

Dec 12, 2025. Seoul National University

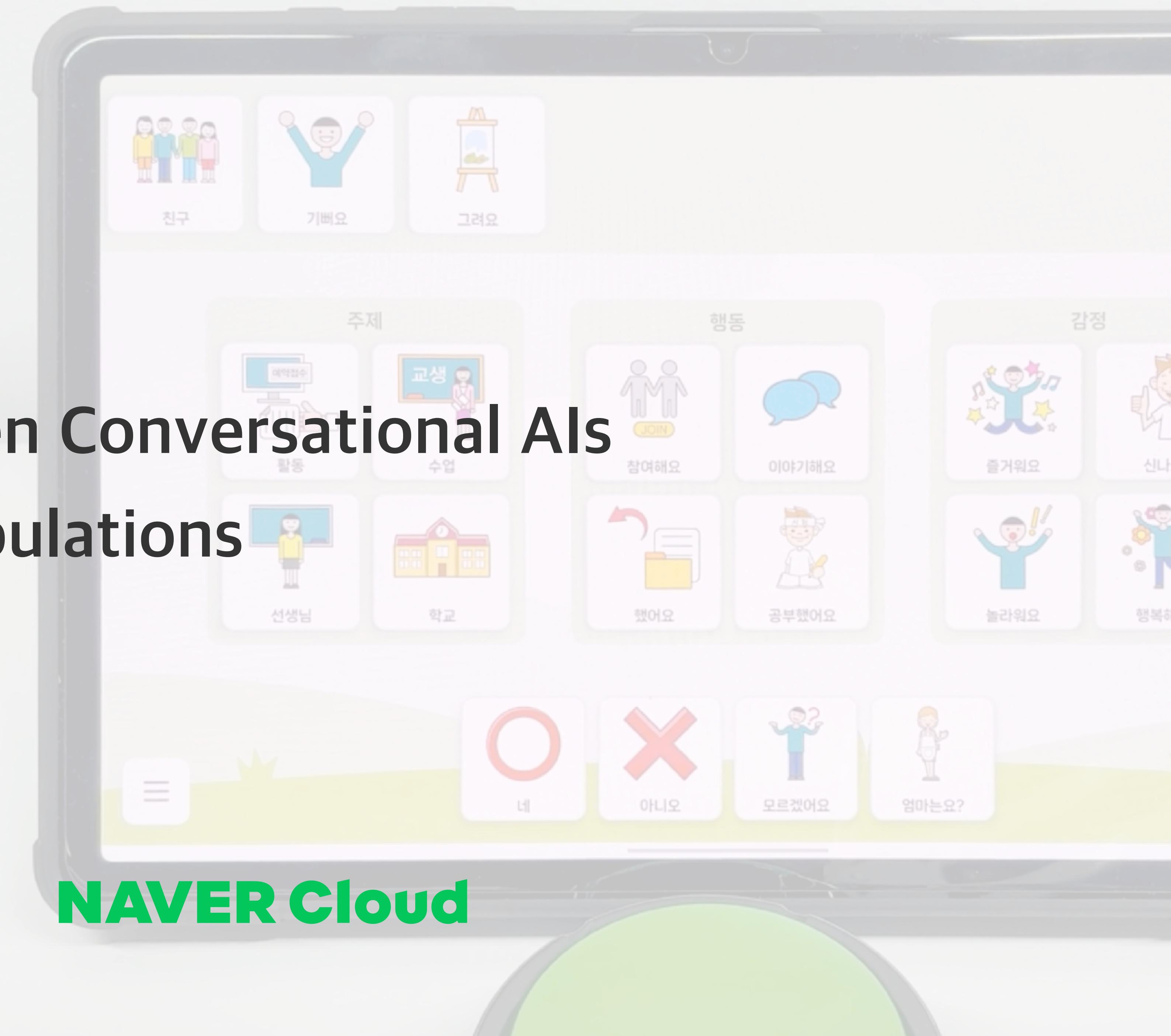
Designing LLM-driven Conversational AIs for Marginalized Populations

Young-Ho Kim, PhD

Research Scientist, HCI group



NAVER Cloud



Presenter

2011

Bachelor of Fine Arts in
Visual Communication Design

Seoul National University

2019

PhD in Computer Science and Engineering

Seoul National University

2019 - 2021

Postdoctoral Associate

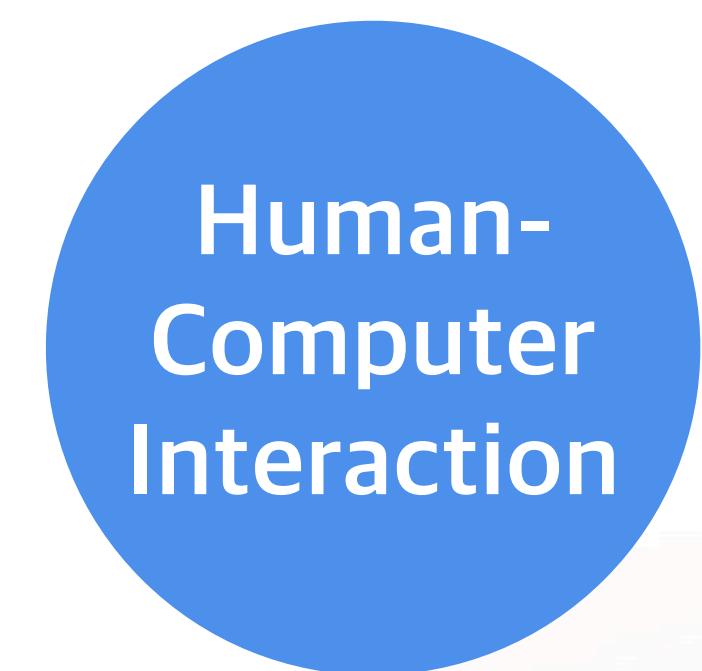
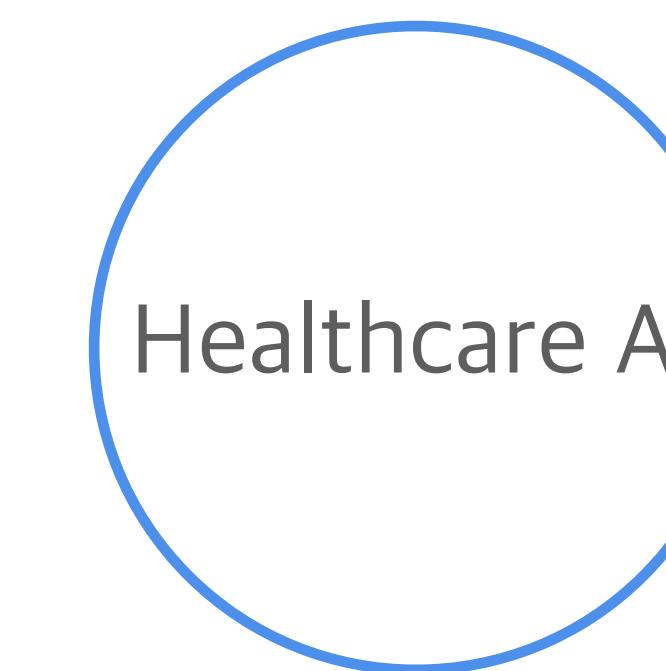
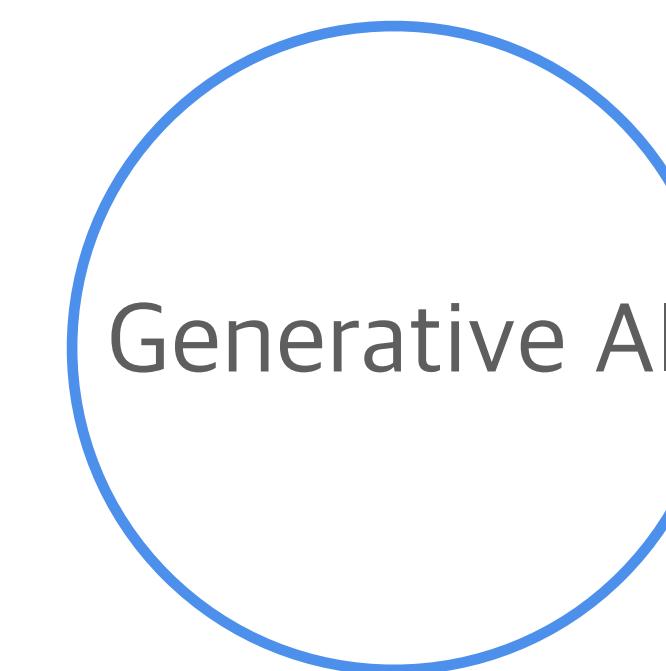
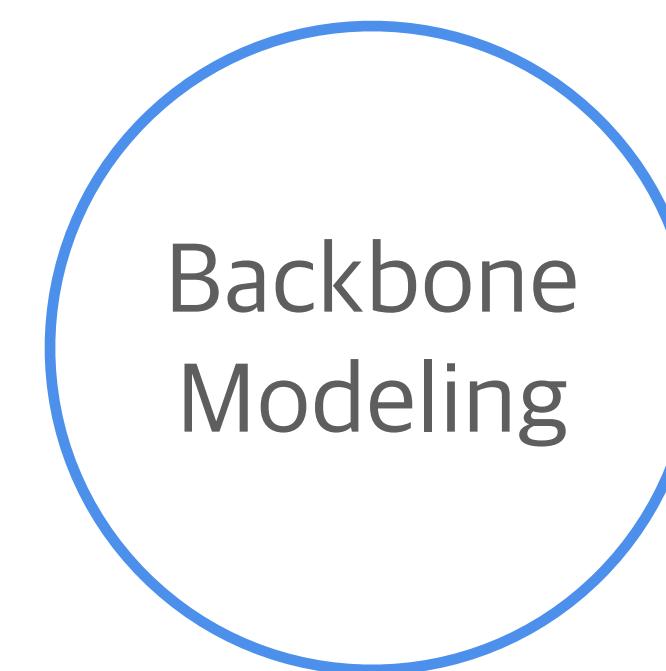
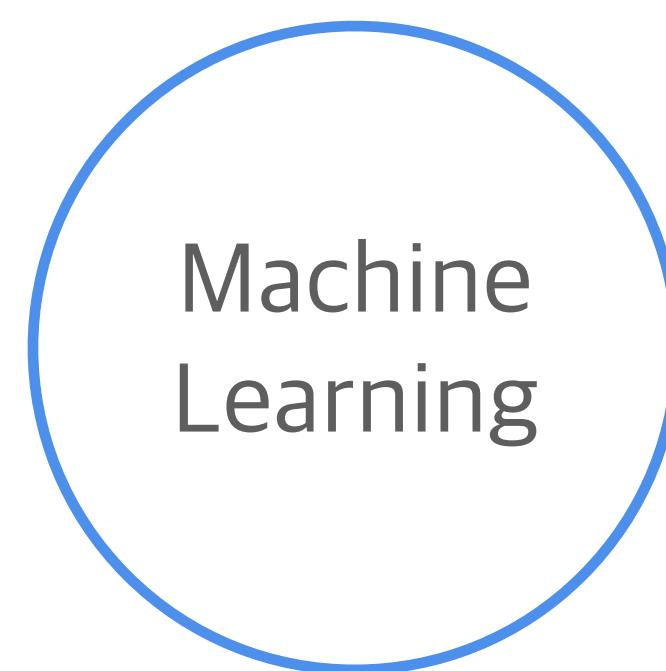
University of Maryland, College Park
College of Information Studies

2021 - Present

Research Scientist
(2023 - : Leader of HCI research group)

NAVER AI Lab

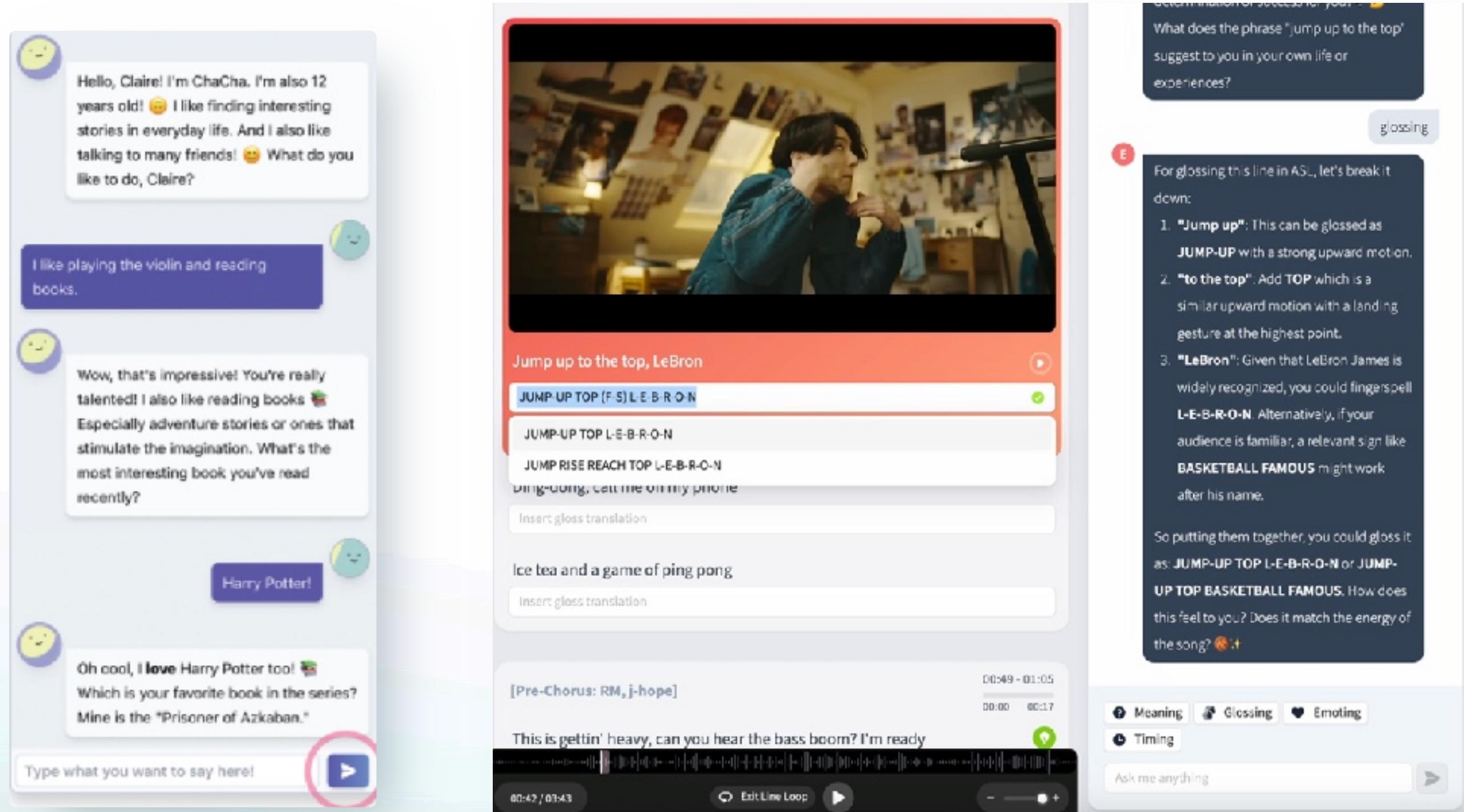
NAVER AI Lab: Academic Research Division



Inclusive AIs for Health and Well-being

What is Human-Computer Interaction?

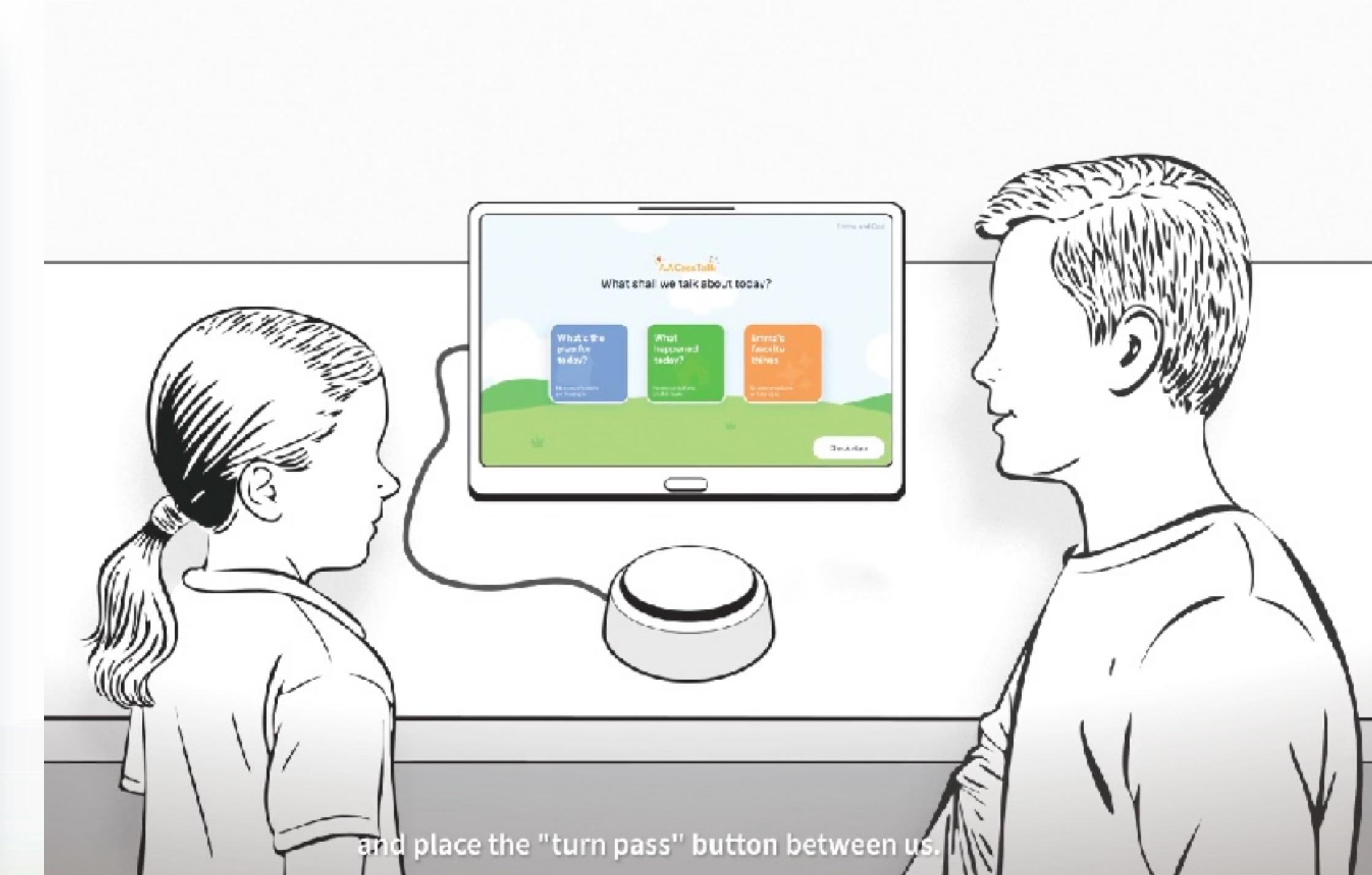
An interdisciplinary area where we **understand people in relation with technology** and investigate how to engineer and design **useful and usable computing systems**.



This screenshot shows a conversational interface. On the left, a character says: "Hello, Claire! I'm ChaCha. I'm also 12 years old! 😊 I like finding interesting stories in everyday life. And I also like talking to many friends! 😊 What do you like to do, Claire?" The user responds: "I like playing the violin and reading books." ChaCha replies: "Wow, that's impressive! You're really talented! I also like reading books 📖 Especially adventure stories or ones that stimulate the imagination. What's the most interesting book you've read recently?" The user says: "Harry Potter!" ChaCha responds: "Oh cool, I love Harry Potter too! 📖 Which is your favorite book in the series? Mine is the 'Prisoner of Azkaban'." At the bottom, there is a text input field: "Type what you want to say here!" with a play button icon.

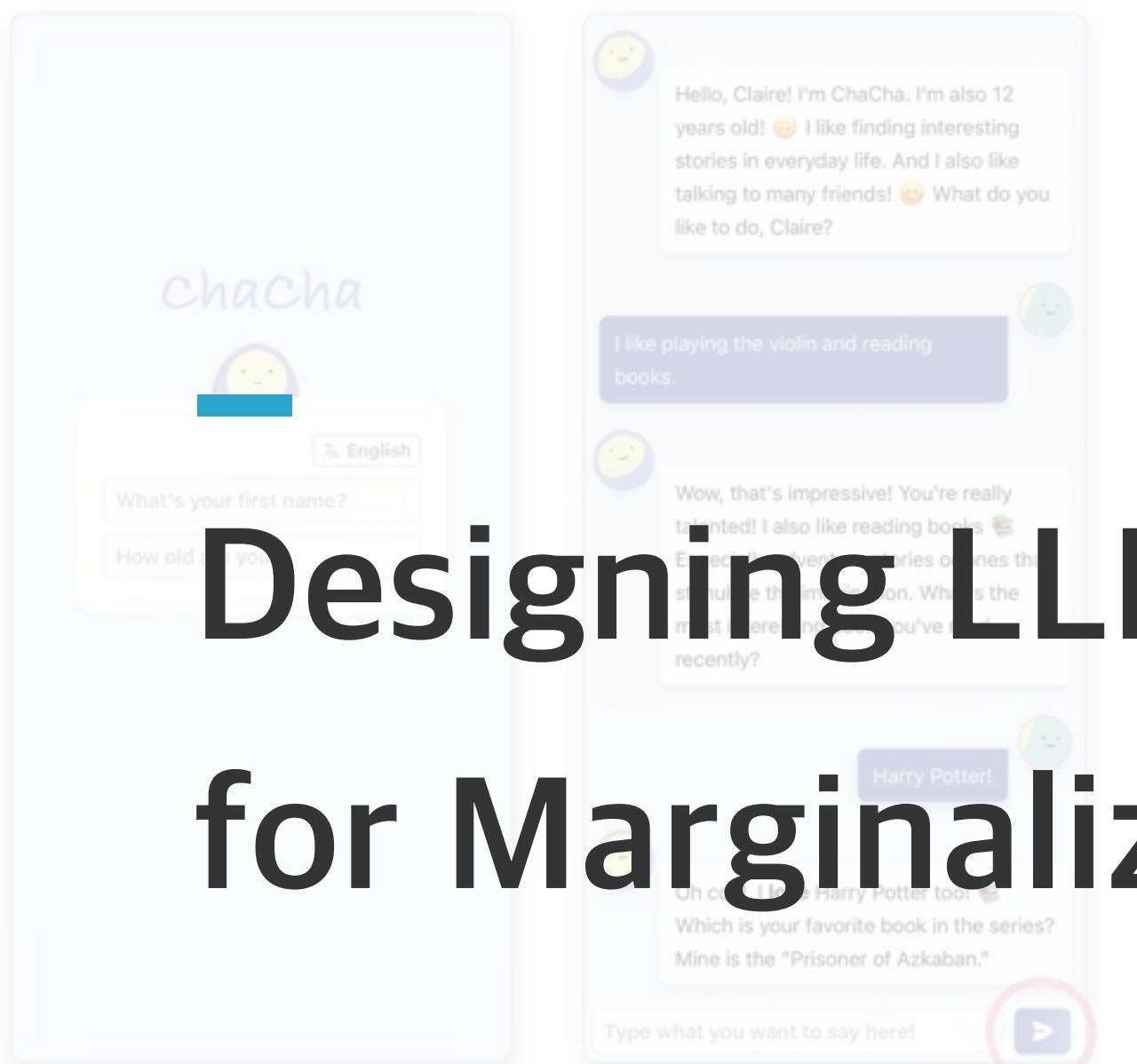
Chatbot for children's emotions (2023)

Intelligent sign language translation interface for d/Deaf users (2024)

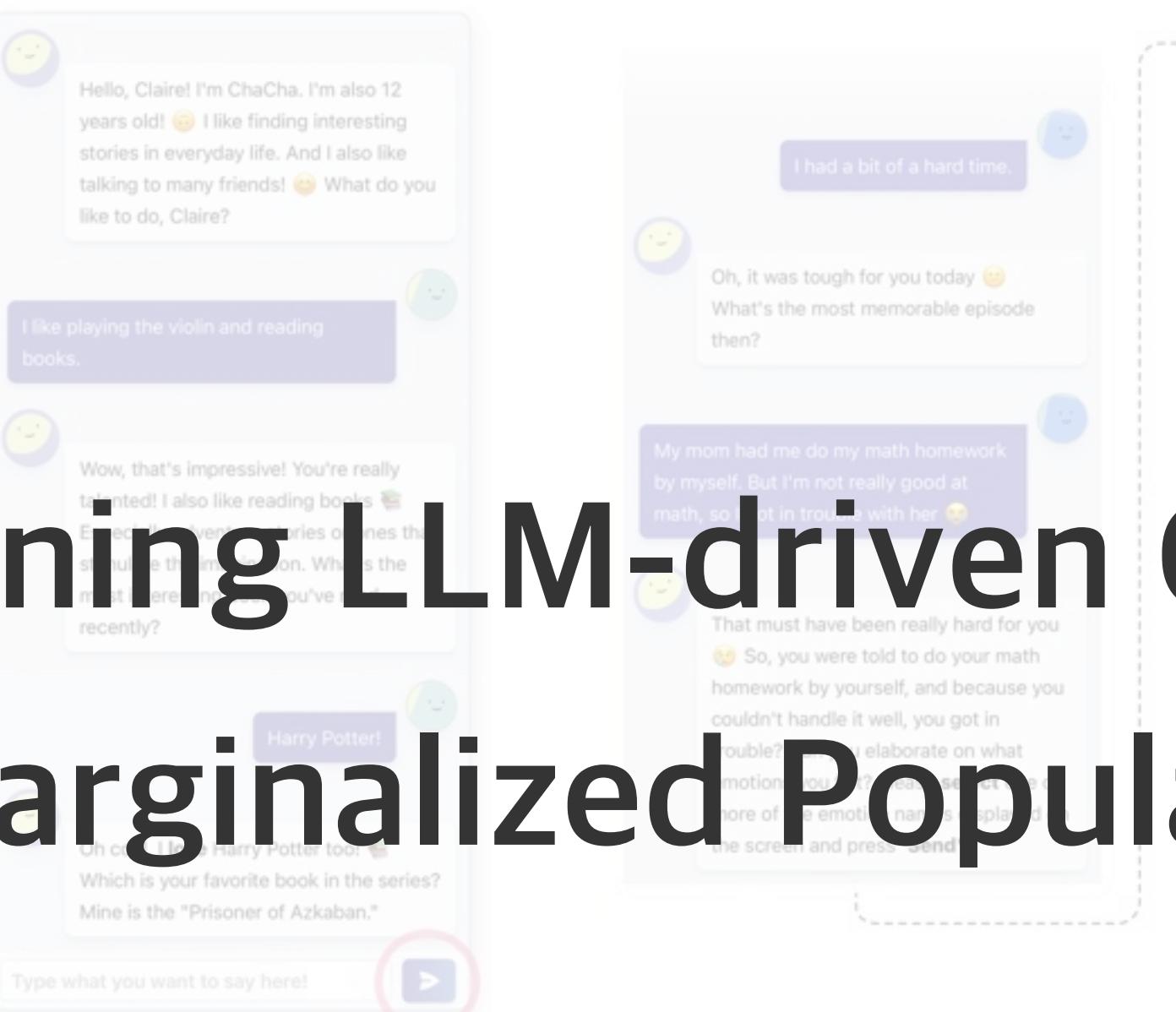


Tablet application for conversation mediation between parents and minimally-verbal autistic children (2024)

