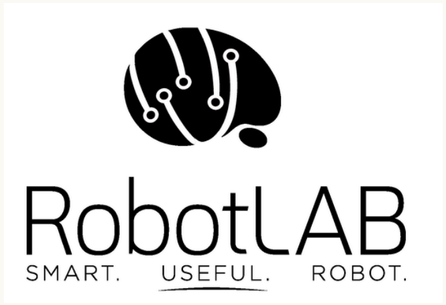
HIPAA

We'll use HIPAA-compliant providers (AWS, Google Cloud with BAA agreements) and HIPAA-compliant LLM models (Claude by Anthropic). Therapist notes are anonymized for research and improvement.

Multi-factor authentication and end-to-end encryption

So only therapists can access patient data.

Competitors



Rigid lessons: Limited adaptability during sessions.

Shallow tracking: Basic data only (e.g., eye gaze), not speech therapy-specific

.

No speech focus: Most target general social or cognitive skills.

Weak gamification: Lacks elements to drive long-term engagement.

Low scalability: Requires therapist presence in every session.

Lack of customization: Limited ability to adjust sensory inputs (e.g., brightness, sound levels) prevents accommodation of individual needs.

Backed by Research

Studies have shown that Virtual Reality Rehabilitation Systems :

- Improves language skills like word comprehension, sentence building, and spontaneous speech.
- Reduces social anxiety through self-guided exposure in safe, controlled environments.
- Enhances communication & emotional regulation in children with ASD.

Most effective with long-term use (6–15 weeks) for lasting results.