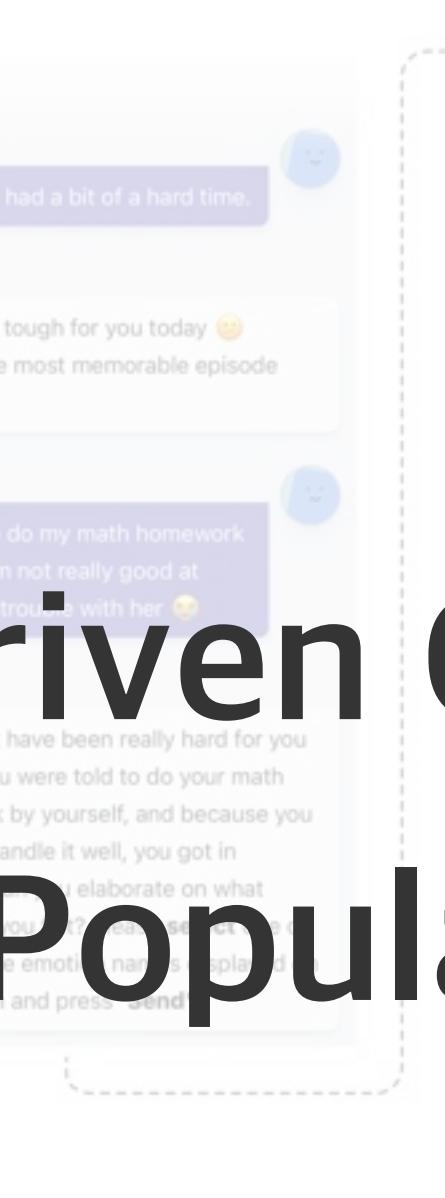
chacha



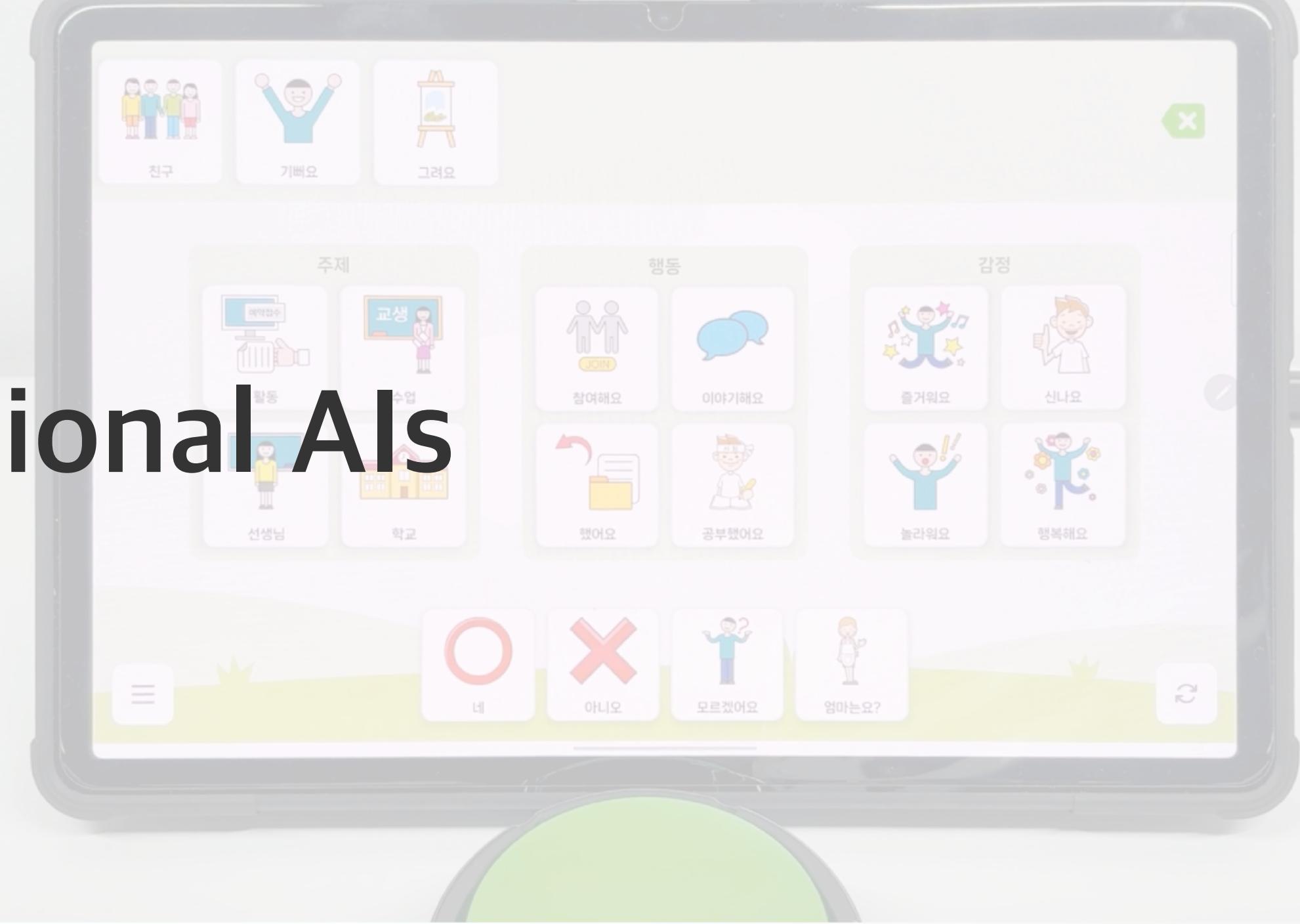
A Sign up screen



B Chat screen

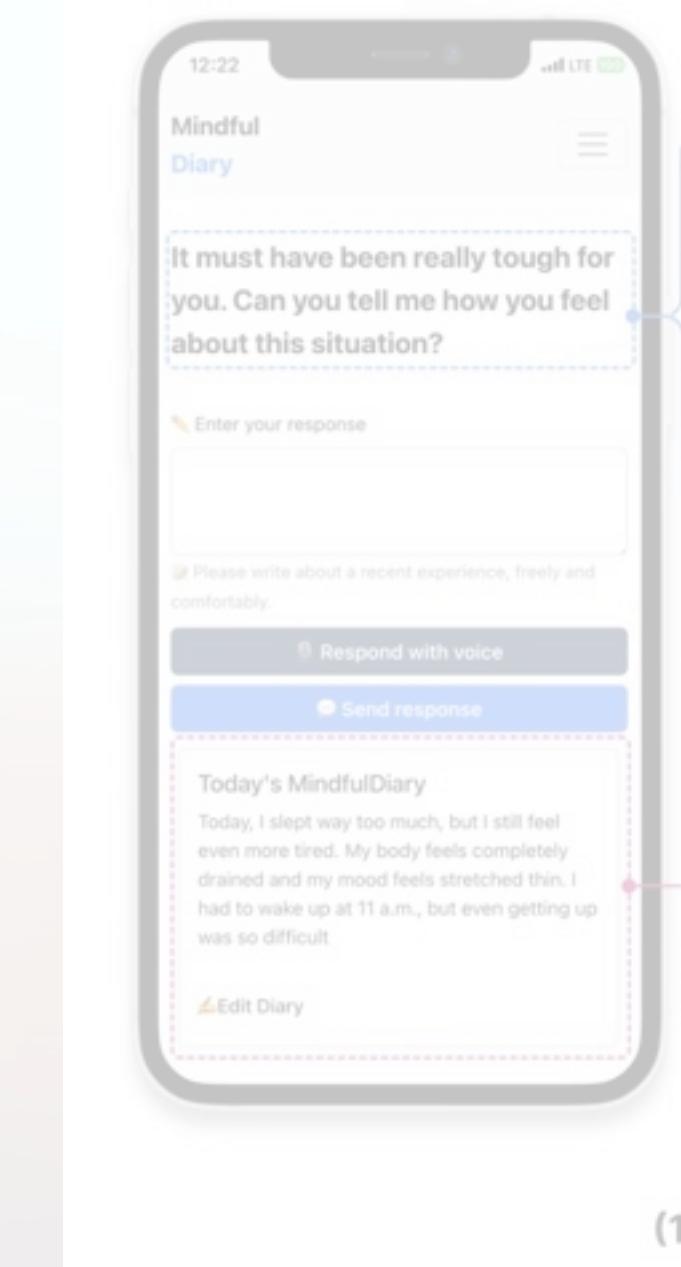


C Emotion picker in the **Label** phase



Designing LLM-driven Conversational AIs

for Marginalized Populations



Journal Style Summarization

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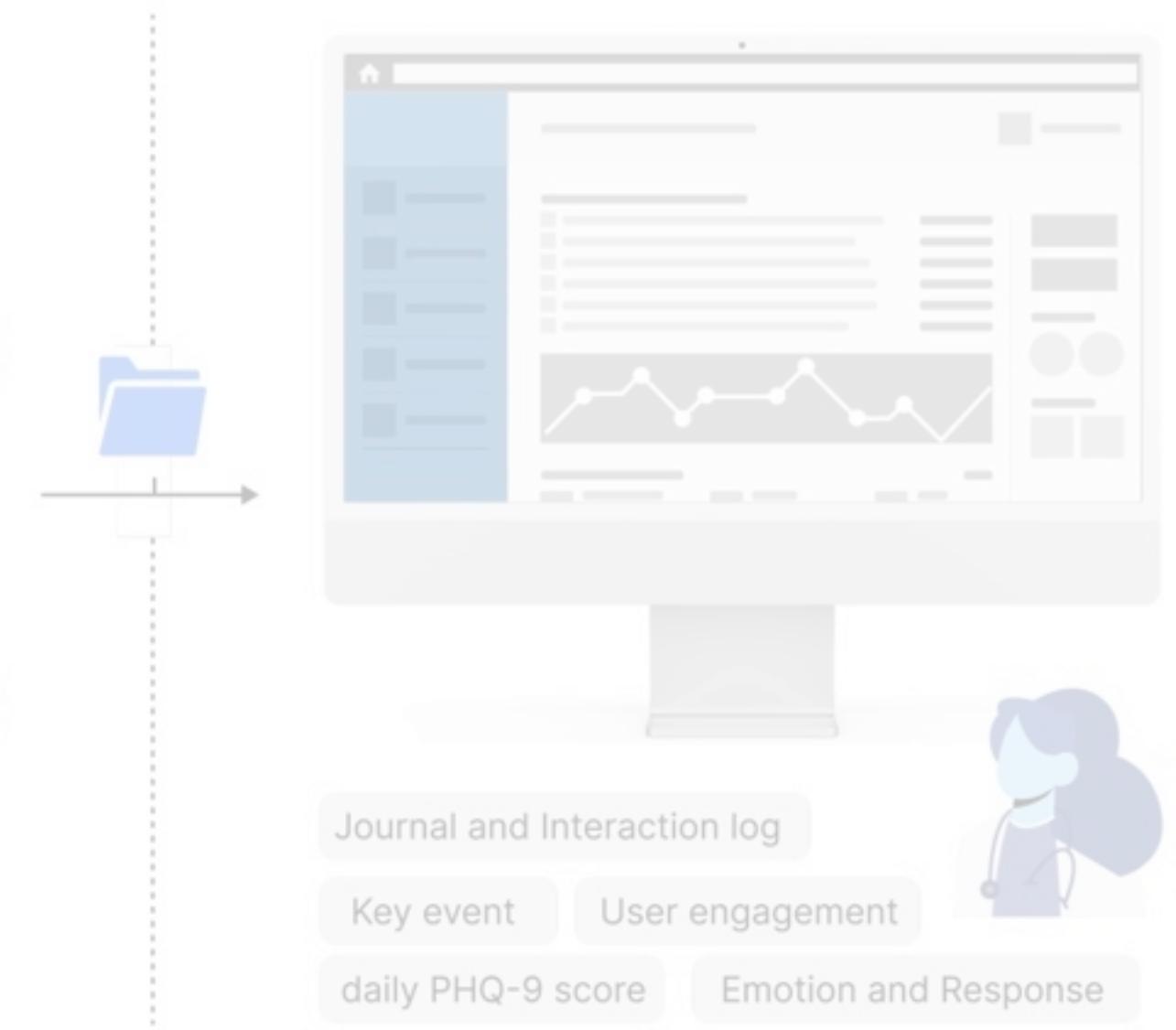
Prompt Question Generation

Did you experience anything new today? Tell me about it.

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Meeting your teacher after such a long time must have been a nice moment. How did it make you feel?

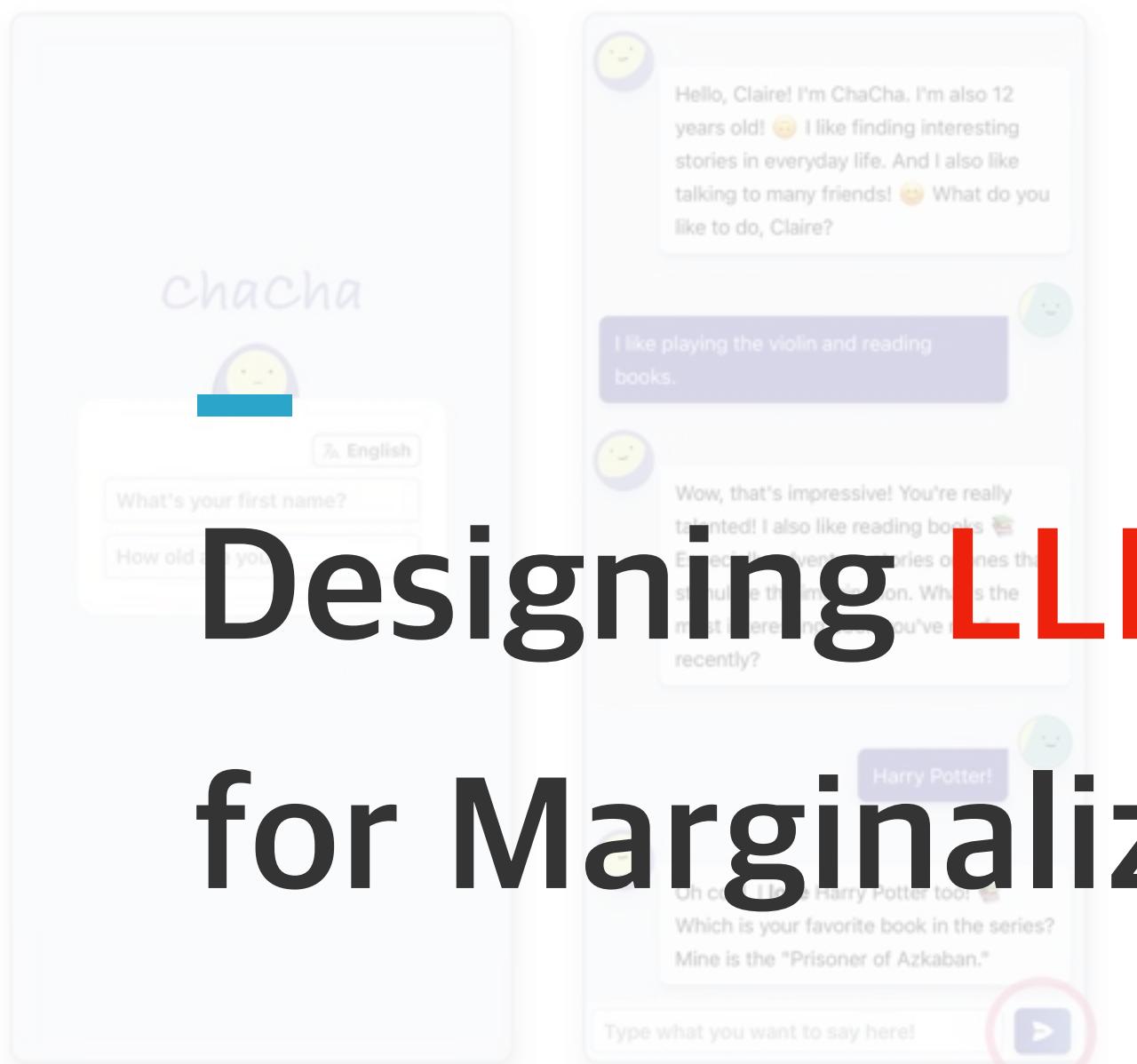
It felt good. I usually don't share my worries with others, but with her, I trust her enough to open up.



(1) Patient Interface

(2) Clinician Dashboard

chacha

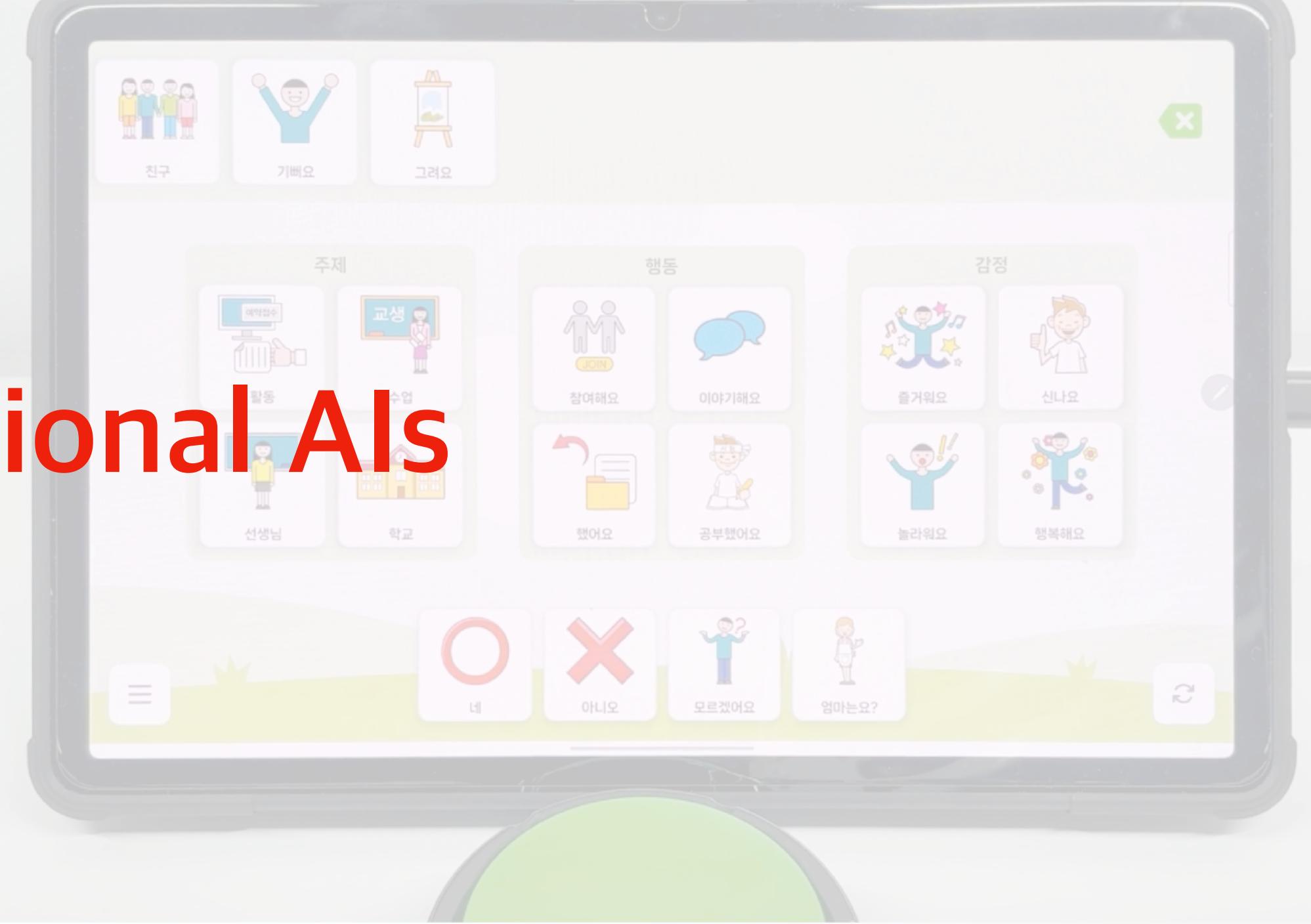


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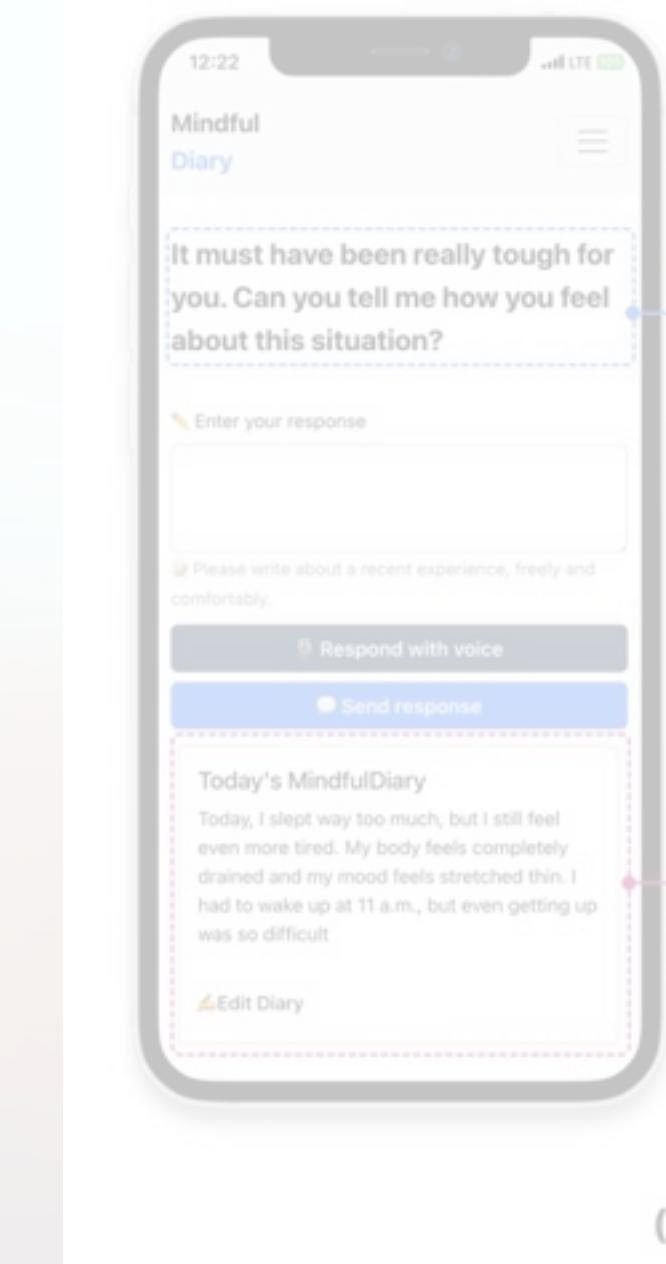


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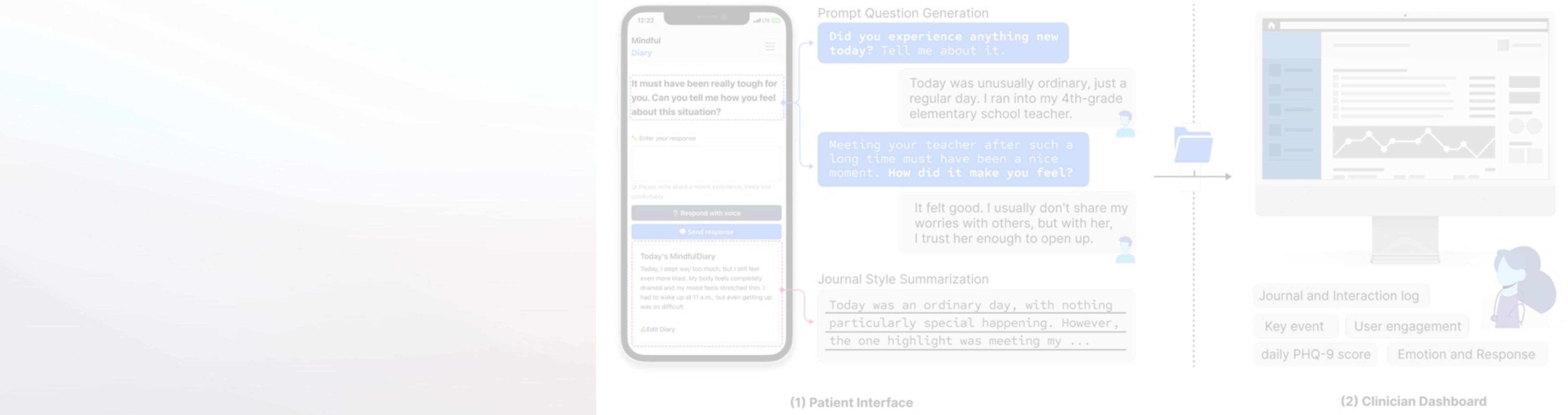


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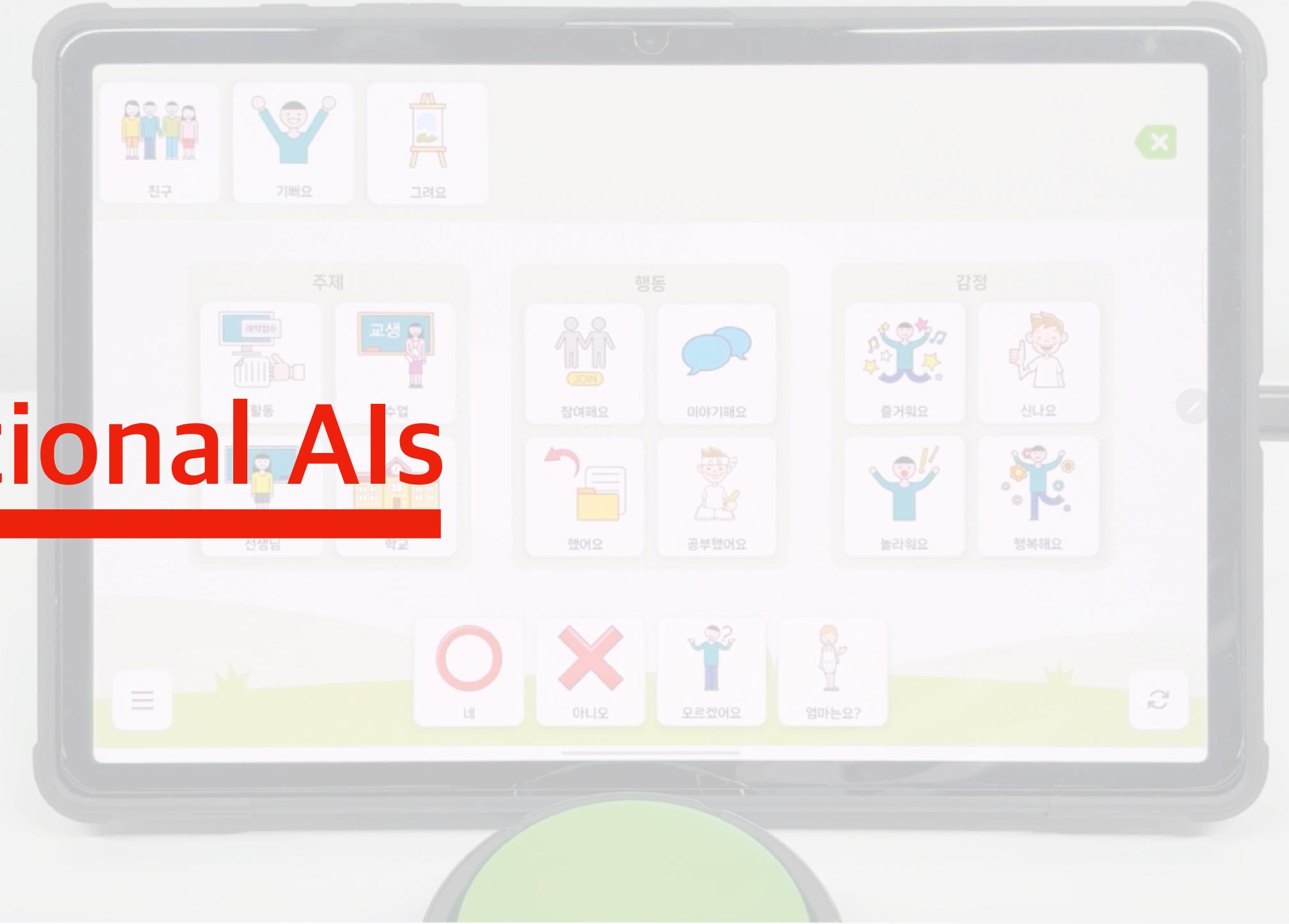
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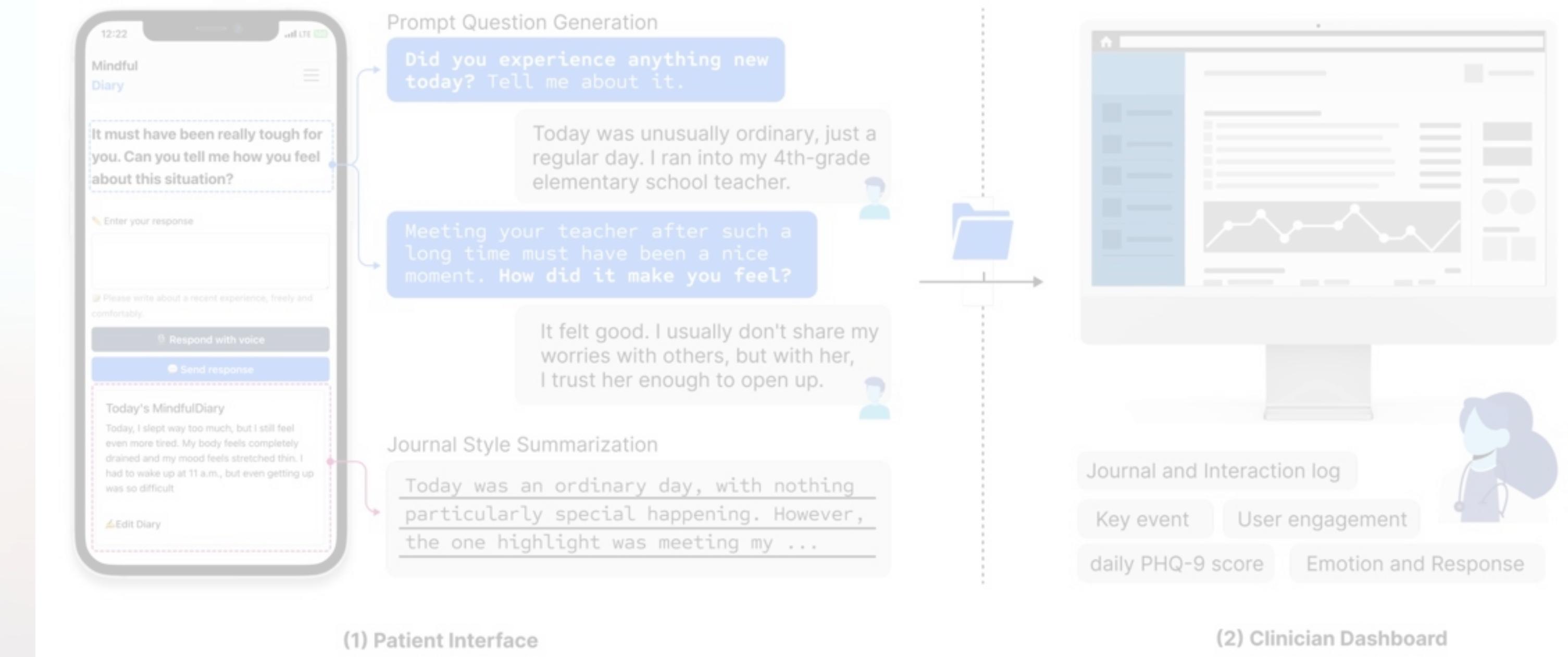
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Conversational AIs (CAs)

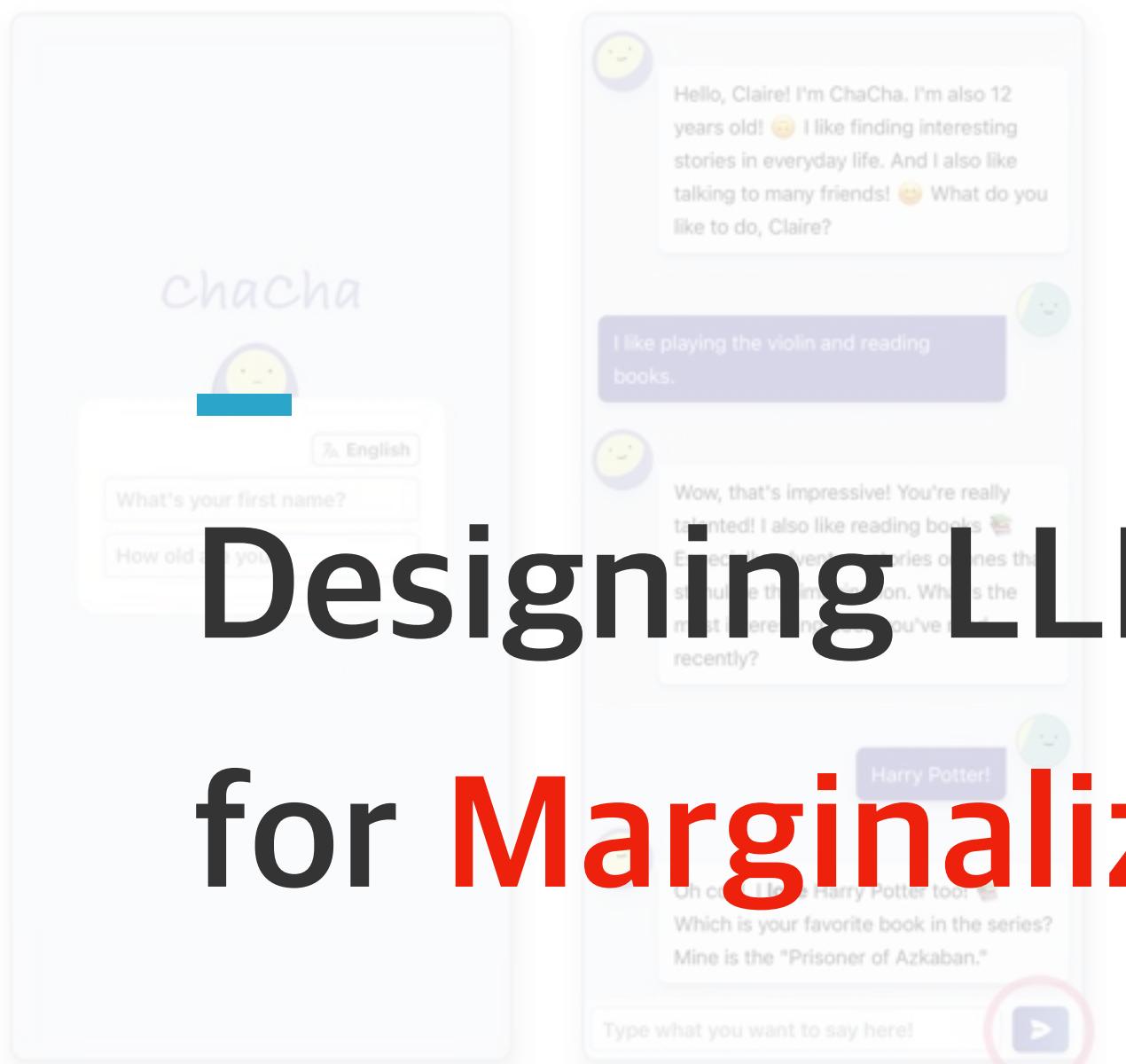
Communicating with a machine in human-like conversational ways



Why LLMs for Chatbots?

- 👌 Context follow-up
- 👌 Open-ended conversation
- 👌 Retaining a broad range of human knowledge: Covering diverse topics
- 👌 (With RLHF) Preempting supportive and empathetic attitude: Promising for emotional support
- 👌 Easy bootstrapping of novel tasks without tremendous training dataset

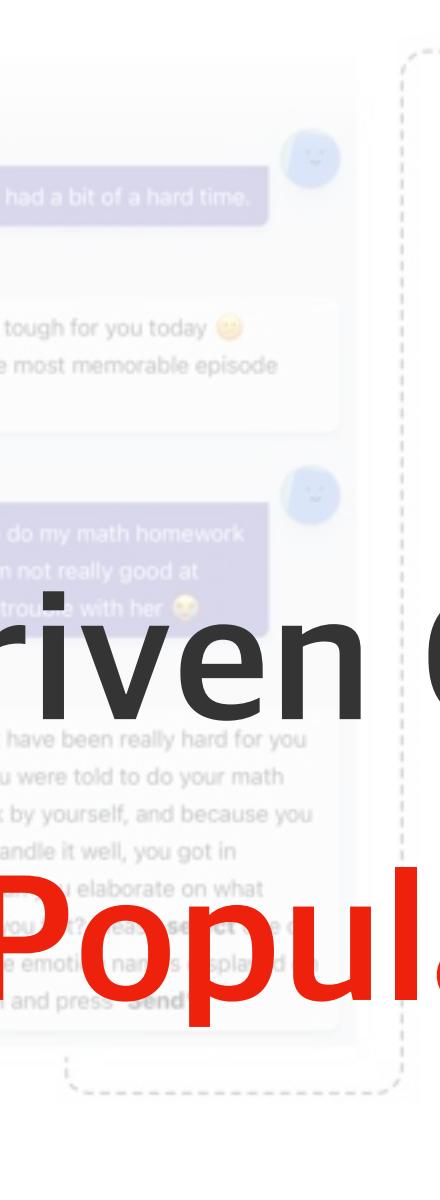
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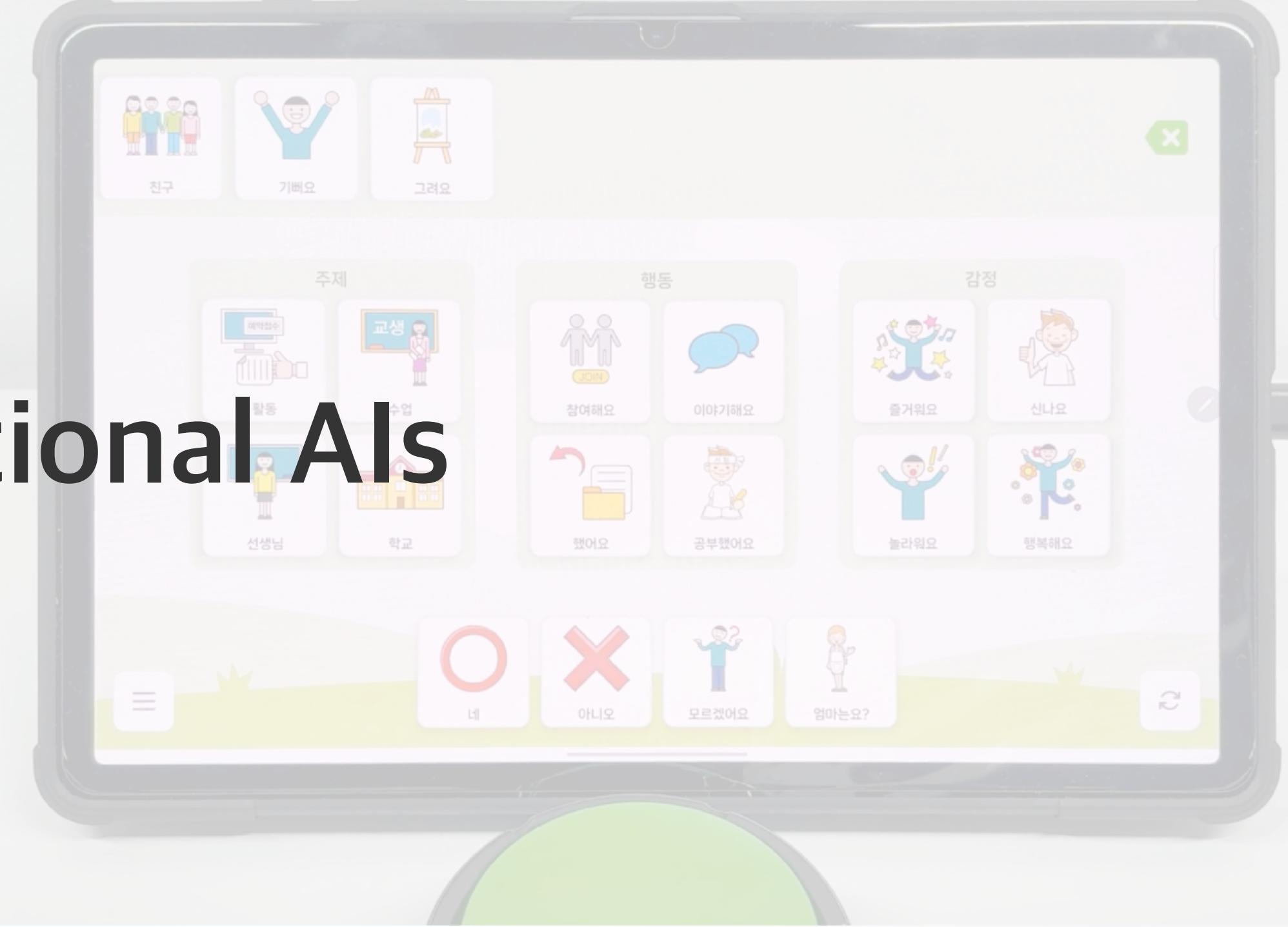
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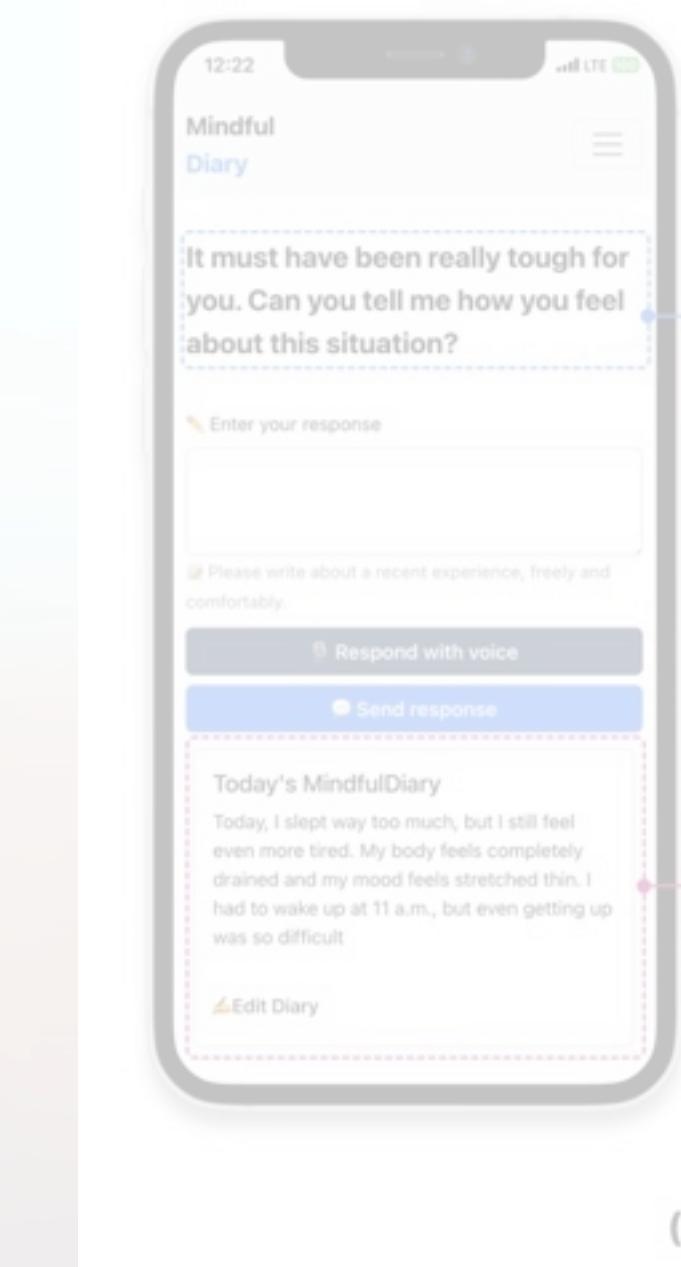
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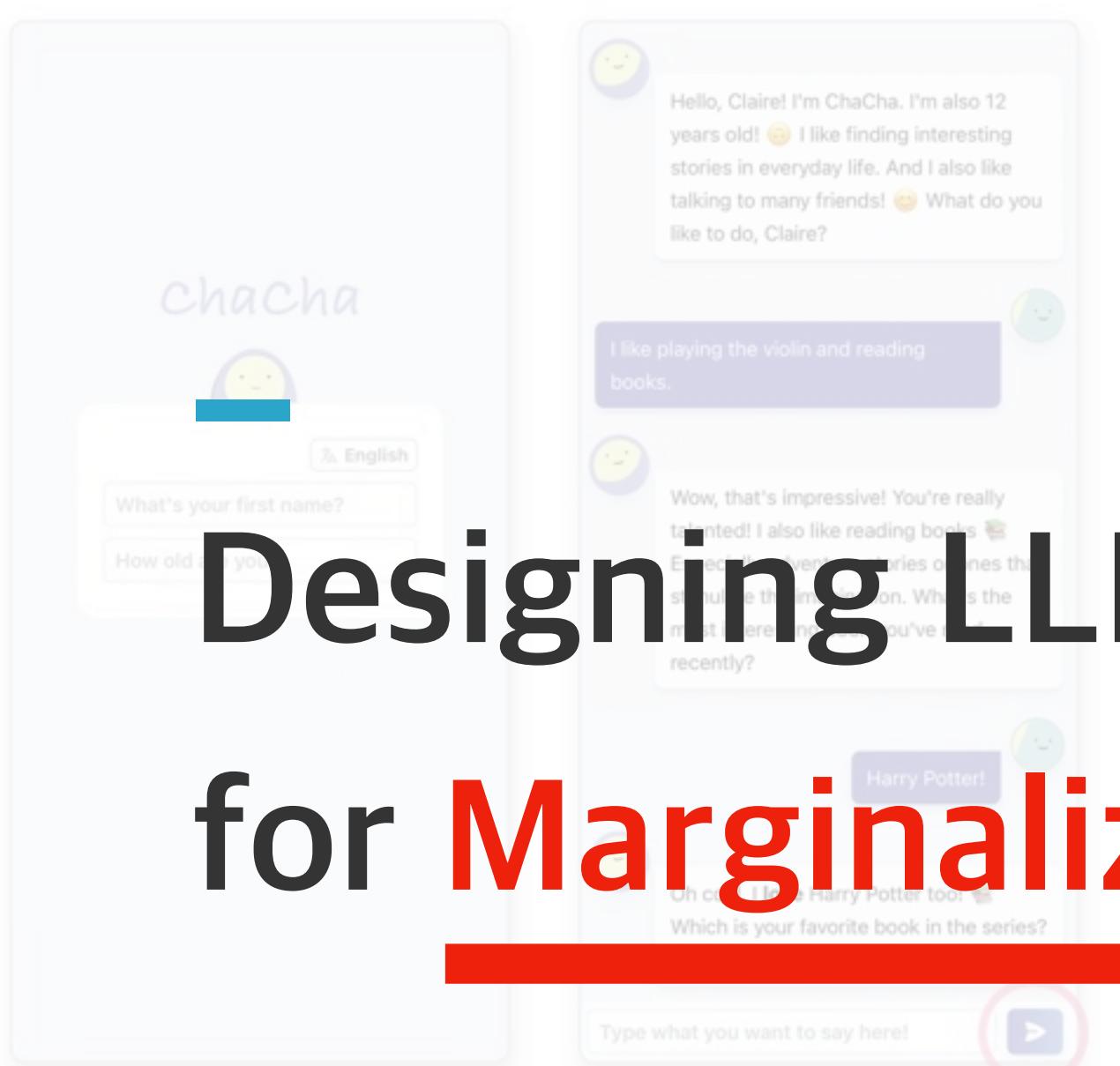
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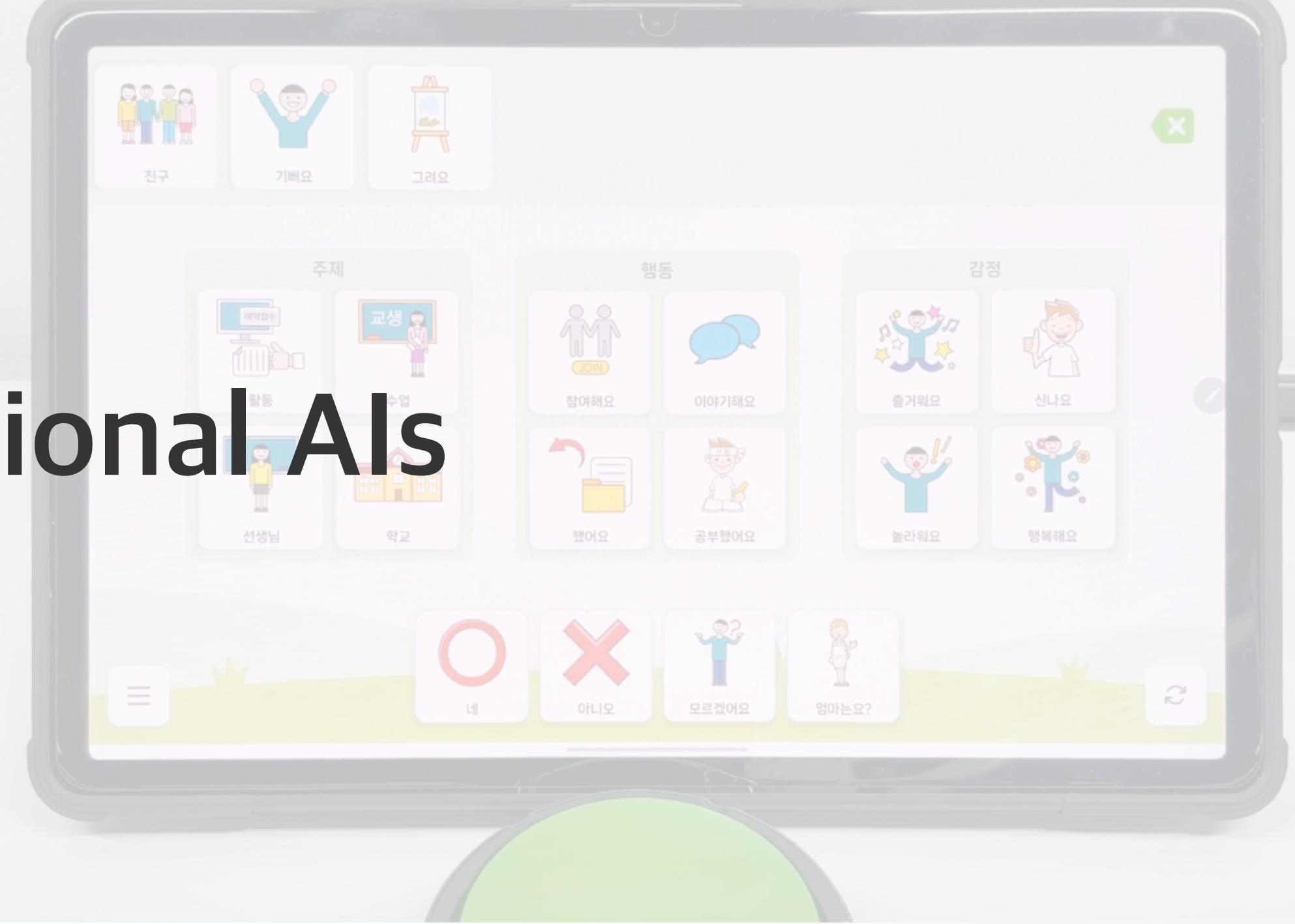
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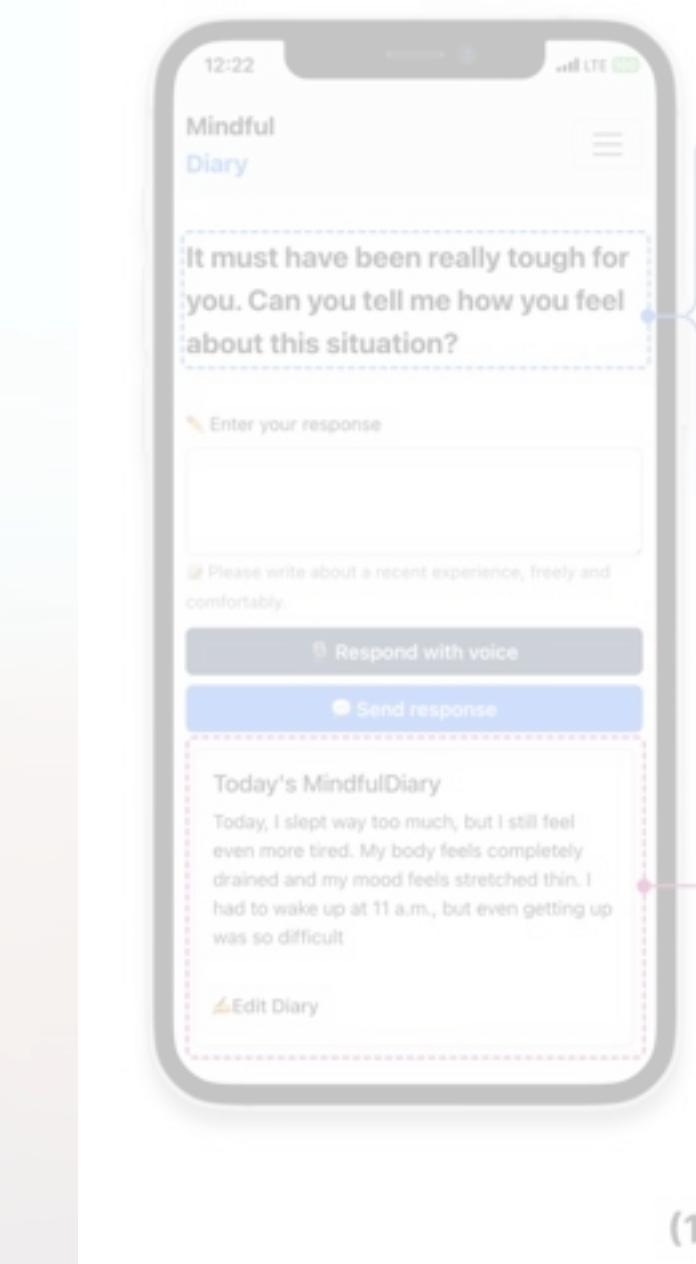
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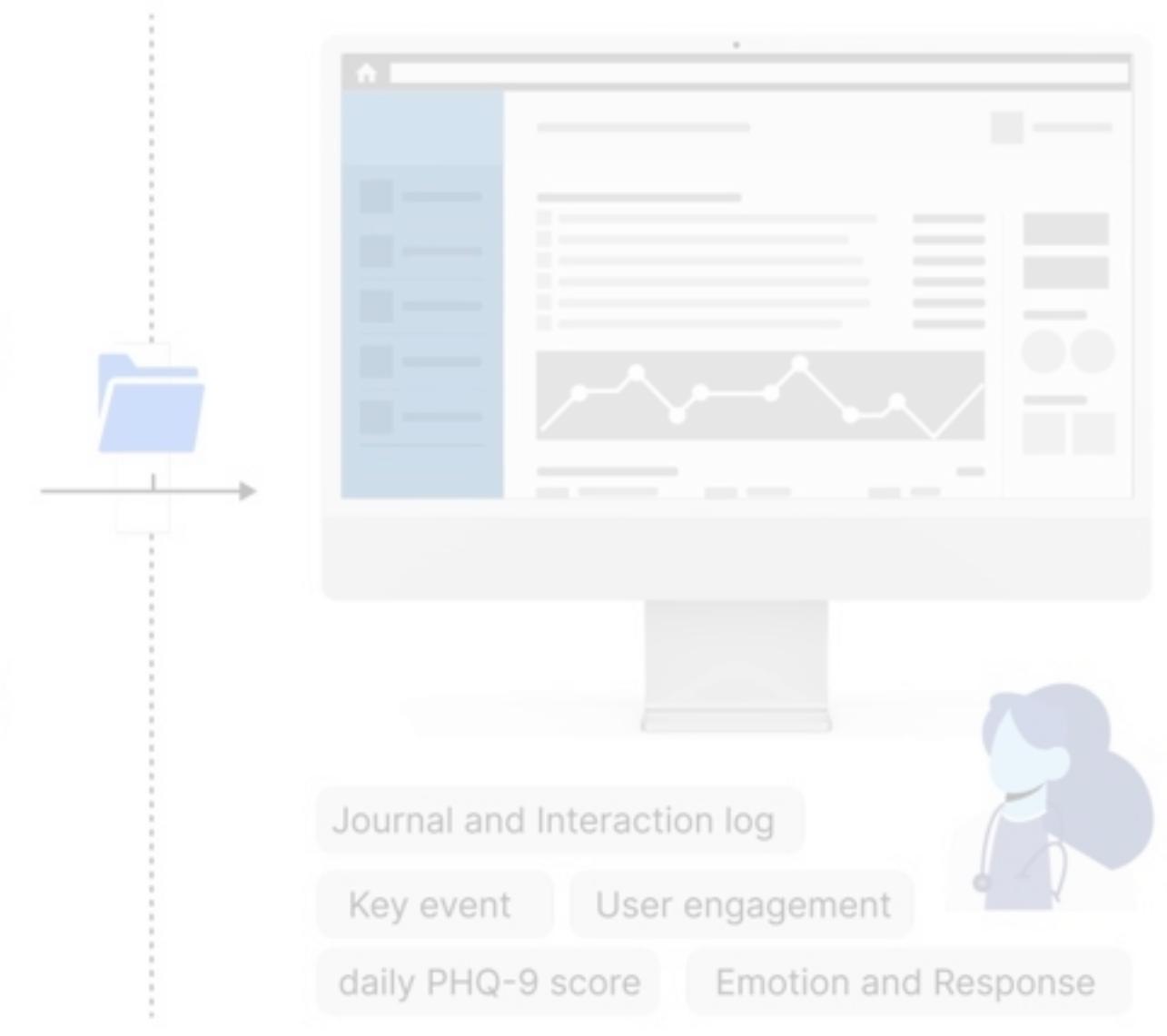
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HCI Research is WEIRD