Proven Safe & Engaging

NIH-backed study confirms VR safety for users with ASD with no adverse effects

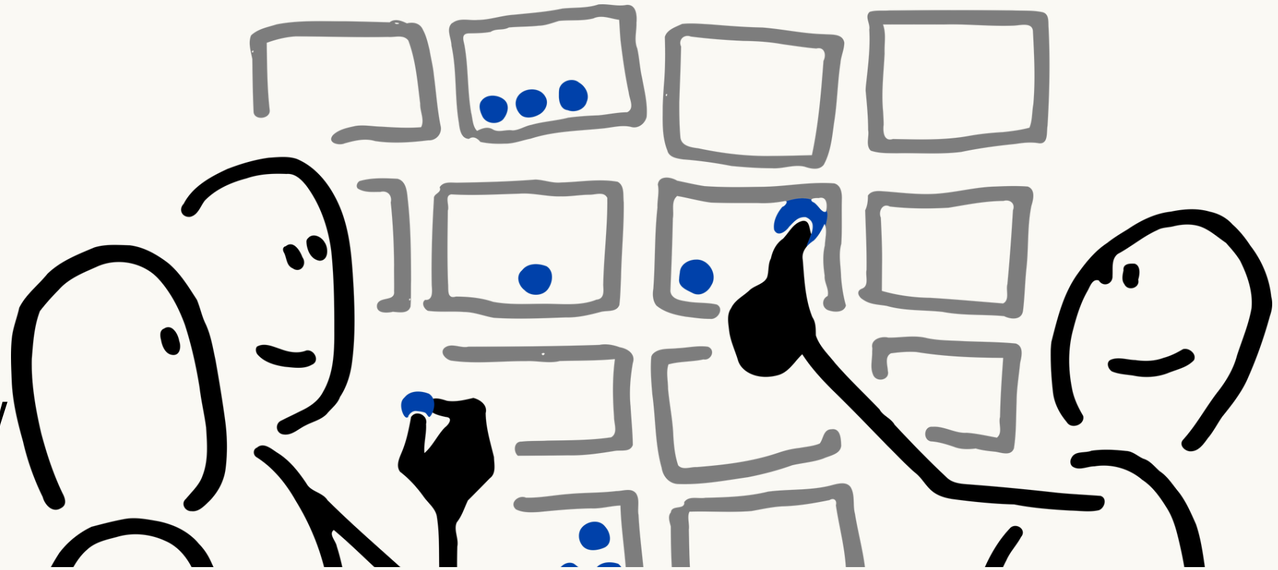
Feasability & Scababability

Ready with Today's Tech

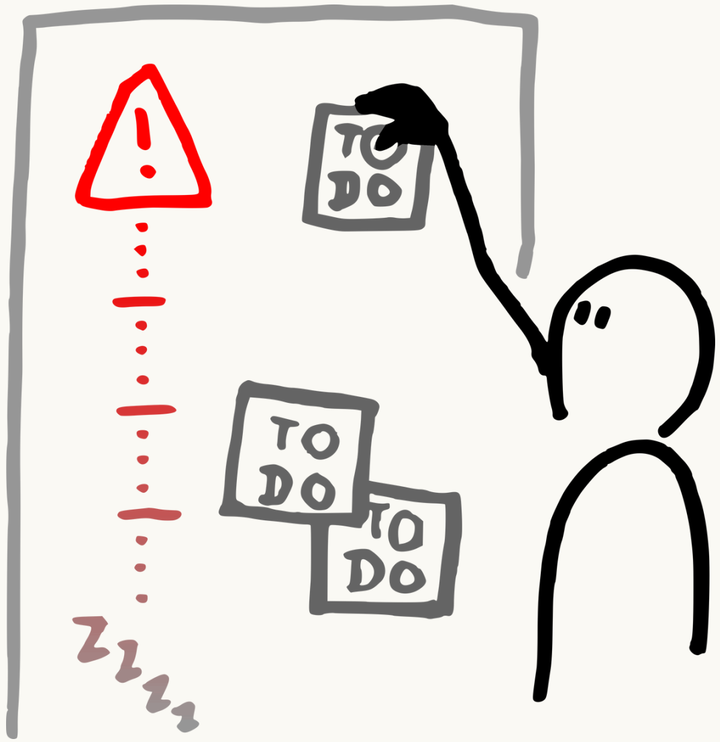
Cross-platform compatibility provides access at a lower cost (Pico Neo & Google Cardboard)

Scalable & Accessible

- School & Clinic partnerships
- Hardware rental reduces upfront cost
- Downloadable scenarios = easy updates, no new hardware needed