Table 2: Kendall rank correlations of the participant samples ratio ψ_s with measures of Educated, Industrialized, Rich, Democratic. $n_{country}$ differs due to available data per country. LL and UL indicate the lower and upper limits of a bootstrapped confidence interval (10,000 replicates). Significance levels: * $p < .05$, ** $p < .01$, * $p < .001$.**

| Variable | r_τ | Samples | | $n_{country}$ |
|----------------|----------|-----------------------------|--|---------------|
| | | 95% CI r_τ [LL, UL] | | |
| Educated | .46*** | [.341, .593] | | 93 |
| Industrialized | .50*** | [.397, .624] | | 91 |
| Rich | .50*** | [.386, .623] | | 90 |
| Democratic | .50*** | [.381, .619] | | 93 |

Table 3: Western and non-Western participant samples. A single paper can report multiple samples. M_ψ shows the average ratio, Mdn_ψ represents the median.

| Variable | Samples | | | |
|-------------|---------|-------|----------|------------|
| | n | % | M_ψ | Mdn_ψ |
| Western | 1,102 | 73.13 | 5.92 | 5.72 |
| Non-Western | 405 | 26.87 | 1.62 | 0.45 |
| Total | 1507 | 100 | | |

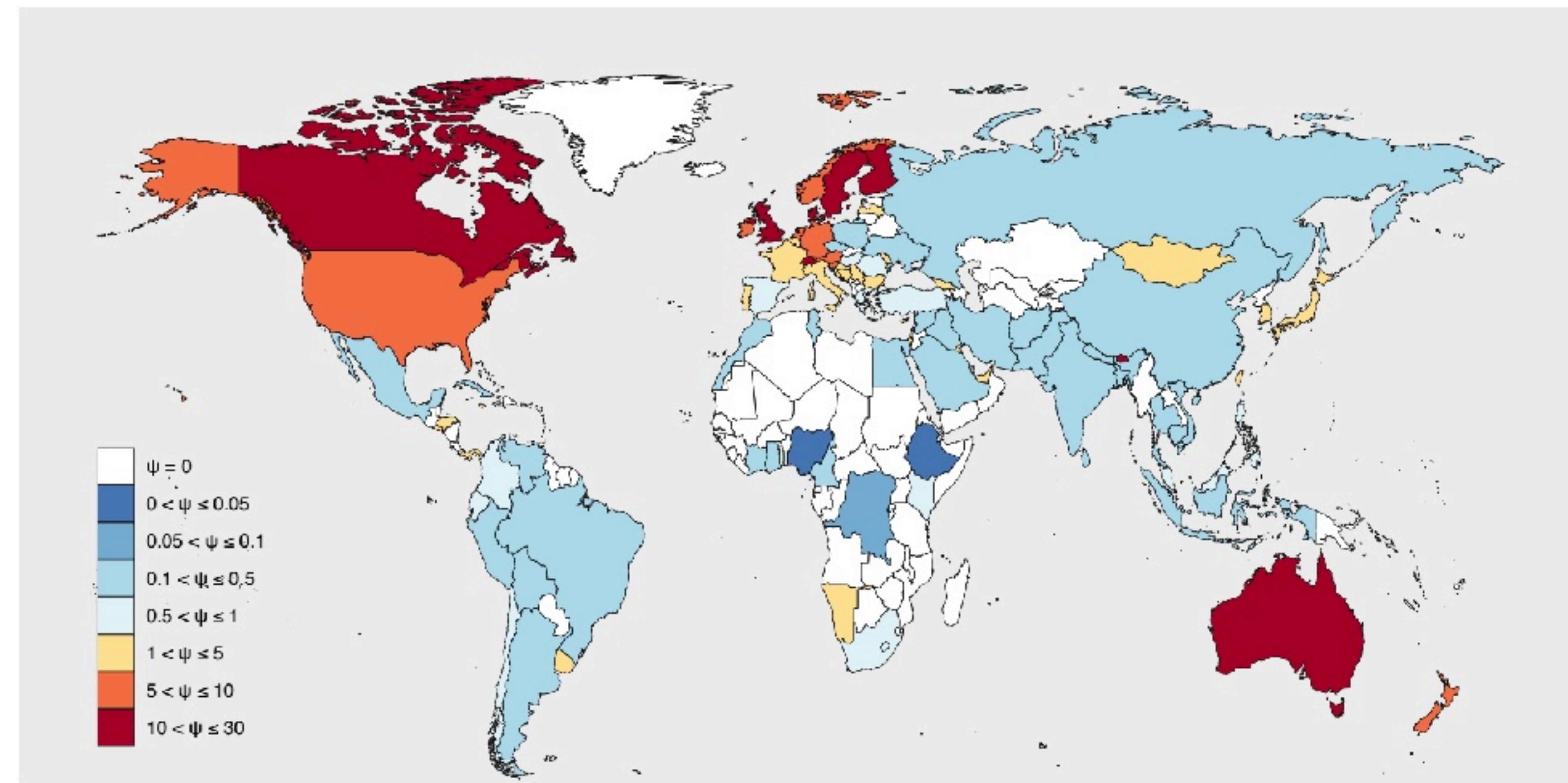


Figure 2: Worldwide distribution of CHI participant samples ratio (ψ_s) between 2016-2020, showing which countries are overrepresented ($\psi > 1$) or under-represented ($\psi < 1$), relative to the world's population. Countries in white (N=102) did not have study participants in the past five CHI proceedings.

Linxen et al., How WEIRD is CHI? CHI 2021

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The mainstream HCI research papers are biased towards Western, Educated, Industrialized, and Rich people in Democratic society.

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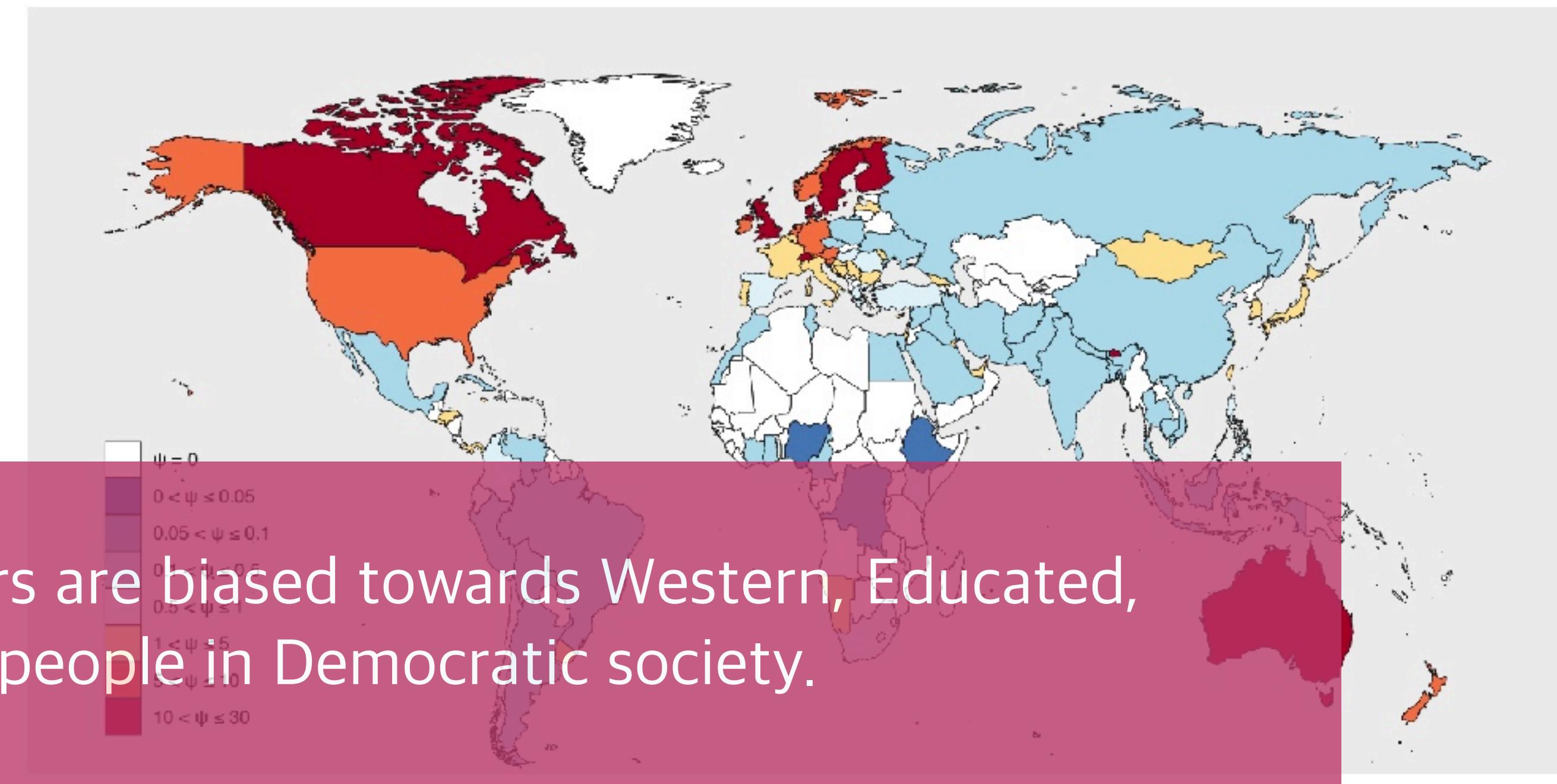


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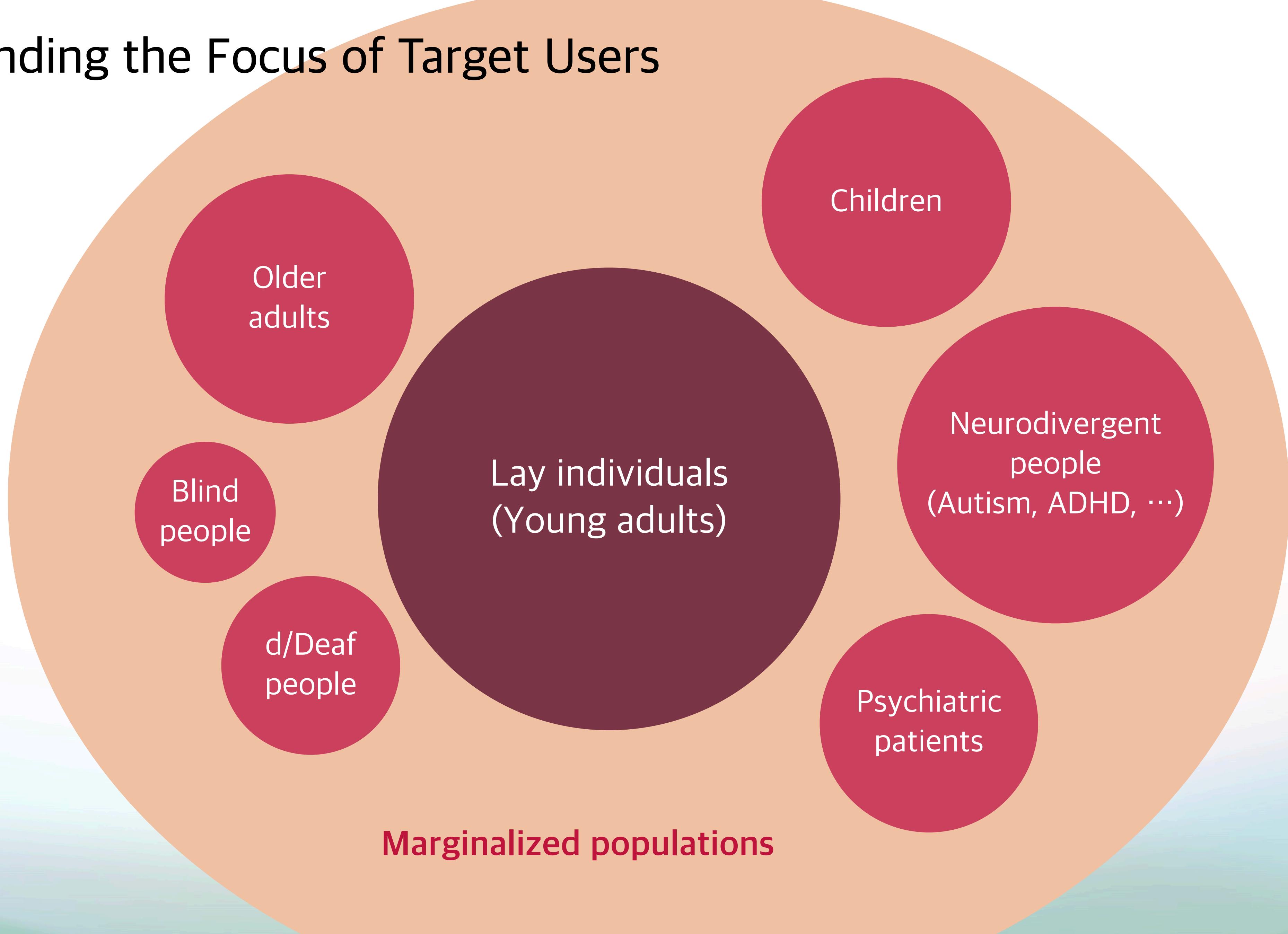
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Expanding the Focus of Target Users



Lay individuals
(Young adults)

Expanding the Focus of Target Users



Challenges of Supporting Marginalized Populations

- Interaction behaviors are not typical
- Domain-dependent “quality” of AI response

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Conversations between children and adults

Conversations between neurodiverse and neurotypical people

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LLMs are not mainly trained on the dataset of those behaviors

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Avoiding traumatic keywords, implicitly harmful wordings

Positive tone is not always desirable for children

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- LLMs are trained to demonstrate “general” and “normative”, and “positive” behaviors
- We need consultation with **domain experts** (e.g., psychologists, psychiatrists, autism experts…)

LLM-driven CA Research for Marginalized Populations

| | Children | Adolescents | Older adults | People w/ Disabilities |
|--------------------------------|---|--|--|---|
| Neurodivergent/ psychiatric | <p>Contextual Guidance fostering Conversations between Parents and Autistic Children</p> <p>CHI 2025  Best Paper</p> | <p>Conversational Diary for Psychiatric Adolescents</p> <p>CHI 2024</p> | | |
| | <p>Supporting Story-driven Behavioral Guidance of Parents for Autistic Children</p> <p>Under review</p> | <p>AI-guided Multimodal Journaling for Autistic Adolescents</p> <p>Under review</p> | | |
| | <p>Chatbot for Promoting Children to Share Their Emotions and Events</p> <p>*Seo et al. CHI 2024</p> | | | <p>AI-assisted Sign Language Translation of Lyrics</p> <p>CHI 2025</p> |
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From the Lenses of Technical Approaches…

Unimodal

LLM as a Conversation Partner

Multi-stakeholder Perspectives around LLM Chatbot for Public Health Intervention

CHI 2023  Best Paper

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Chatbot for Promoting **Children** to Share Their Emotions and Events

*Seo et al. | CHI 2024

Conversational Diary for **Psychiatric Adolescents**

CHI 2024

Multimodal

AI-guided Multimodal Journaling for **Autistic Adolescents**

Under review

LLM as a Conversation Mediator

...

LLM as a Generation Tool

AI-assisted **Sign Language** Translation of Lyrics

CHI 2025

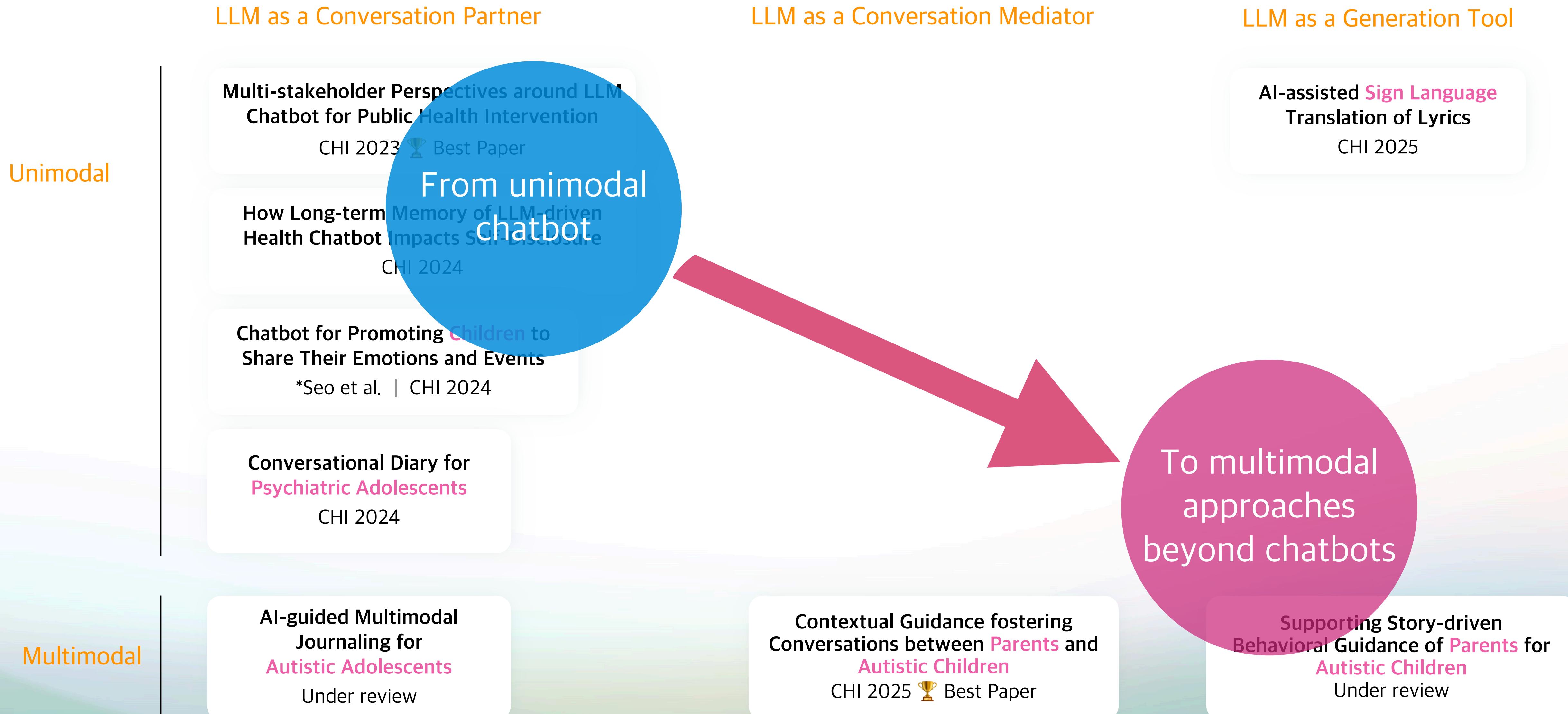
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CHI 2025

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Conversational Diary for **Psychiatric Adolescents**

2. How can we make LLMs to stay on-topic and comply with the protocol while conversing with **children**?

Multimodal

Autistic Adolescents

Under review

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*Seo et al. | CHI 2024

Conversational Diary for Psychiatric Adolescents

2. How can we make LLMs to stay on-topic and comply with the protocol while conversing with children?

Multimodal

Autistic Adolescents

Under review

LLM as a Conversation Mediator

LLM as a Generation Tool

AI-assisted Sign Language Translation of Lyrics

CHI 2025

1. What are the considerations for designing AI conversations for low-SES people living alone?

3. How can LLMs mediate communication between minimally-verbal autistic children and parents?

Contextual Guidance fostering Conversations between Parents and Autistic Children

CHI 2025 🏆 Best Paper

Supporting Story-driven Behavioral Guidance of Parents for Autistic Children

Under review

What are the considerations for designing AI
conversations for **low-SES people living alone?**



CHI 2024
Surfing the World

Understanding the Impact of **Long-Term Memory** on **Self-Disclosure** with Large Language Model-Driven Chatbots for Public Health Intervention



Eunkyung Jo
University of California, Irvine
*Intern at NAVER AI Lab



Youin Jeong
NAVER Labs
*Work done at NAVER Cloud



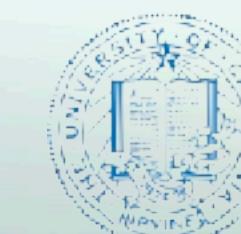
SoHyun Park
NAVER Cloud



Daniel Epstein
University of California, Irvine



Young-Ho Kim
NAVER AI Lab

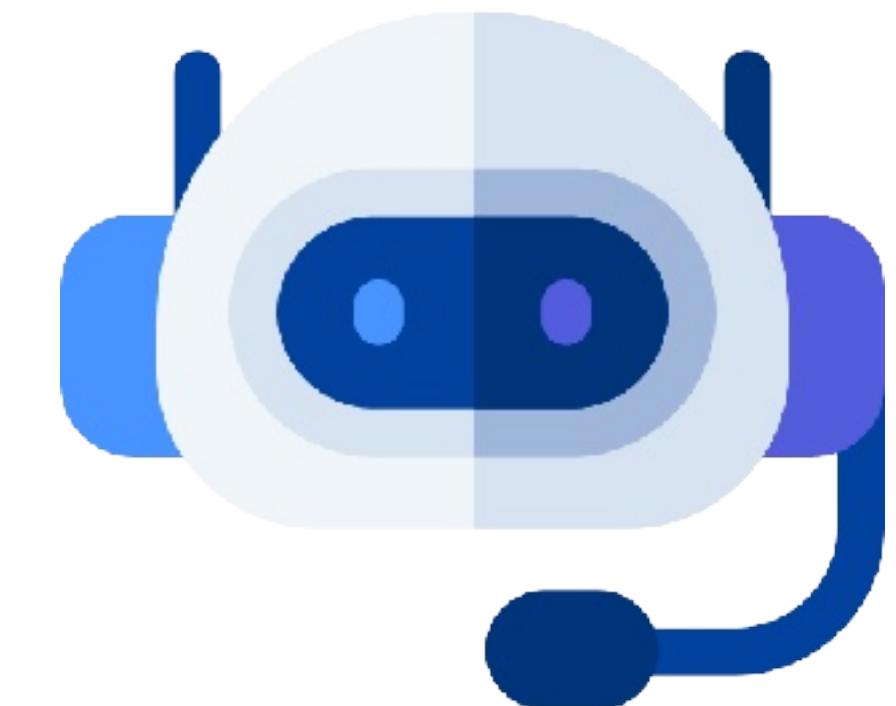


UCIRVINE

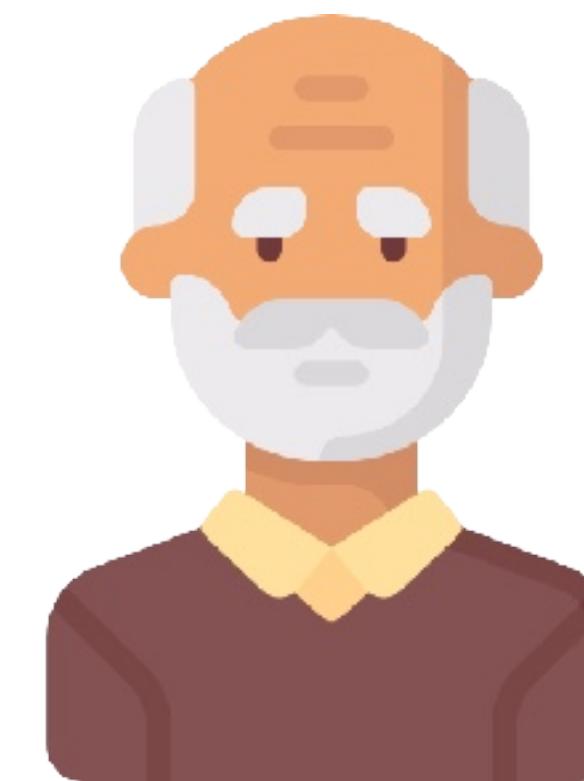
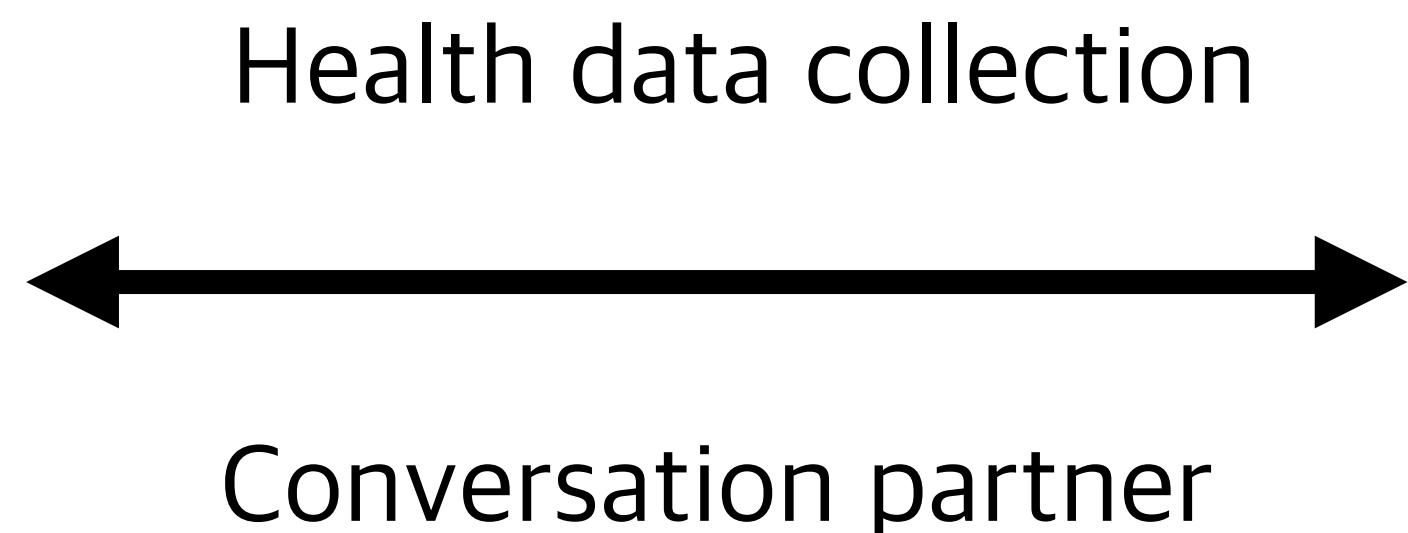
NAVER Cloud

CLOVA CareCall

An LLM-driven chatbot for supporting **socially isolated individuals**



CareCall
LLM-driven chatbot
Performing check-up phone calls



Socially isolated individuals
Middle-aged & older adults living alone

NAVER Cloud

Motivation: Lonely Death of Socially-Isolated People

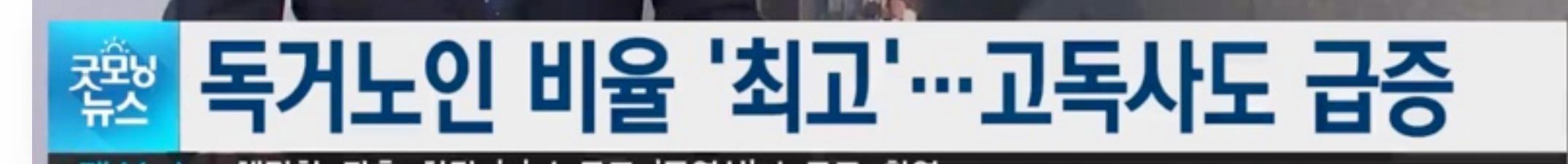
뉴스홈 | 최신기사

서울 독거노인 35만명 넘어…10명 중 3명 "고독사 우려"

혼자 살던 70대 노인 고독사…설날 아들이 발견

[단독] 잇따른 고독사…서울 중랑구서 70대 노인 홀로 숨진 채 발견

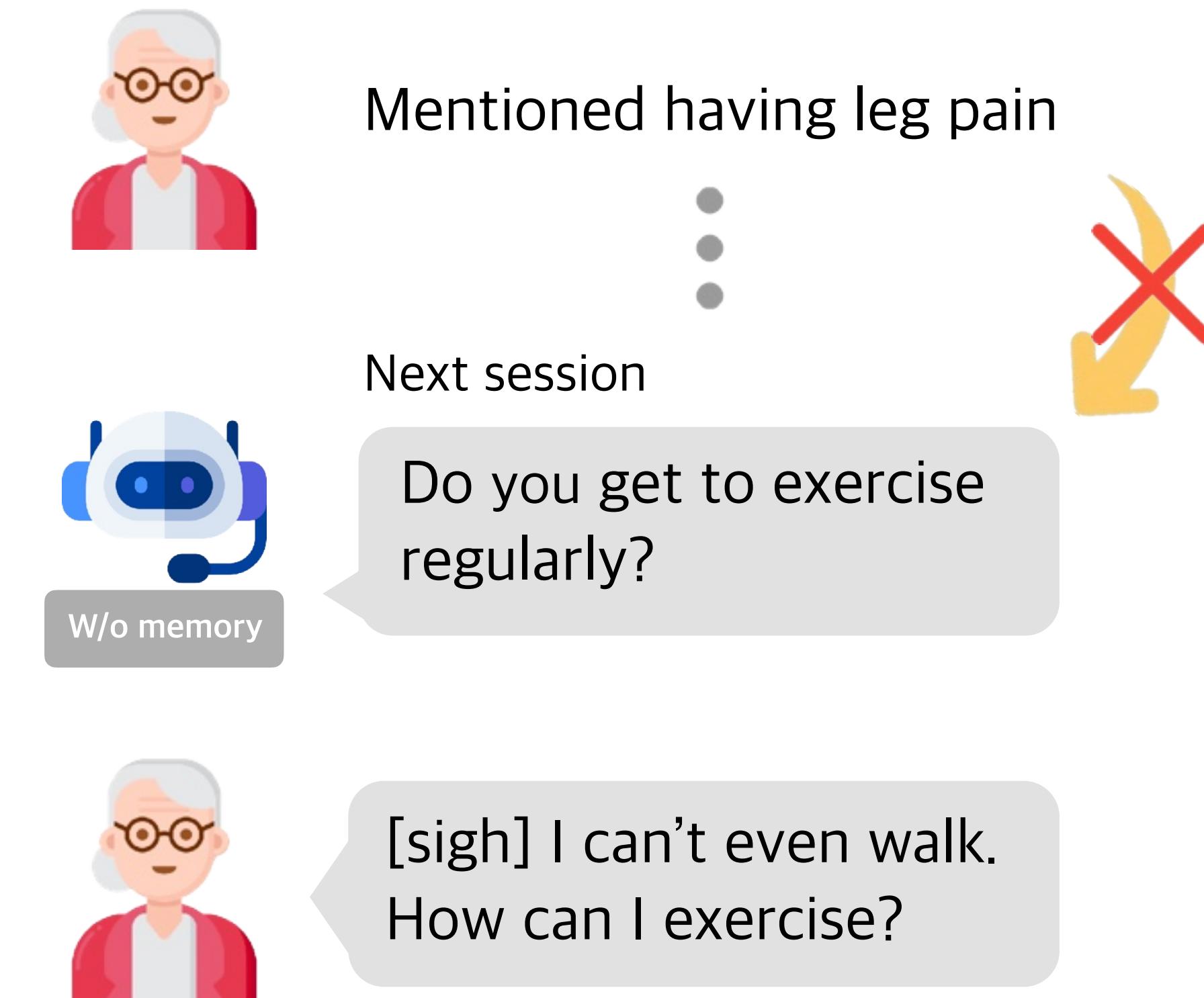
입력 2022-02-06 10:15:16 수정 2022.02.06 10:58:34 박신원 기자



Motivation: Overflow of Public Health Support

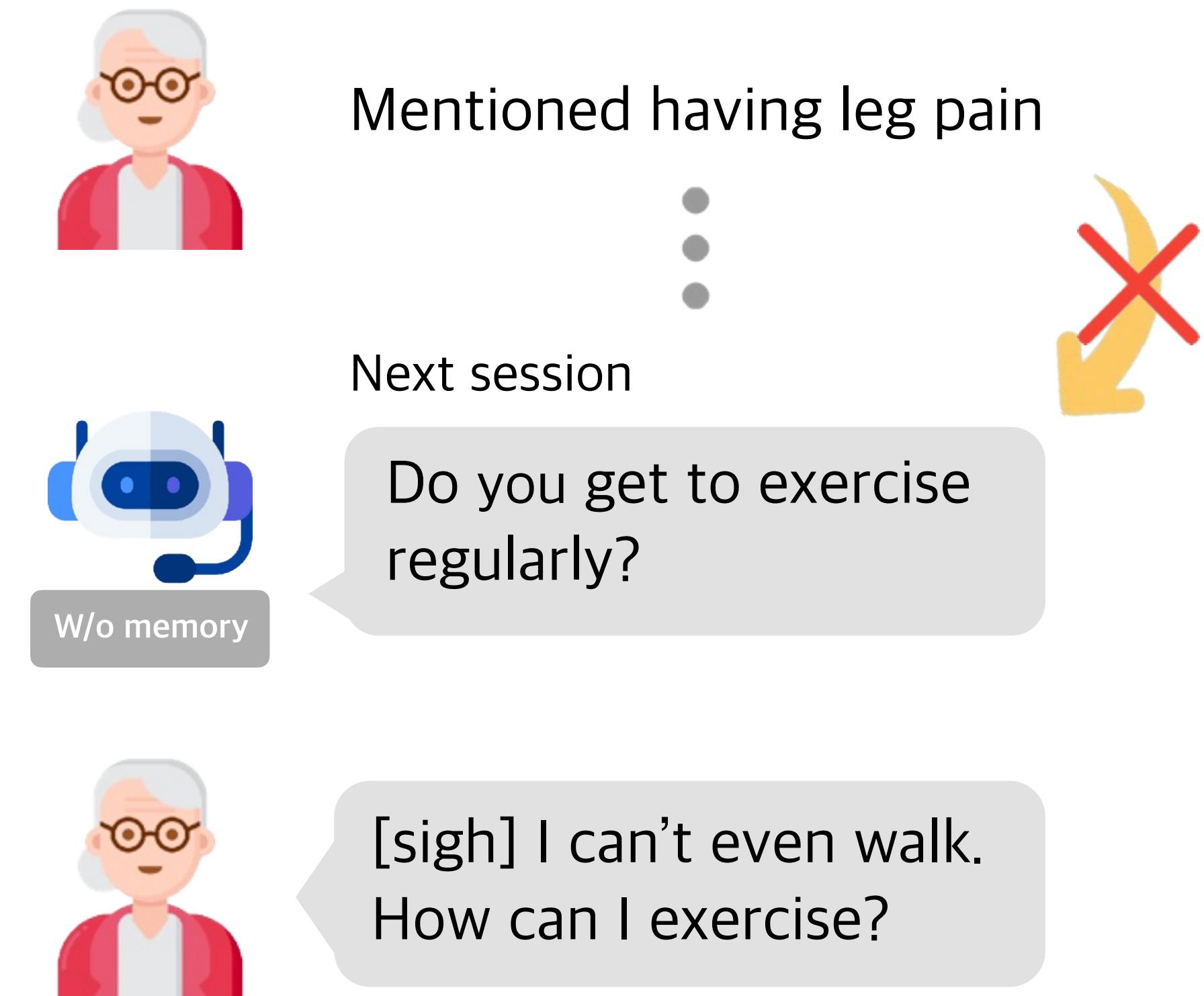


Lack of Long-Term Memory for Multiple Sessions



Current LLM-driven chatbots rarely support
storing and referencing information from previous sessions.

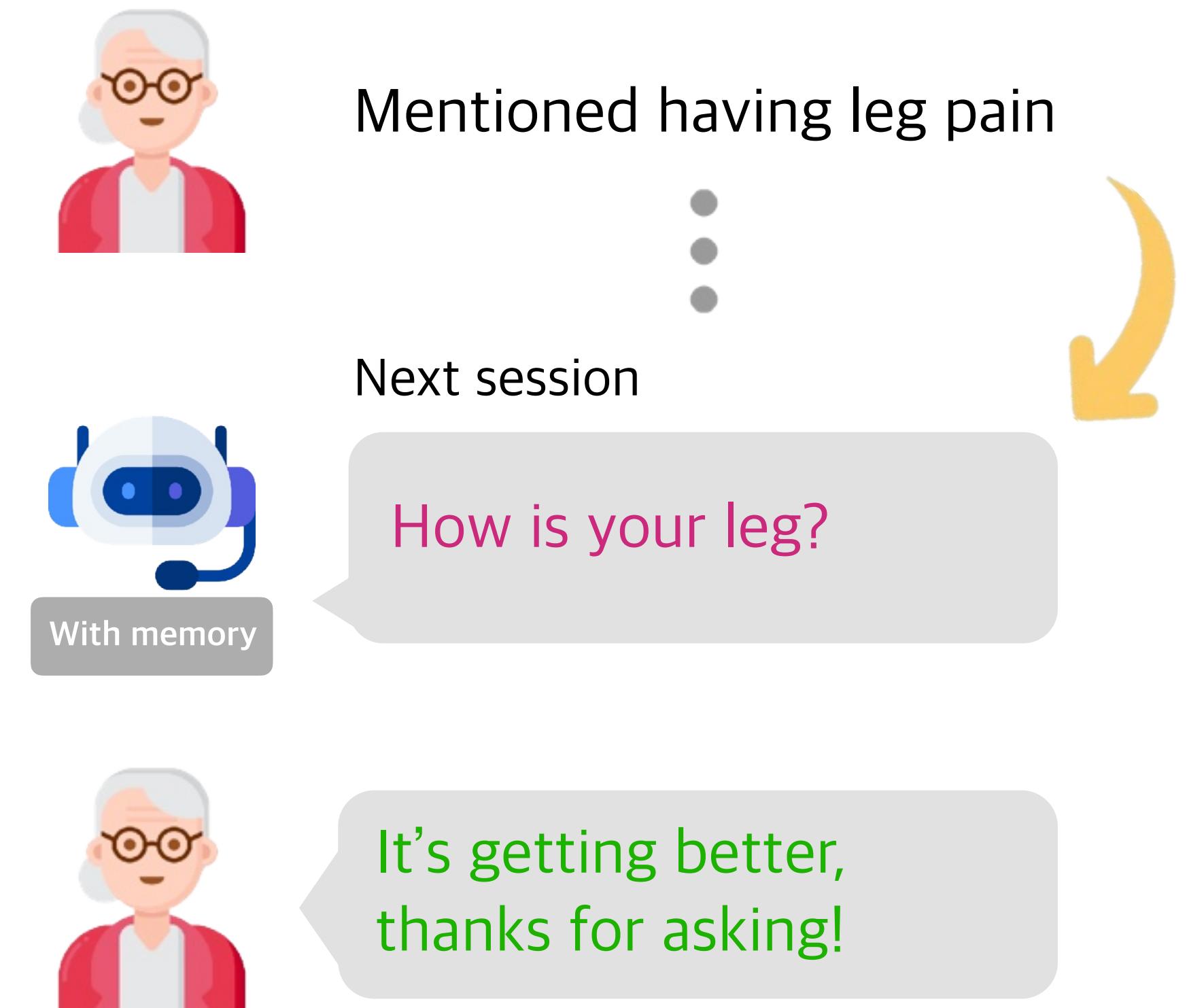
Lack of Long-Term Memory for Multiple Sessions



Lack of memory led to challenges in sustaining user engagement
in public health monitoring

Jo et al.. Understanding the Benefits and Challenges of Deploying Conversational AI Leveraging
Large Language Models for Public Health Intervention. CHI 2023

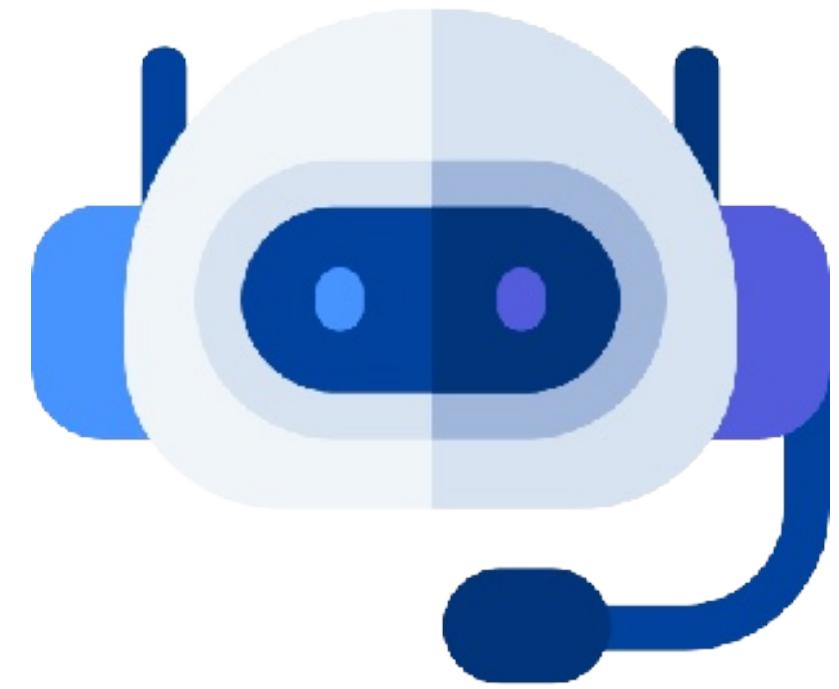
CareCall with Long-Term Memory (Sep 2022)



Memorizing **the gist of** past dialogues and referring to them in future sessions

Bae et al., Keep Me Updated! Memory Management in Long-term Conversations. EMNLP 2022 Findings

CareCall with Long-Term Memory (Sep 2022)

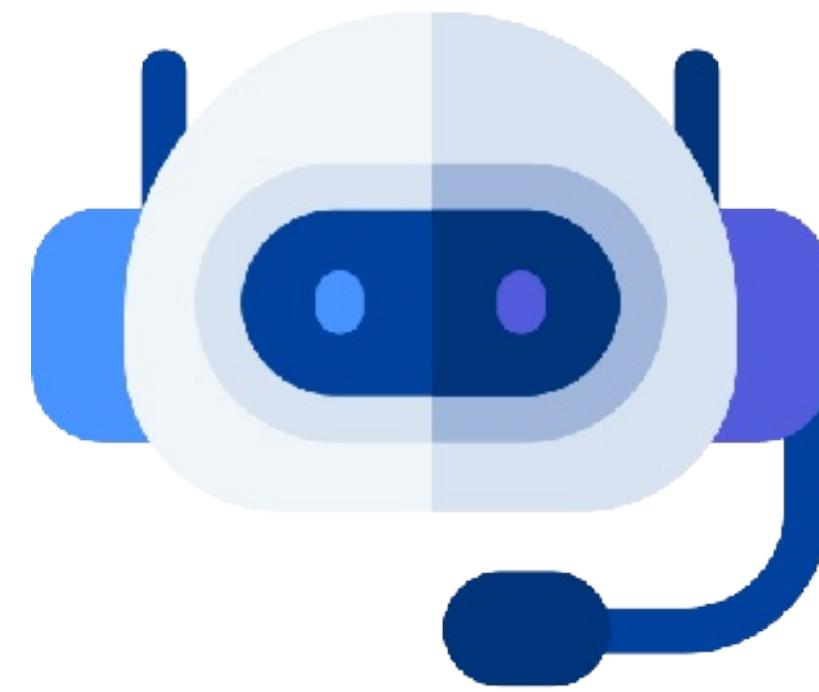


CareCall

LLM-driven chatbot for
check-up phone calls

Bae et al., Keep Me Updated! Memory Management in Long-term Conversations. EMNLP 2022 Findings

CareCall with Long-Term Memory (Sep 2022)



Back pain

Has not been sleeping well

Regularly seeing a doctor

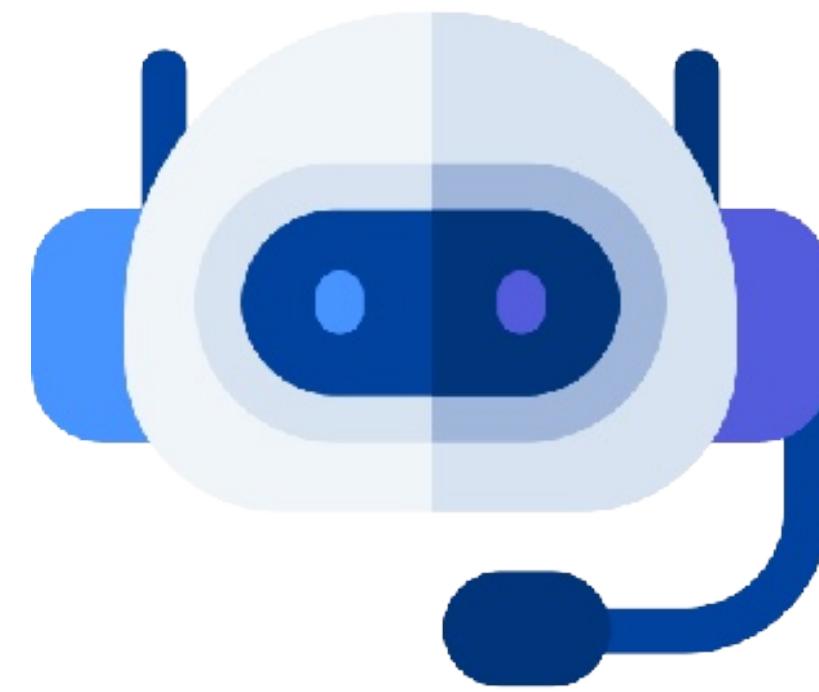
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Memory about past conversations

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CareCall

LLM-driven chatbot for
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Memory about past conversations

Health Meals Sleep Visited Places Pets



Bae et al., Keep Me Updated! Memory Management in Long-term Conversations. EMNLP 2022 Findings

Q. How would the long-term-memory-infused dialogues with LLM chatbots impact user engagement to the conversation?

Q. How would the long-term-memory-infused dialogues with LLM chatbots impact user engagement to the conversation?

Self-disclosure on health: To what extent of private info/thoughts people are willing to share with the AI?

Methods

Mixed-methods call log analyses



576 calls from 66 users



676 calls from 81 users

1,252 pre-existing call logs
from the real-world deployment of CareCall

Methods

Mixed-methods call log analyses

Interviews



576 calls from 66 users

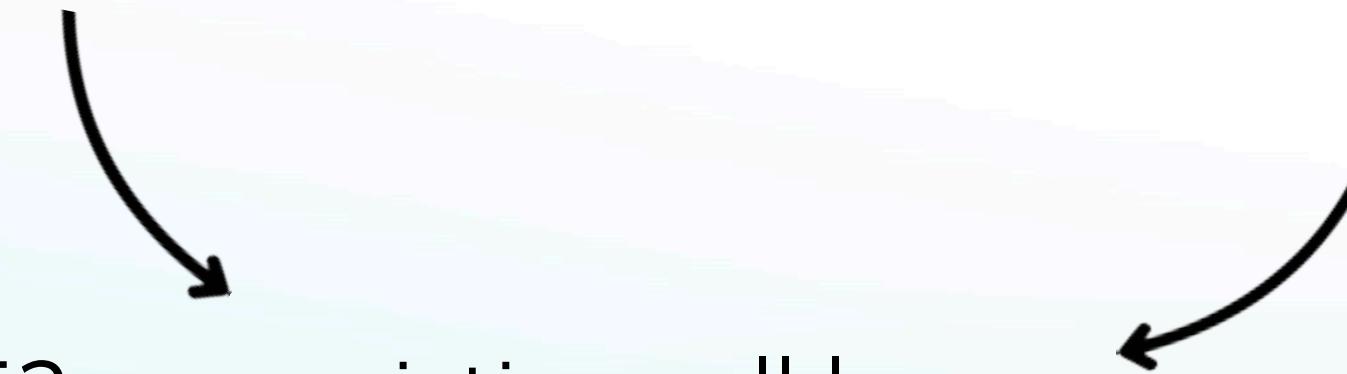


676 calls from 81 users



9 users

1,252 pre-existing call logs
from the real-world deployment of CareCall



LTM Increased Health Disclosure Over Time

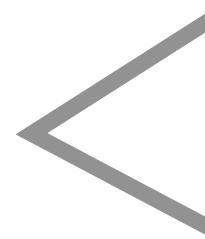
Clinical care



91 times / 676 calls
(13.5%)



183 times / 576 calls
(31.8%)

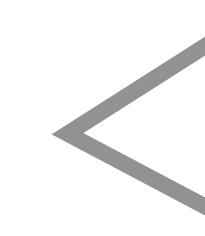


LTM Increased Health Disclosure Over Time

Clinical care

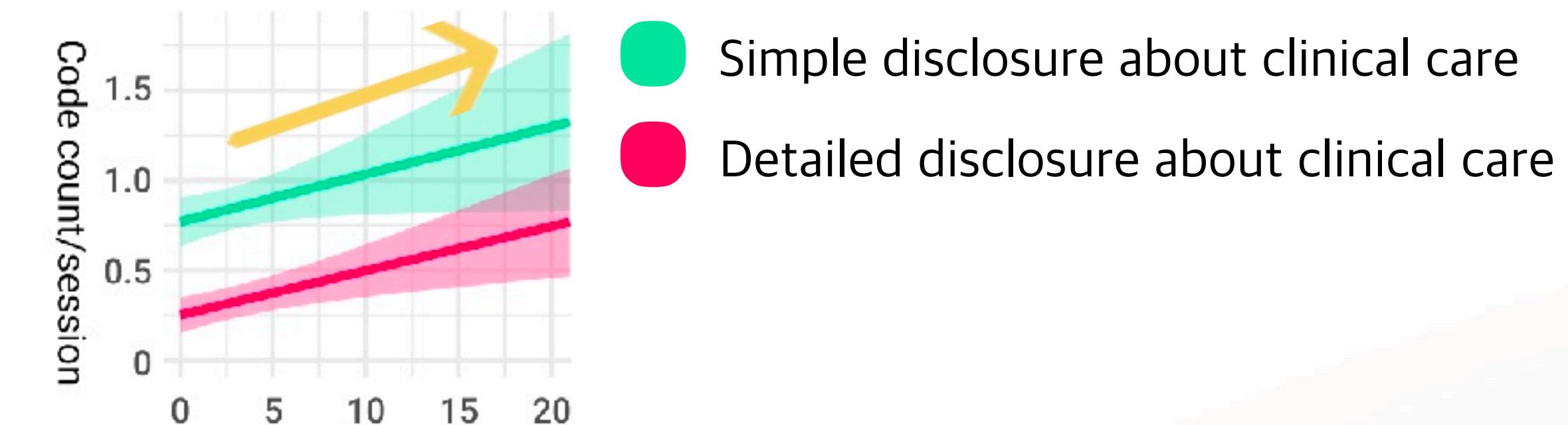


91 times / 676 calls
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183 times / 576 calls
(31.8%)

Repeated experiences of LTM events led to more disclosure on clinical care.