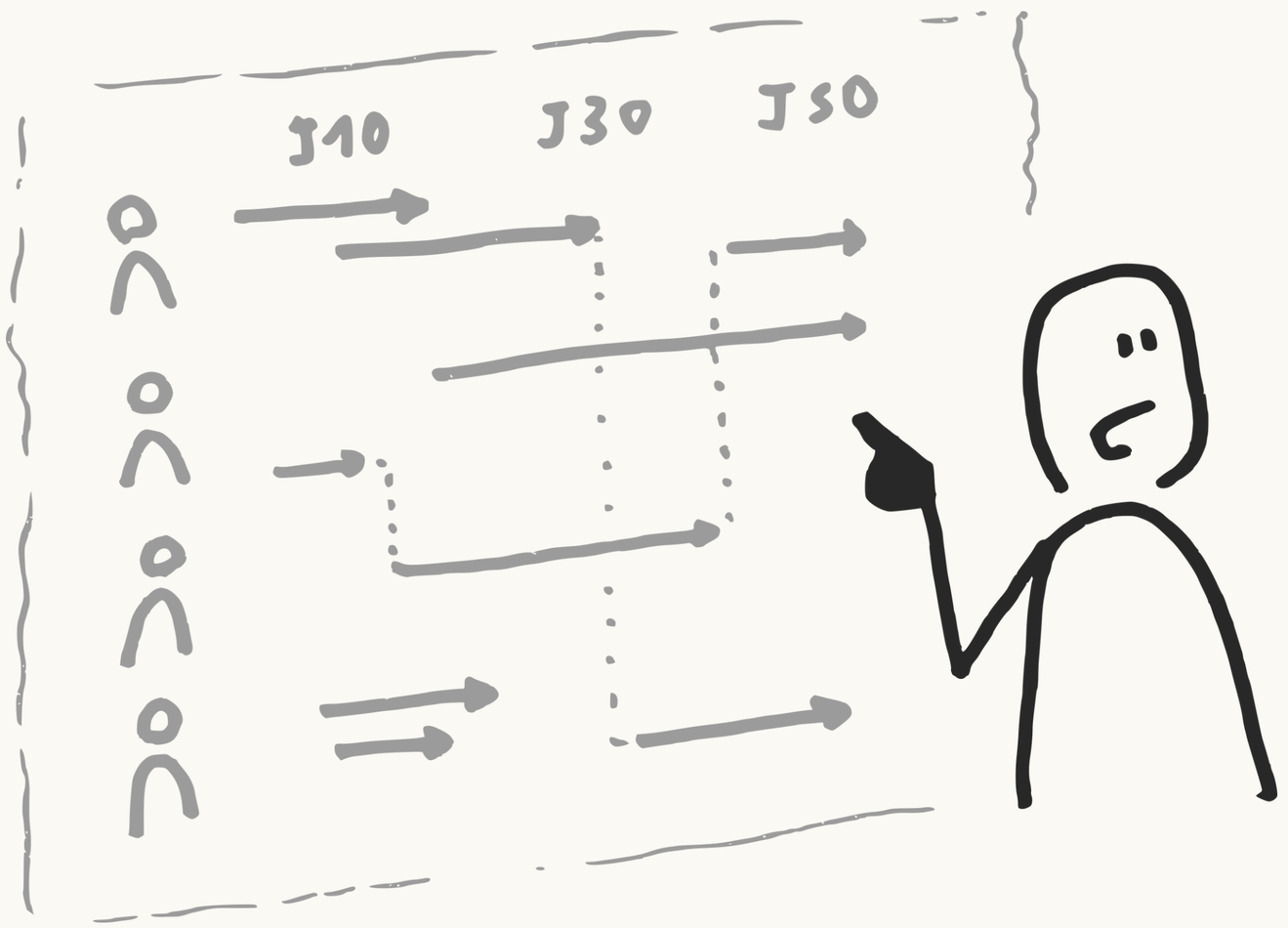
Next Steps

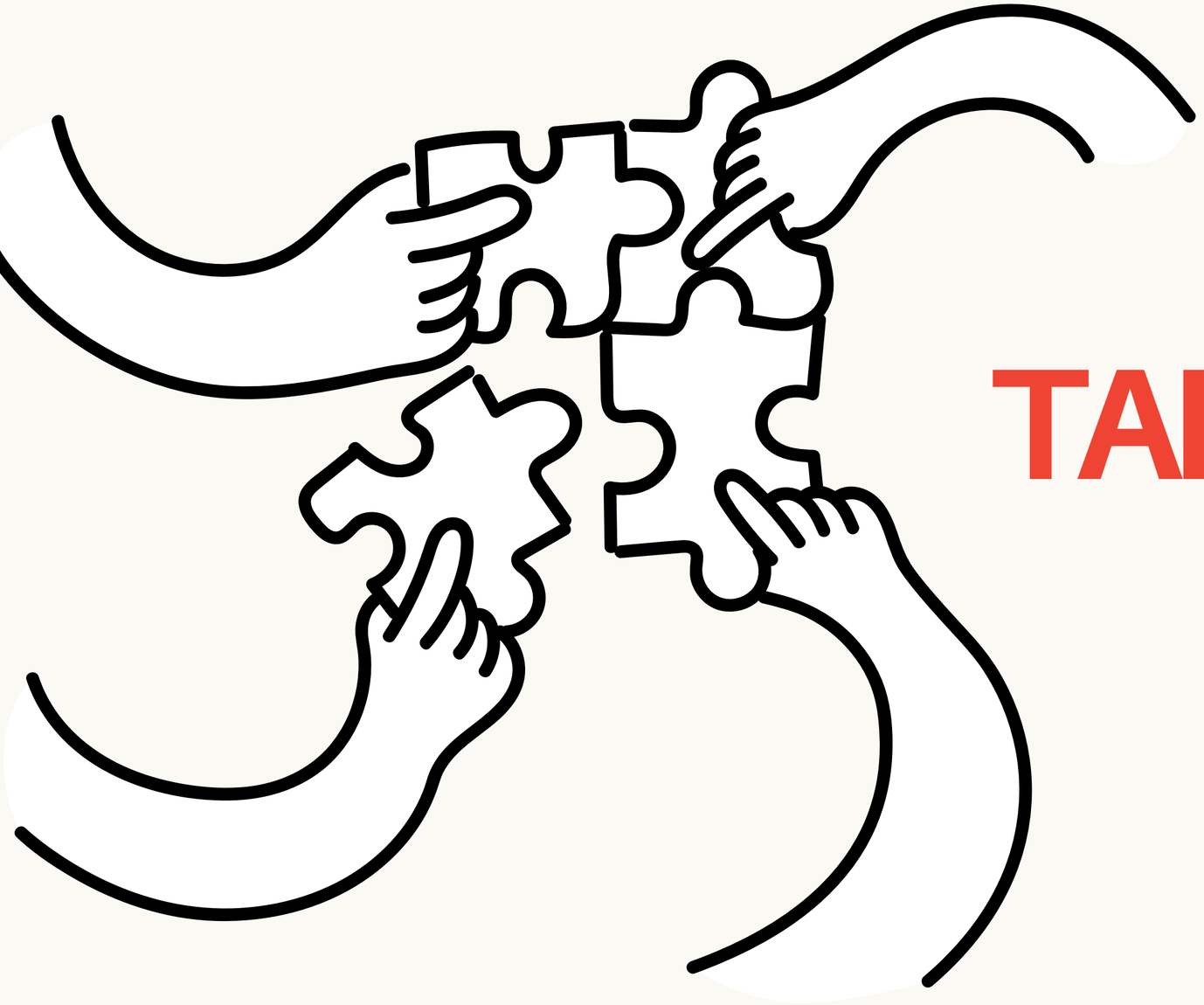


- Develop modules for adults with communication challenges (e.g., post-stroke aphasia or ASD), **as only 1%** of research dollars go toward interventions for higher age ranges
- Collaborate with schools, hospitals, and NGOs to integrate VR into existing therapy programs
- TalkThrough can be expanded to other communities such as individuals with anxiety, other communication and mental health disorders, or anyone looking to improve their interpersonal skills!

Therapist Portal Demo

Scan Me





TALKTHROUGH

Thank you!