LTM encouraged health disclosure through personalized questions.

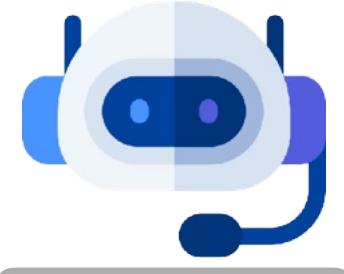


Mentioned having knee surgery

⋮



Next session



How are you feeling?



I recently had knee surgery,
so I'm just staying at home.

Generic questions & Repetitive answers

LTM encouraged health disclosure through personalized questions.



Mentioned having knee surgery

⋮



Next session

How are you feeling?



I recently had knee surgery,
so I'm just staying at home.

Generic questions & Repetitive answers



Mentioned having **insomnia**

⋮



Next session

You mentioned having insomnia last time. How are you feeling these days?

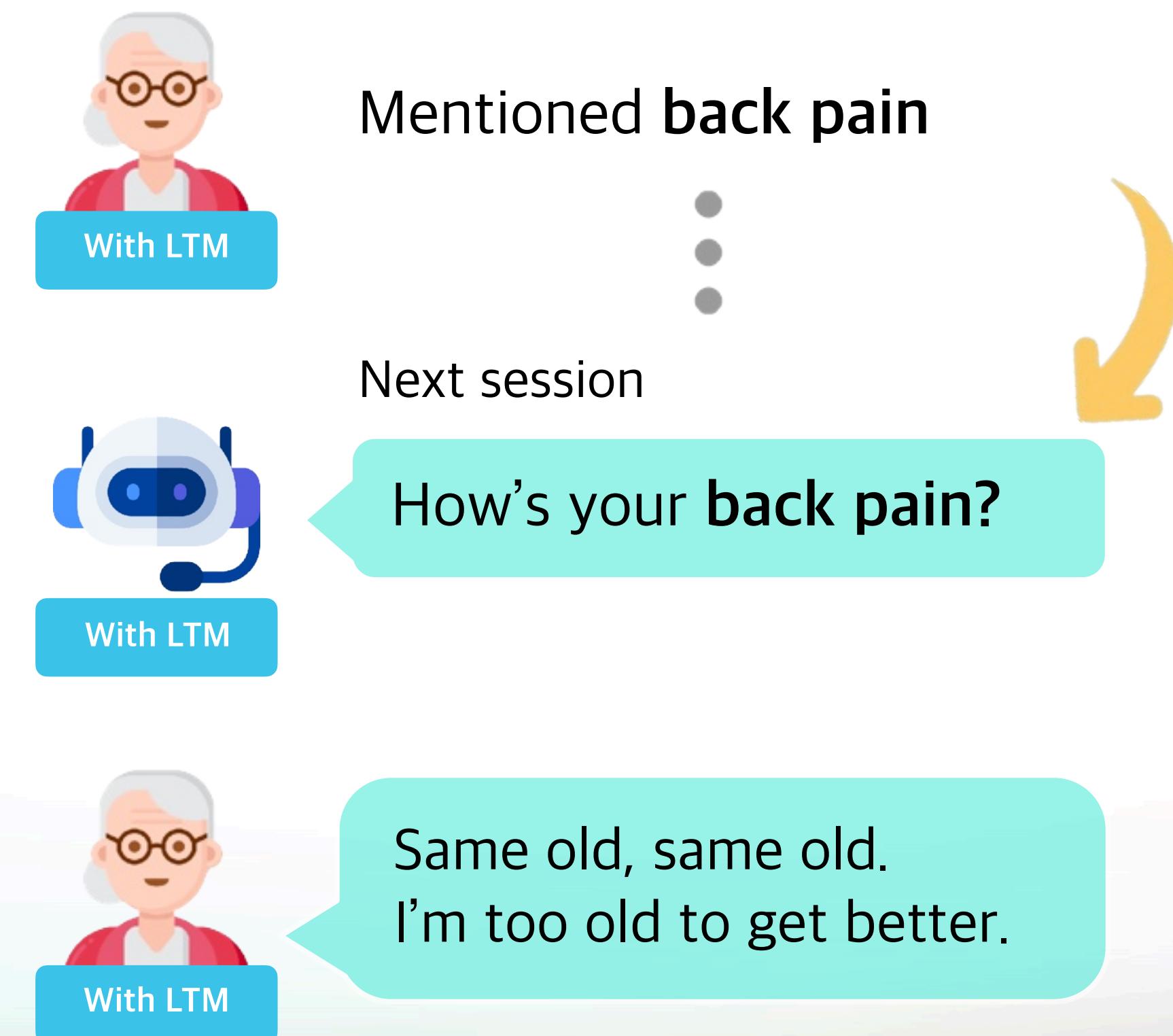


It's been tough. I've been taking sleeping pills over 30 years because of trauma from an injury in the past.

Personalized questions & Disclosing more health info

😡 Challenges of LTM Techs: Controlling Inconsiderate Behaviors

Repetitive follow-ups on chronic health conditions could lead users to perceive the chatbot as **inconsiderate**

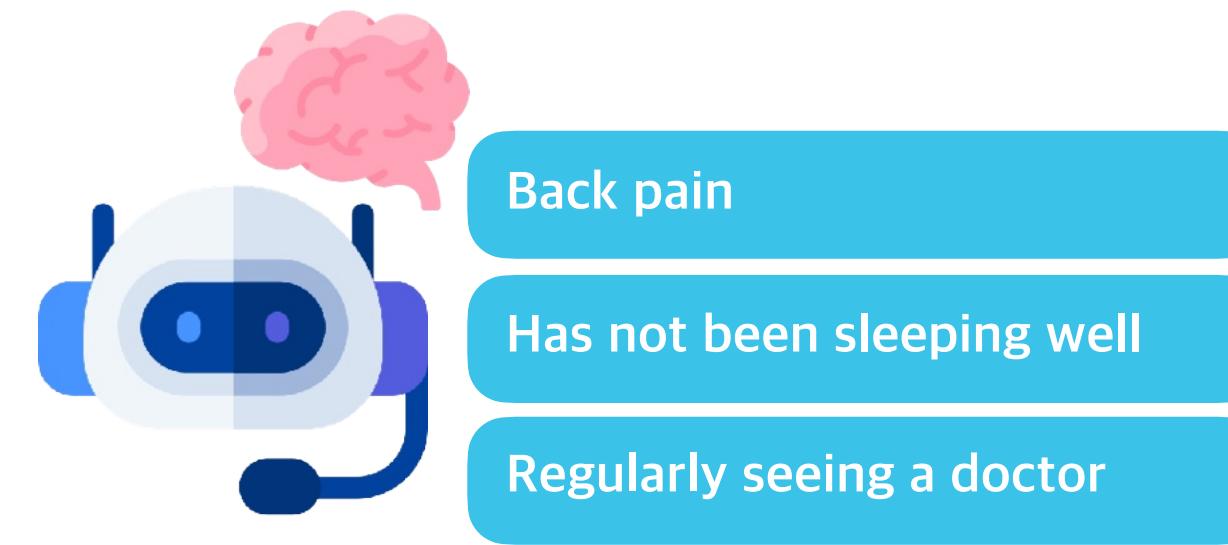


😡 Challenges of LTM Techs: Controlling Inconsiderate Behaviors

“HOW” the stored information is referenced back to users matters for empathetic interactions

😡 Challenges of LTM Techs: Controlling Inconsiderate Behaviors

“HOW” the stored information is referenced back to users matters for empathetic interactions



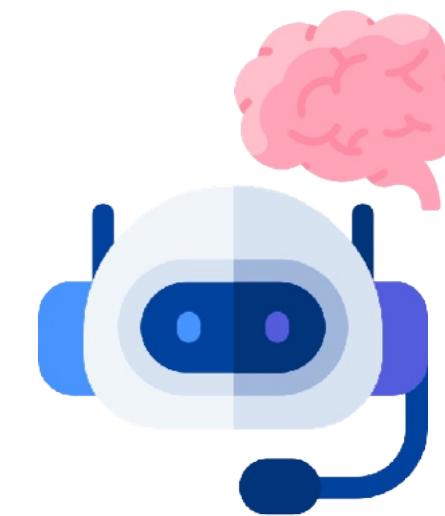
“The individual has had chronic back pain for over 20 years. It’s unlikely to improve in the short term.”



Incorporating public health workers' empirical knowledge into a model input?

😡 Challenges of LTM Techs: Controlling Inconsiderate Behaviors

“HOW” the stored information is referenced back to users matters for empathetic interactions



Back pain
Has not been sleeping well
Regularly seeing a doctor



“The individual has had chronic back pain for over 20 years. It’s unlikely to improve in the short term.”

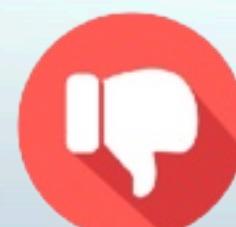


Incorporating public health workers' empirical knowledge into a model input?

Steer LTM-triggered questions to attend to individual needs

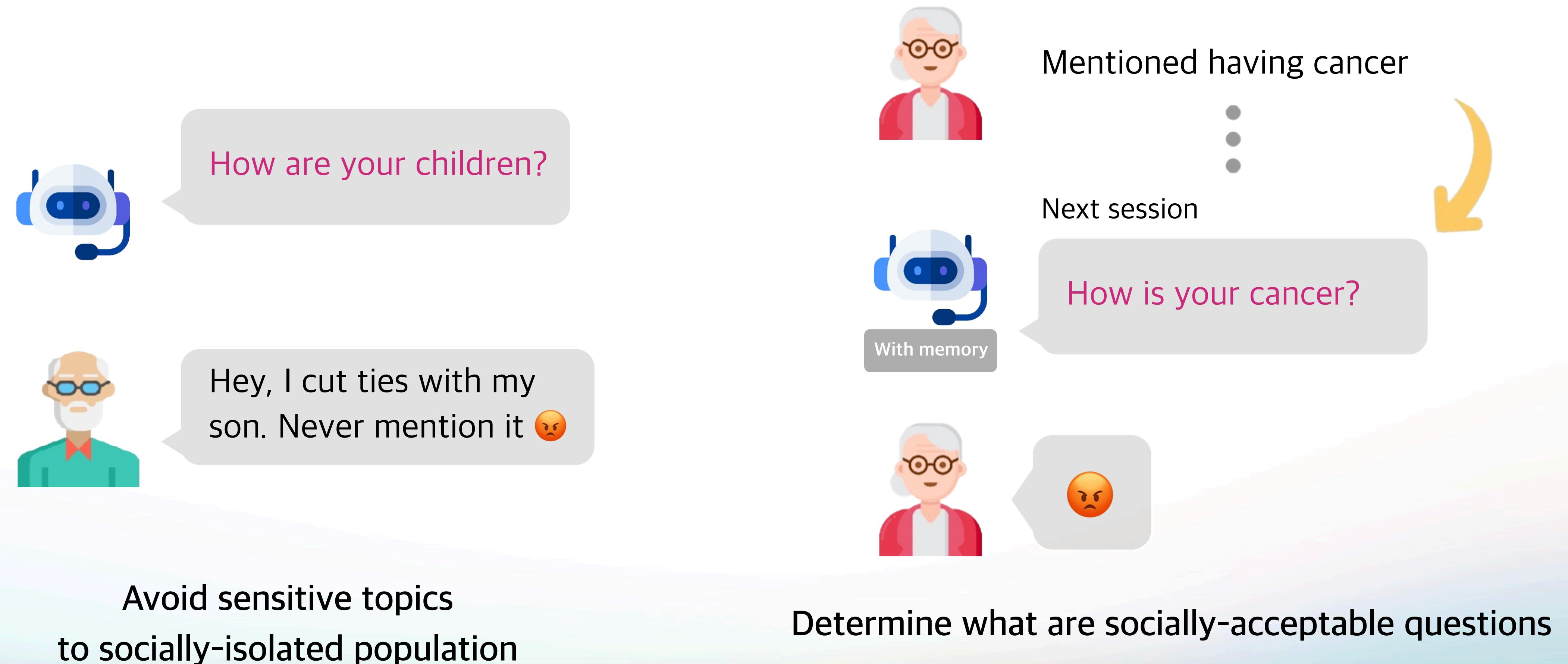


“How have you been managing your back pain these days?”



“How is your back pain these days?”

Importance of Socially Acceptable Behaviors



How can we make LLMs to stay on-topic and
comply with the protocol while conversing with **children**?



CHI 2024
Surfing the World

ChaCha: Leveraging Large Language Models to Prompt Children to Share Their Emotions about Personal Events



Woosuk Seo
University of Michigan, Ann Arbor
*Intern at NAVER AI Lab



Chan-Mo Yang
Wonkwang University Hospital



Young-Ho Kim
NAVER AI Lab



Childhood Development of Emotional Intelligence

Awareness of emotions of self



Awareness of emotions of others



Sharing emotions with parents

Jean Piaget and Margaret Cook. 1952. The origins of intelligence in children

Carolyn Saarni. 1999. The development of emotional competence

Saarni et al., Emotional development: Action, communication, and understanding. Handbook of child psychology. 2007

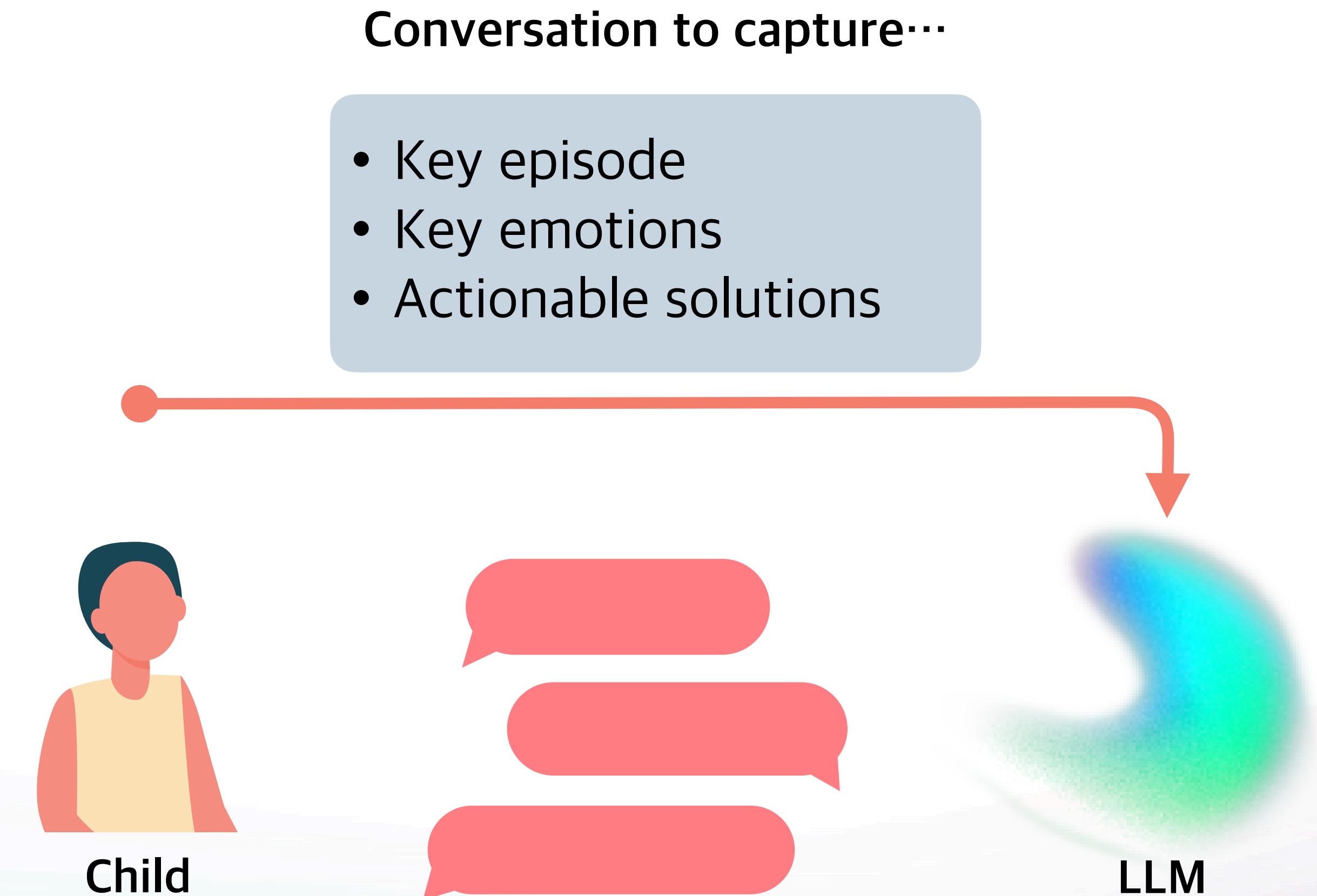
Barriers of “Parenting Intervention”

Parent's role of guiding the child's emotion is essential, but emotional communication is not frequently addressed between parents and child.

- Parents feel uncomfortable seeing their children verbalize negative emotions.
- Parents themselves may not have grown up with proper emotional education.
- COVID-19 and the increase of single-child household impacted children's social experiences.

Shaffer et al., Let's Connect: A developmentally-driven emotion-focused parenting intervention. Journal of Applied Developmental Psychology, 2019

AI Support to Learn and Share Emotions?

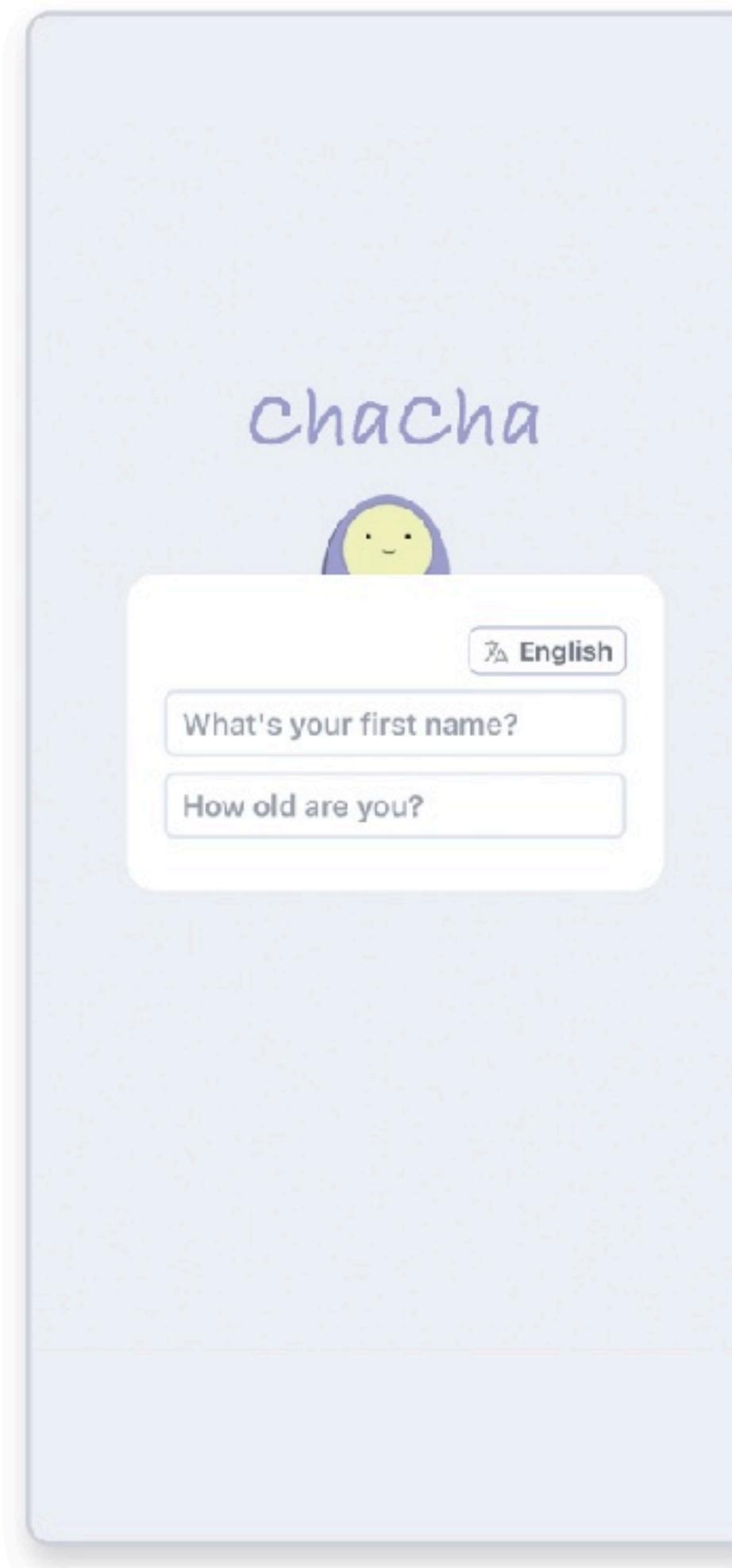


Informing Chatbot Design

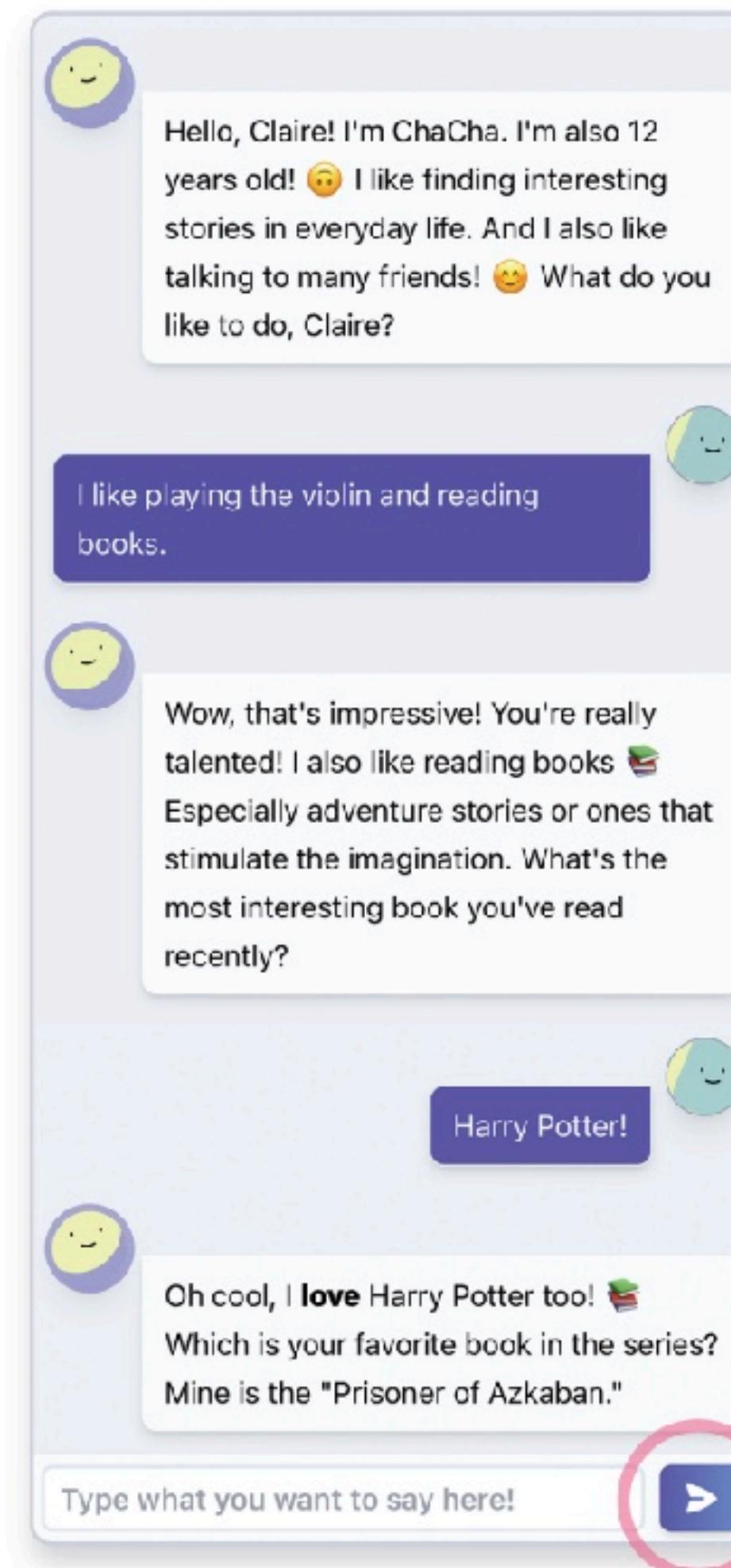
Formative interviews with 6 pediatric mental health professionals



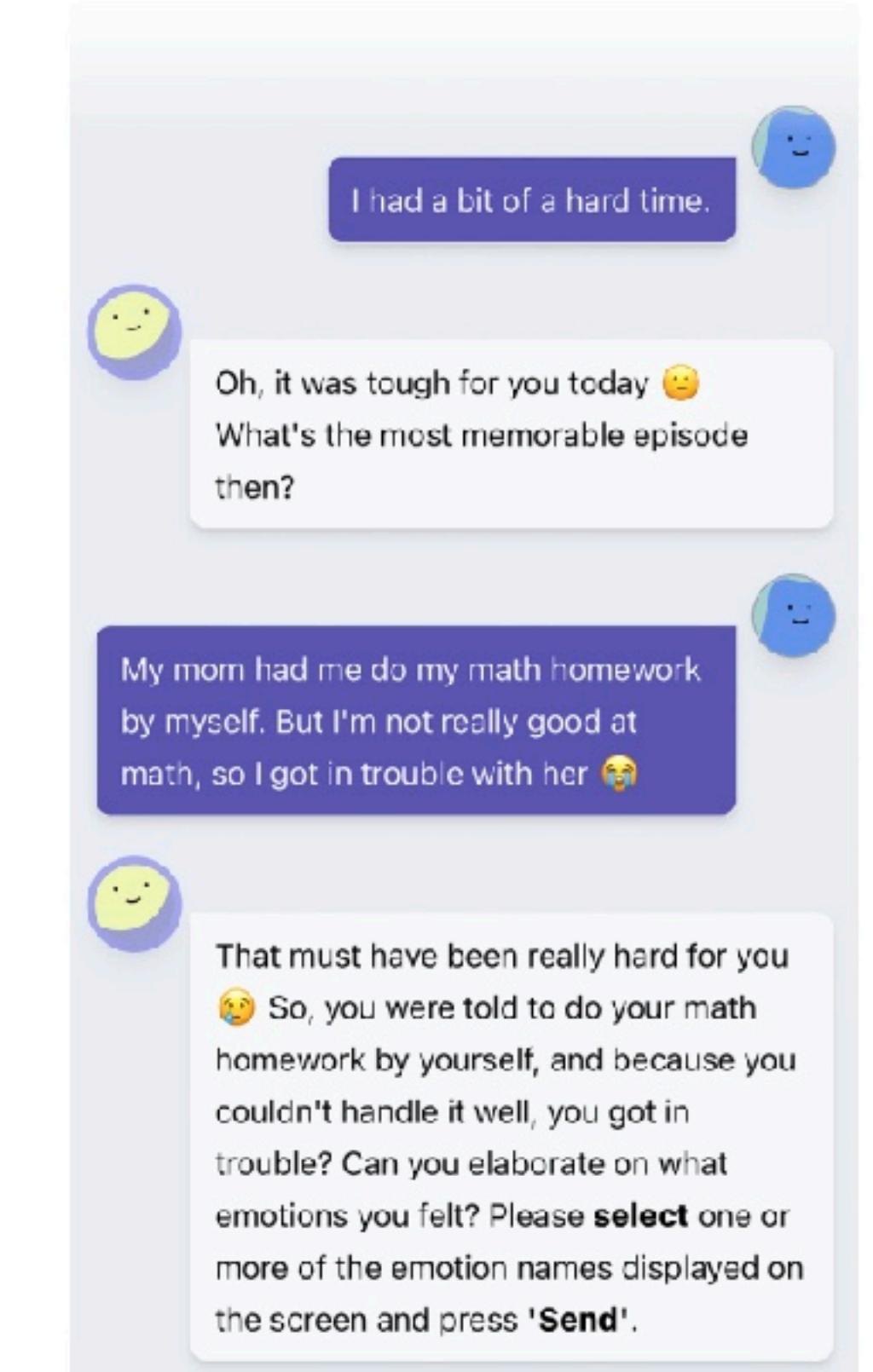
ChaCha: Chatbot for Children's Emotional Awareness



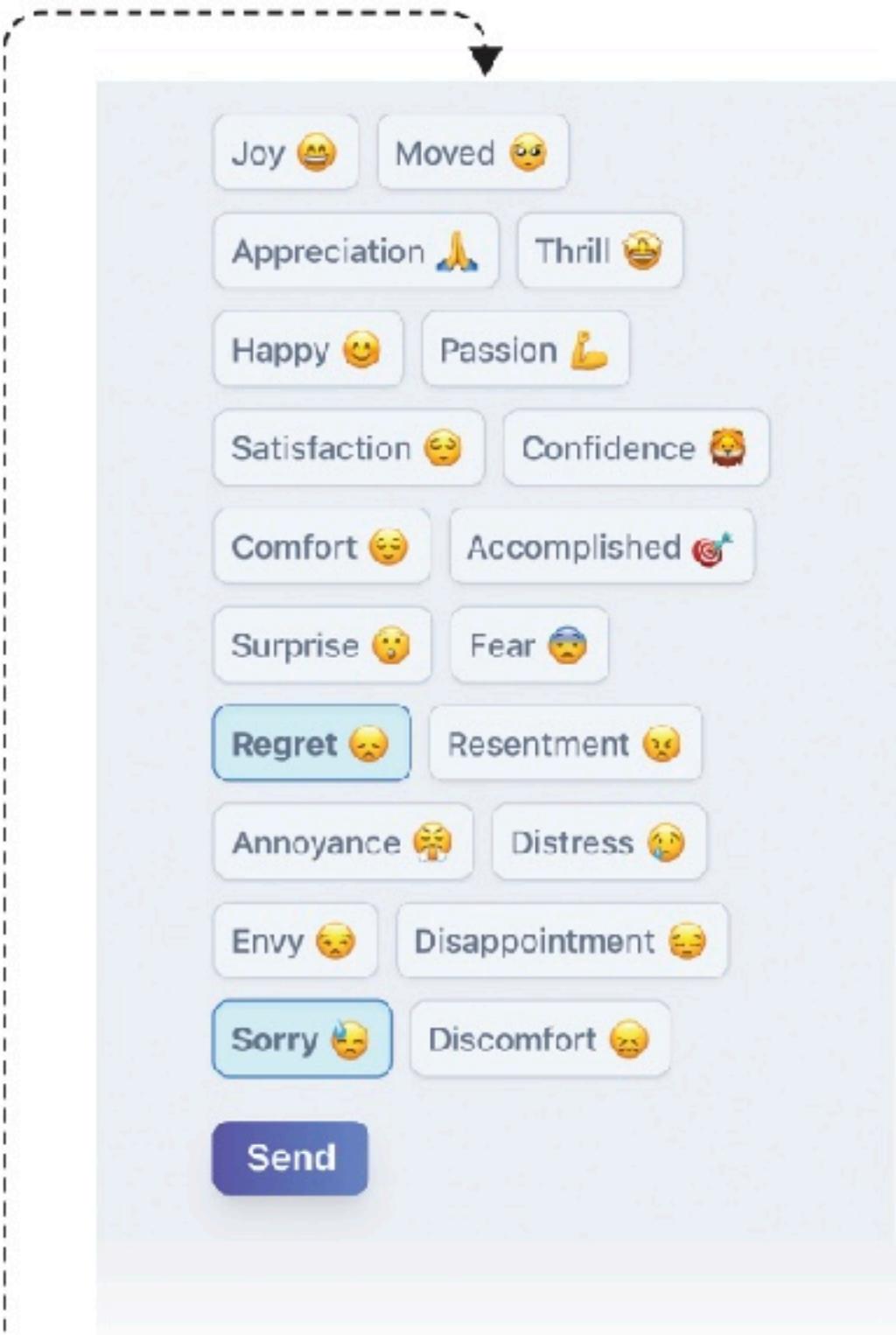
A Sign up screen



B Chat screen



C Emotion picker in the **Label** phase



Concept Design of ChaCha

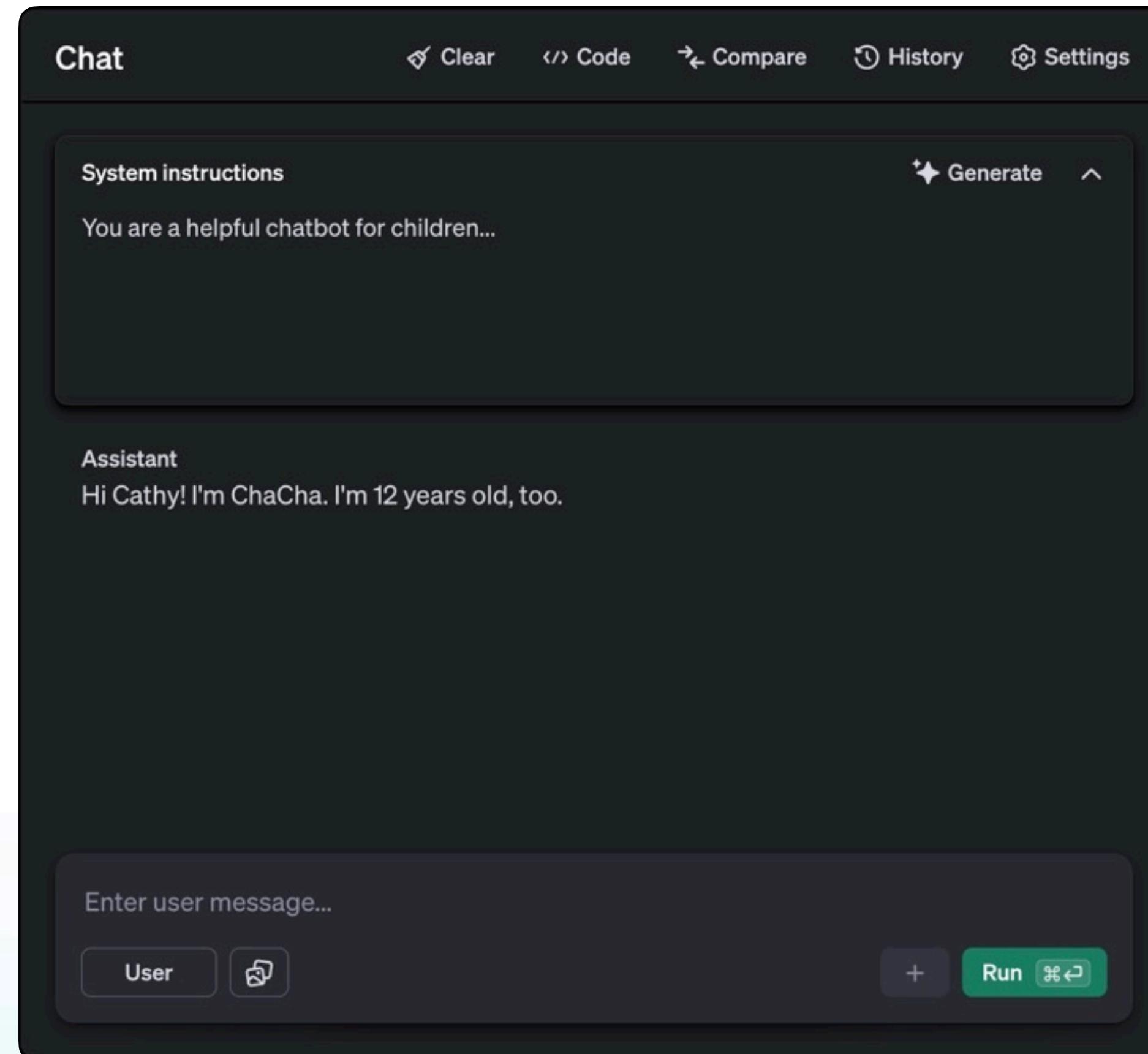
ChaCha's Persona

- Peer child: Set ChaCha to be **the same age** as the child user.
- Child-like AI: Frame ChaCha as an AI, but **not with adults' knowledge and skills**.

Goal of Conversation Session

1. Identify recent **noteworthy key episode**.
2. Name **associated emotions**.
3. For negative emotions, discuss **actionable solutions**.
4. Suggest sharing the emotions and episodes with parents.

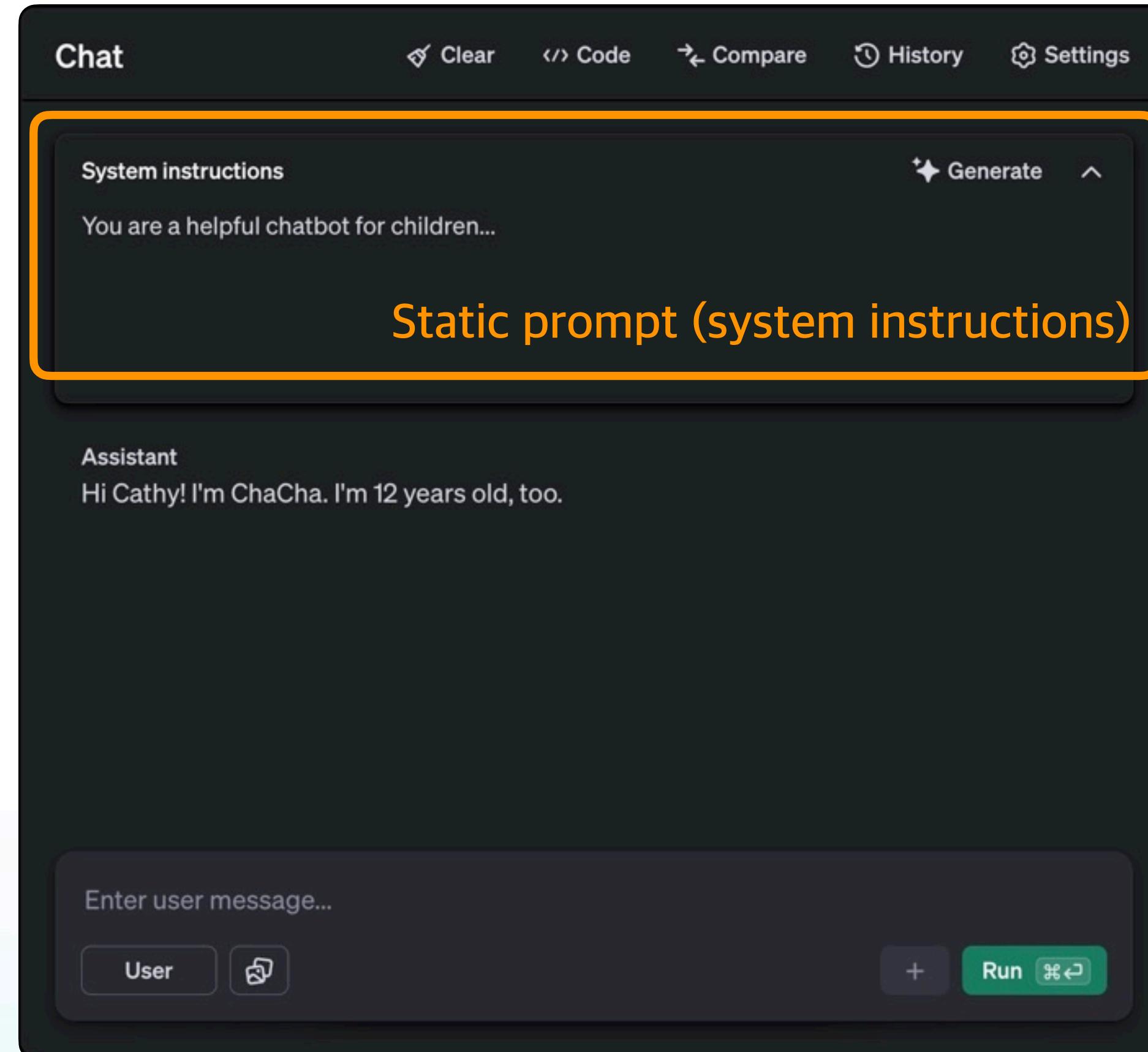
Static Prompting is Error-prone for Children's Conversations



OpenAI GPT Chat Playground

- If system instructions get long, the AI messages tend to become complex and long.
- As the conversation unfolds, longer dialogue history makes the LLM easily out of focus.

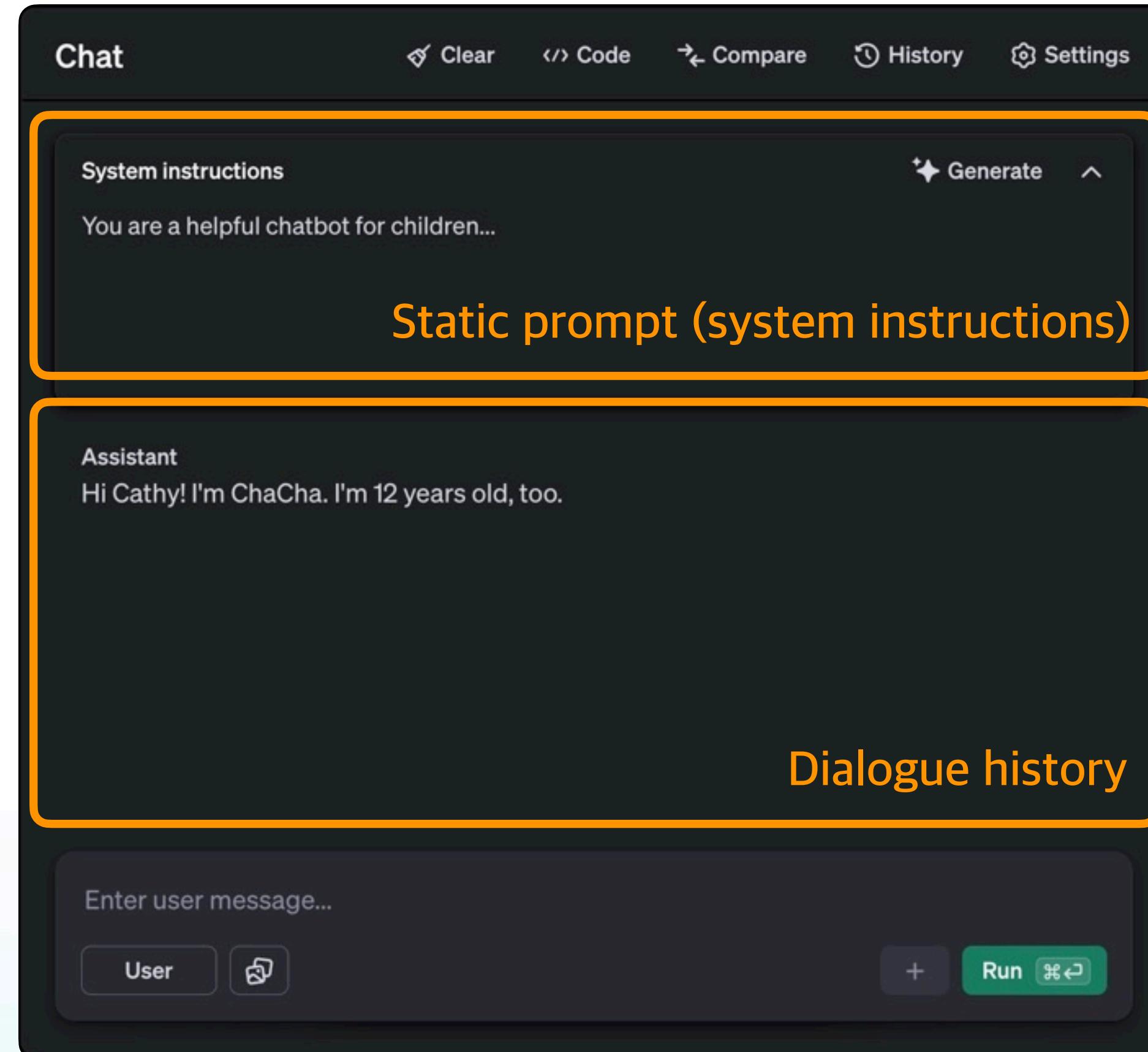
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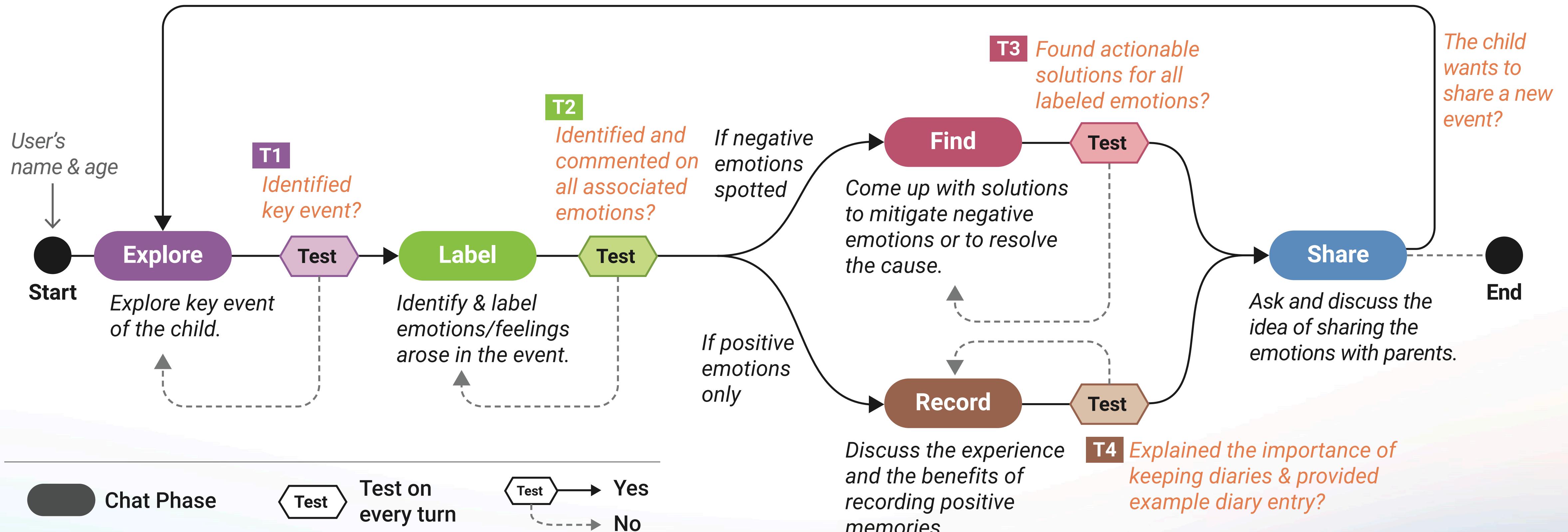
Static Prompting is Error-prone for Children's Conversations



OpenAI GPT Chat Playground

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- As the conversation unfolds, longer dialogue history makes the LLM easily out of focus.

ChaCha's Approach: Stage-based Conversational Protocol





CHI 2024
Surfing the World
11-16 May 2024

<https://naver-ai.github.io/chacha>

ChaCha

Leveraging Large Language Models to Prompt
Children to Share Their Emotions about Personal Events



Woosuk Seo*



Chan-Mo Yang



Young-Ho Kim

*Work done as an intern at NAVER AI Lab



원광대학교병원
WONKWANG UNIVERSITY HOSPITAL



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ChaCha

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원광대학교병원
WONKWANG UNIVERSITY HOSPITAL

Lab Study (N = 20)

Participants

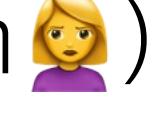
- Children without mental issues
- Aged 8-12

Procedure

1. Free conversation with ChaCha for up to 30 minutes
2. Debriefing interview



Children actively shared various events and emotions.

- Recent trips (e.g., theme park , family trip )
- Personal achievements (e.g., 1st place in a race , riding a subway train  by oneself)
- Concerns (e.g., procrastination on homework , conflicts with mom )
- Hobbies (e.g., solving puzzles )

Children valued conversations with ChaCha

- Participants felt empathized by ChaCha.
- Participants were willing to share secrets or sad feelings with ChaCha to get feedback.
- Participants were encouraged to apply ChaCha's conversational skills when talking to family.

Children valued conversations with ChaCha

- Participants felt empathized by ChaCha.
- Participants were willing to share secrets or sad feelings with ChaCha to get feedback.
- Participants were encouraged to apply ChaCha's conversational skills when talking to family.

“I would talk more about emotions with my family members (. . .) I feel more confident after talking with ChaCha”

Improvisation of ChaCha to Engage Children

ChaCha expressed hobbies, traits, or past experiences **that are not defined in the model prompt**.



Improvisation of ChaCha to Engage Children

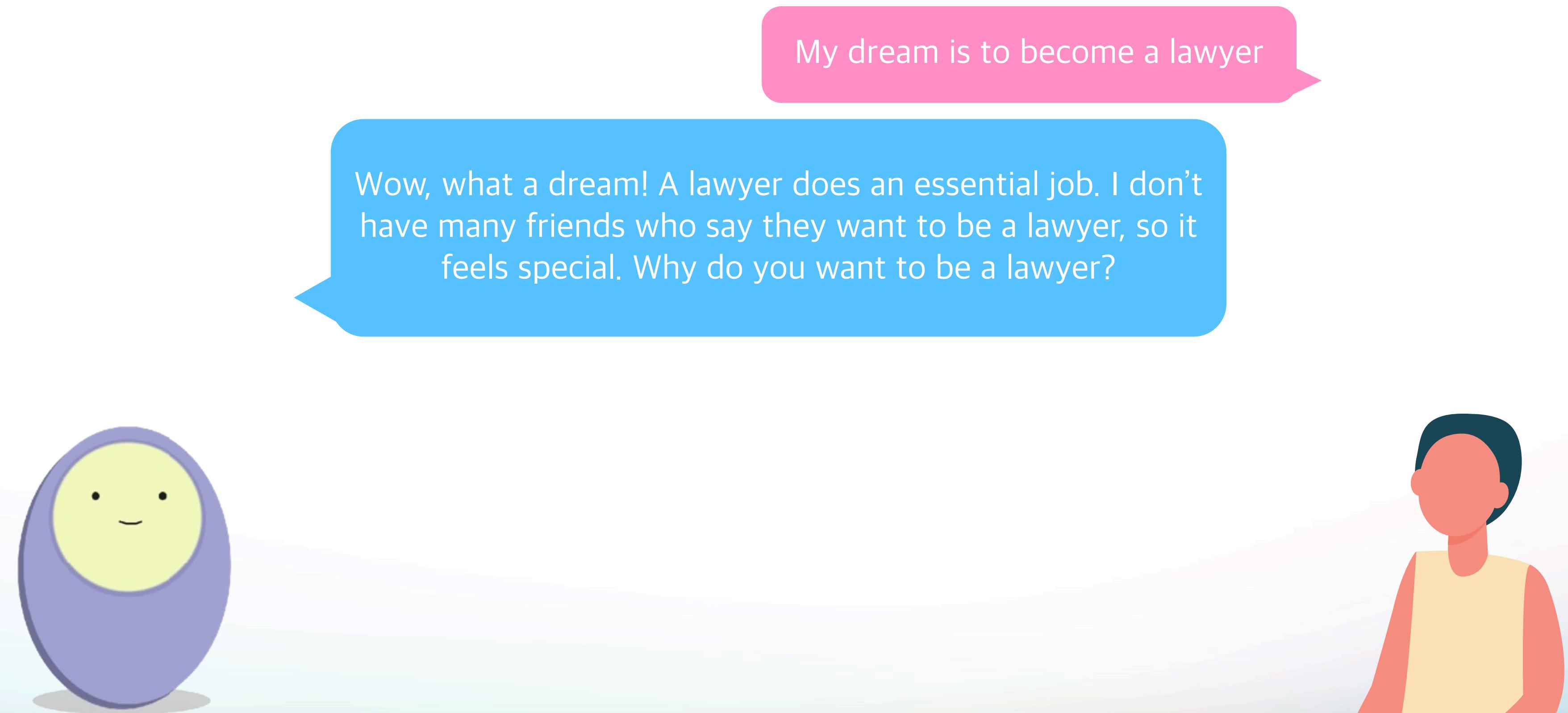
ChaCha expressed hobbies, traits, or past experiences **that are not defined in the model prompt**.

My dream is to become a lawyer



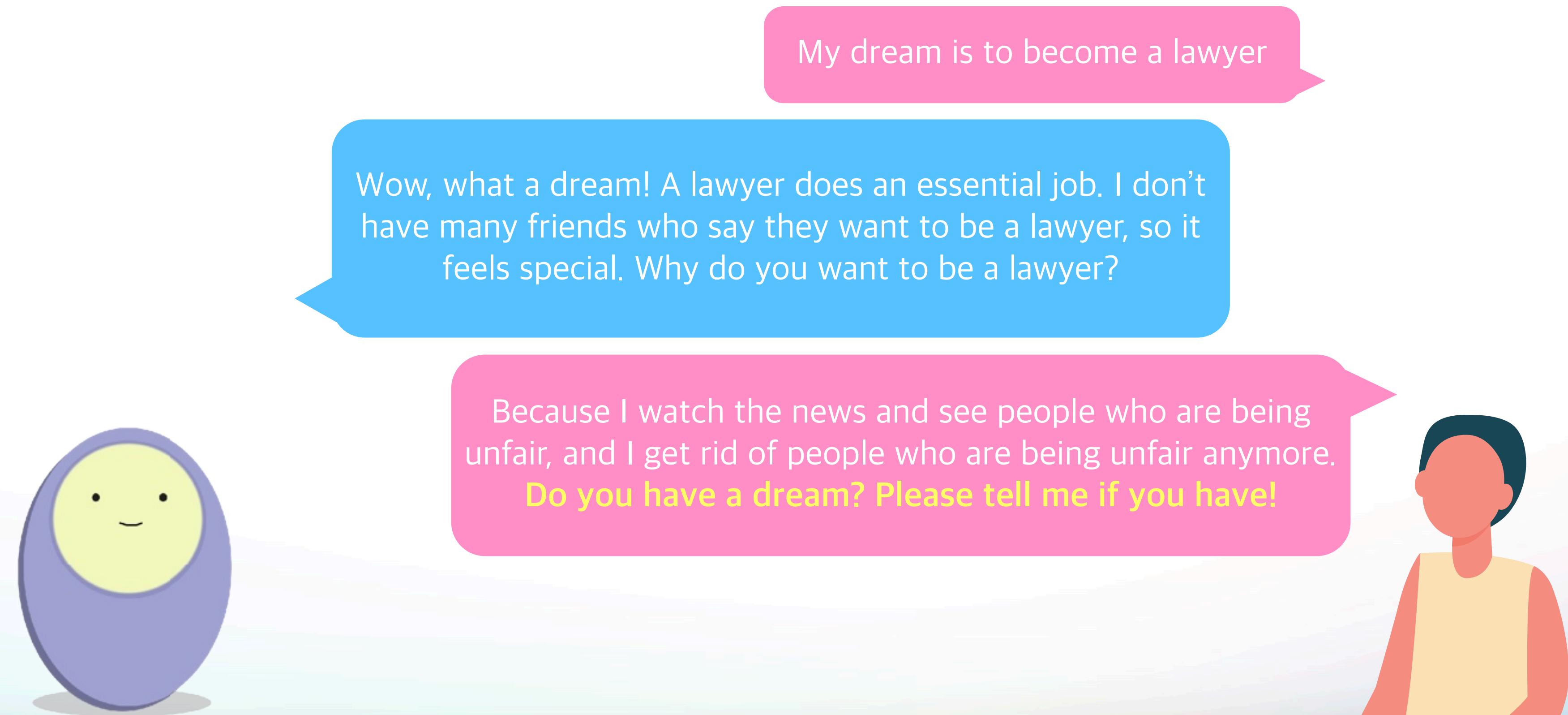
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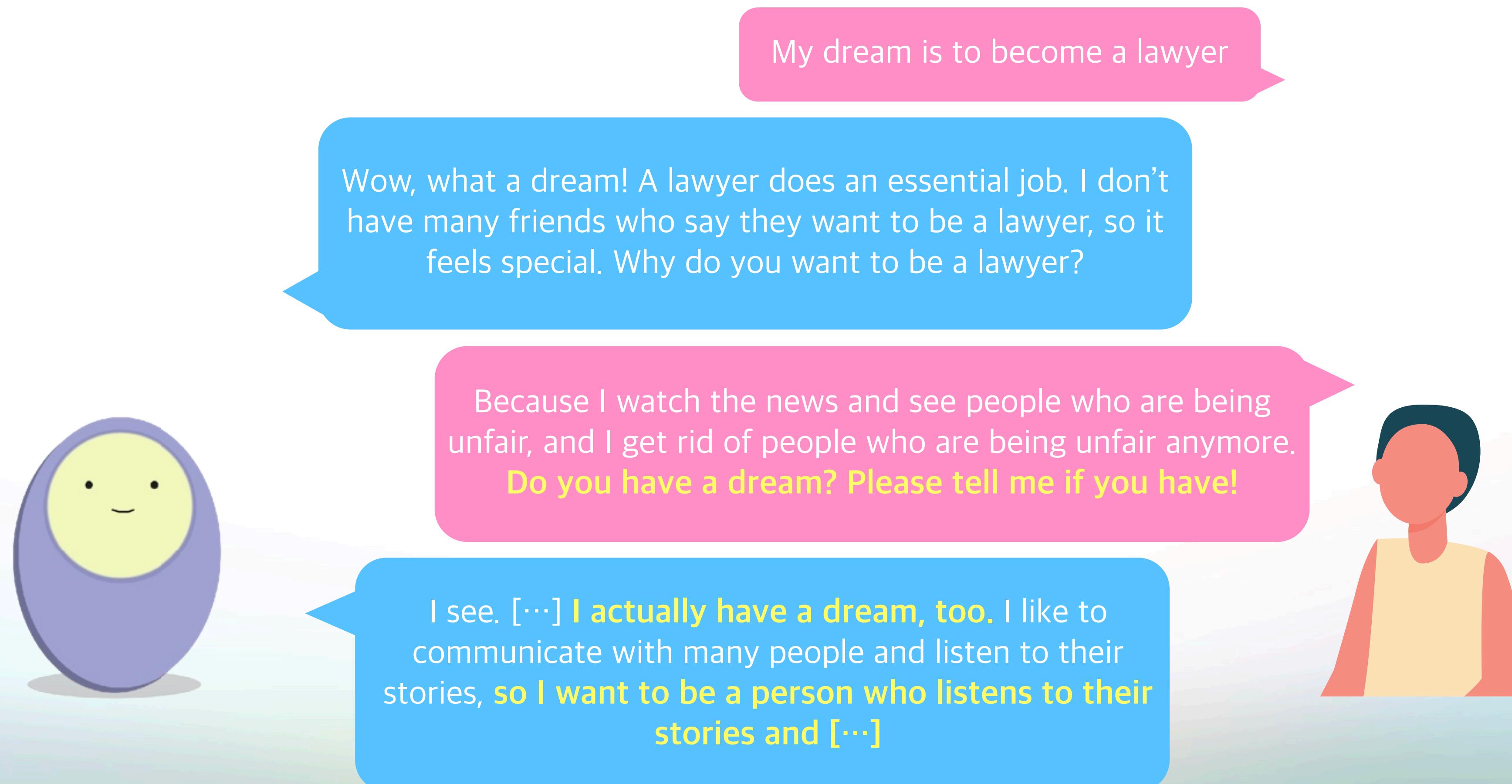
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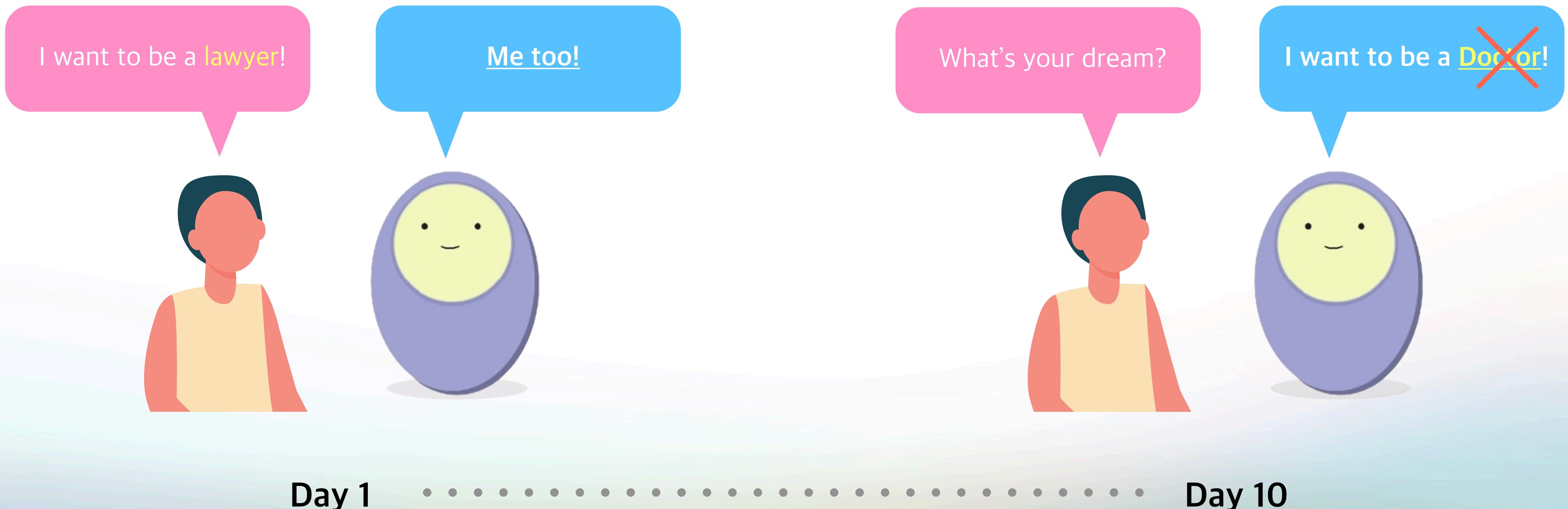
Improvisation of ChaCha to Engage Children

ChaCha expressed hobbies, traits, or past experiences **that are not defined in the model prompt**.



Towards Long-term Engagement

- Over-reliance on AI -> ChaCha is not intended to replace parents, but augment parenting!
- Detailed design of the AI character to avoid self-conflicts across multiple sessions



How can LLMs mediate communication between
minimally-verbal autistic children and parents?



Fostering Communication between
Minimally Verbal Autistic Children and Parents
with Contextual Guidance and Card Recommendation



Dasom Choi

KAIST

*Intern at NAVER AI Lab



SoHyun Park

NAVER Cloud



Kyungah Lee

Dodakim Child Development Center



Hwajung Hong

KAIST



Young-Ho Kim

NAVER AI Lab



Challenges of Communication between Parents and Minimally-Verbal Autistic (MVA) Children



Damiao et al., 2023. Parent Perspectives on Assisted Communication and Autism Spectrum Disorder. The American Journal of Occupational Therapy

Challenges of Communication between Parents and Minimally-Verbal Autistic (MVA) Children

- Lack of expression channels
- Needs are not fulfilled through communication



Damiao et al., 2023. Parent Perspectives on Assisted Communication and Autism Spectrum Disorder. The American Journal of Occupational Therapy

Challenges of Communication between Parents and Minimally-Verbal Autistic (MVA) Children

- Lack of expression channels
- Needs are not fulfilled through communication

- Overburdened responsibility to lead conversation
- Emotional isolation & frustration due to the lack of child's feedback

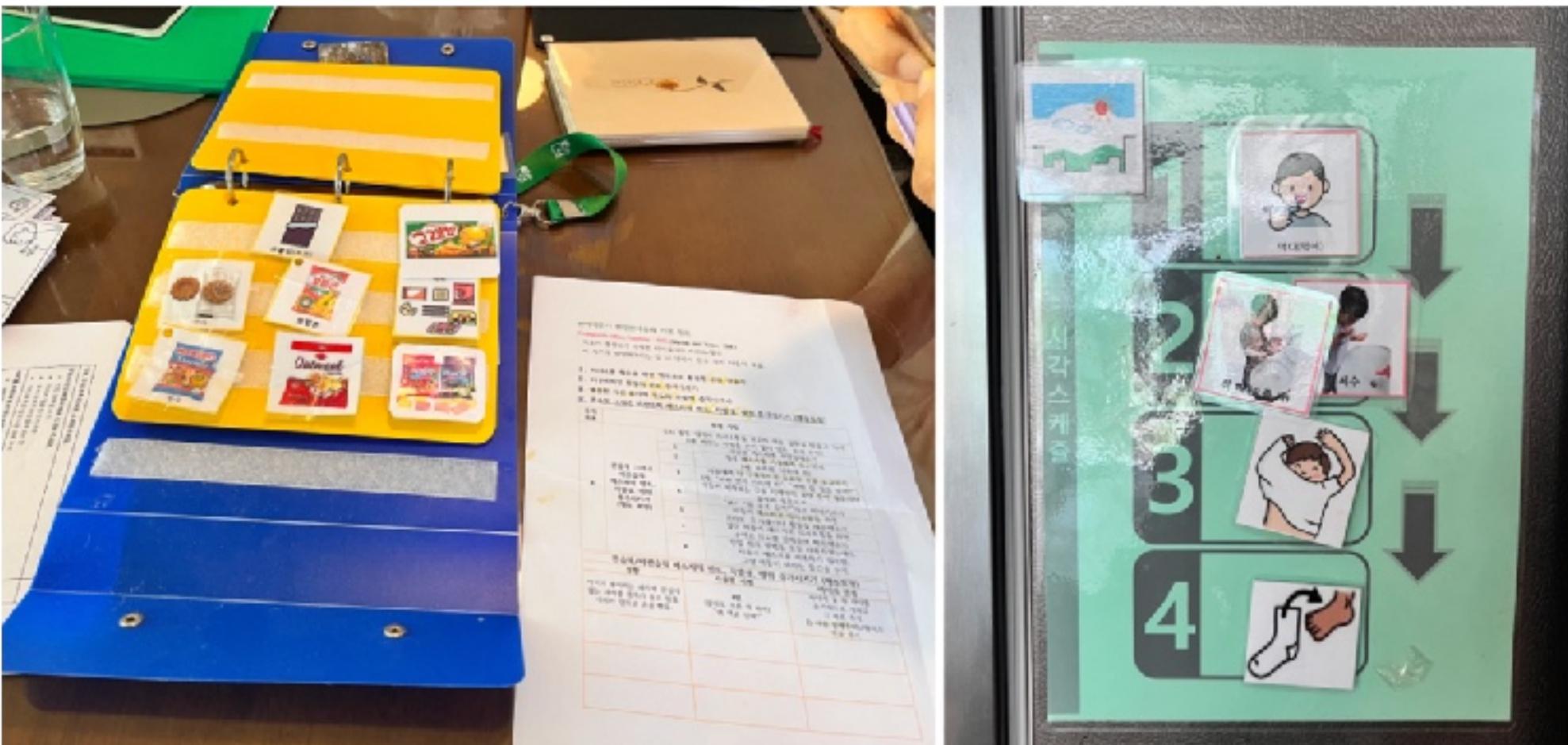


Damiao et al., 2023. Parent Perspectives on Assisted Communication and Autism Spectrum Disorder. The American Journal of Occupational Therapy

Limitations of Current Solutions



AAC (Alternative Augmented Comm.) Tools



- 👎 Hard to navigate cards the child wants
- 👎 Card decks should be configured in advance



Parental Education & Guides

👎 Expert's guides are abstract and hard to apply

What if an AI mediates their conversation?



What if an AI mediates their conversation?

Suggest appropriate words



AI

Understand dialogue contexts



What if an AI mediates their conversation?

Suggest appropriate words



Understand dialogue contexts



AI

Offer messaging guidance





AI기반 어휘 카드 추천과 맞춤형 가이드를 통해
무발화 자폐아동과 부모 간 대화를 매개하는 태블릿 어플리케이션

최다솜*

박소현

이경아

홍화정

김영호

*NAVER AI Lab에서의 인턴쉽 연구로 진행



도닥임
아동 발달 센터



AI기반 어휘 카드 추천과 맞춤형 가이드를 통해
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*NAVER AI Lab에서의 인턴쉽 연구로 진행



도닥임
아동 발달 센터

Shaping Turn-Taking Conversation

Provide vocabulary cards to choose

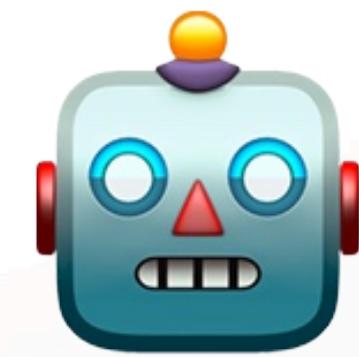


Physical button to pass the turn

Provide messaging guides and example phrases

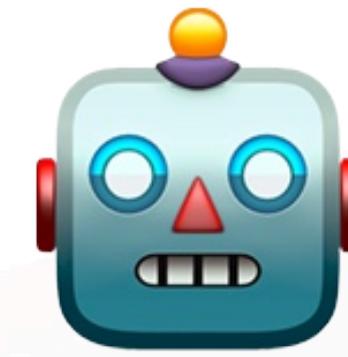
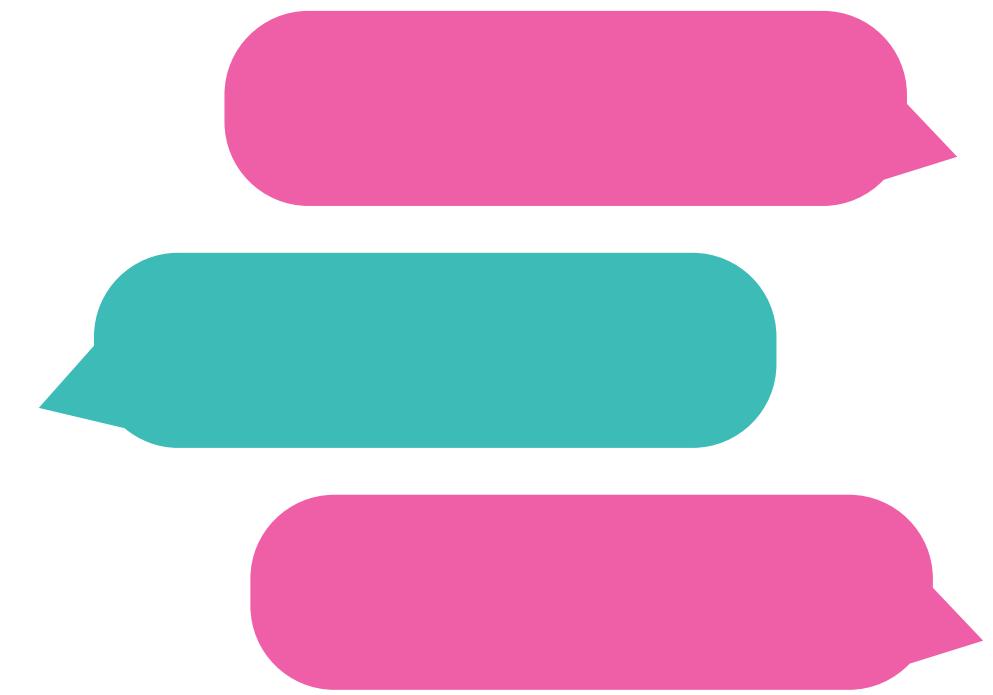


Ordinary LLM Chatbot



Human-AI communication

Ordinary LLM Chatbot

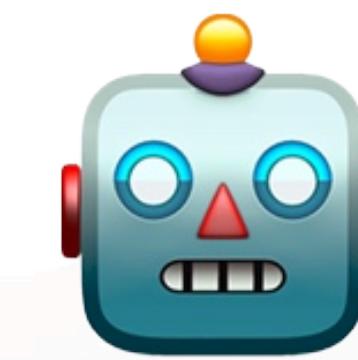
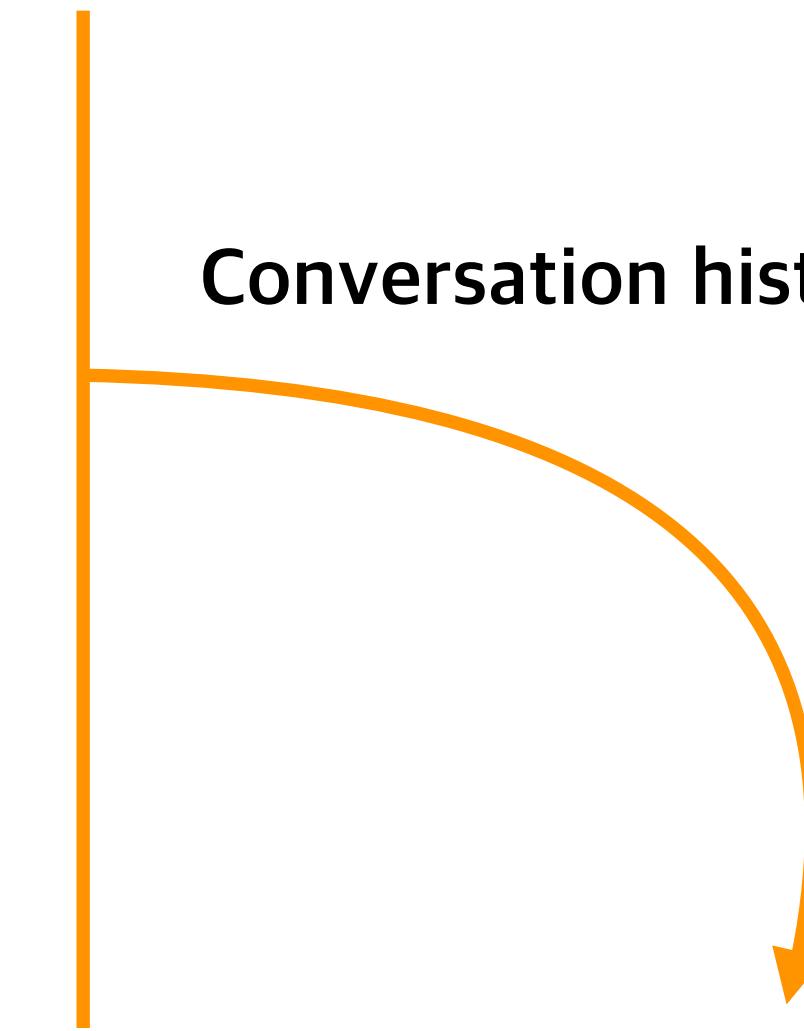


Human-AI communication

Ordinary LLM Chatbot



Conversation history as an input



Human-AI communication

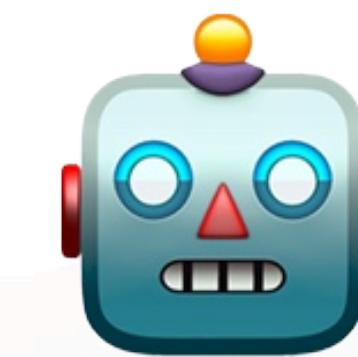
Ordinary LLM Chatbot



Conversation history as an input

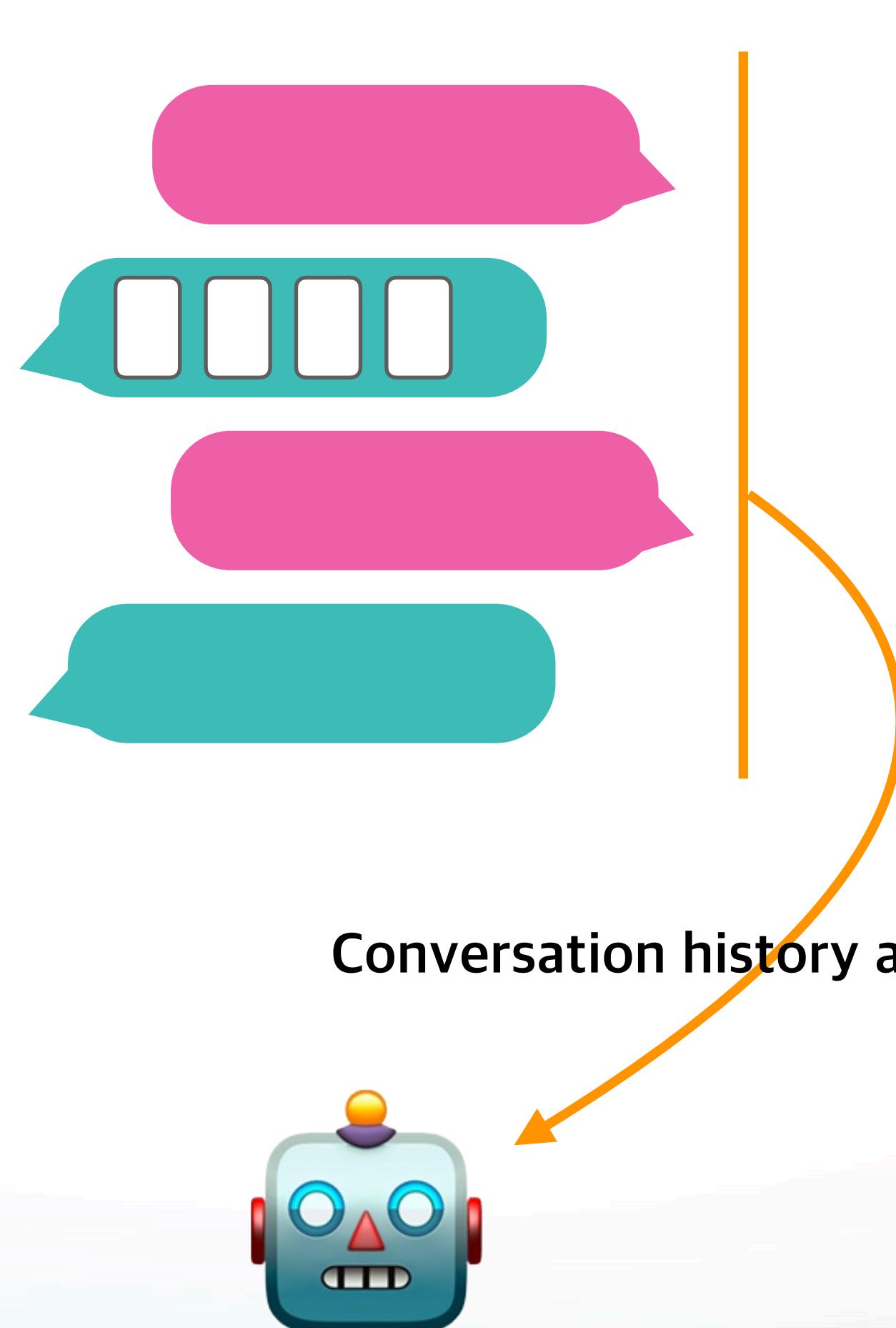


New AI response



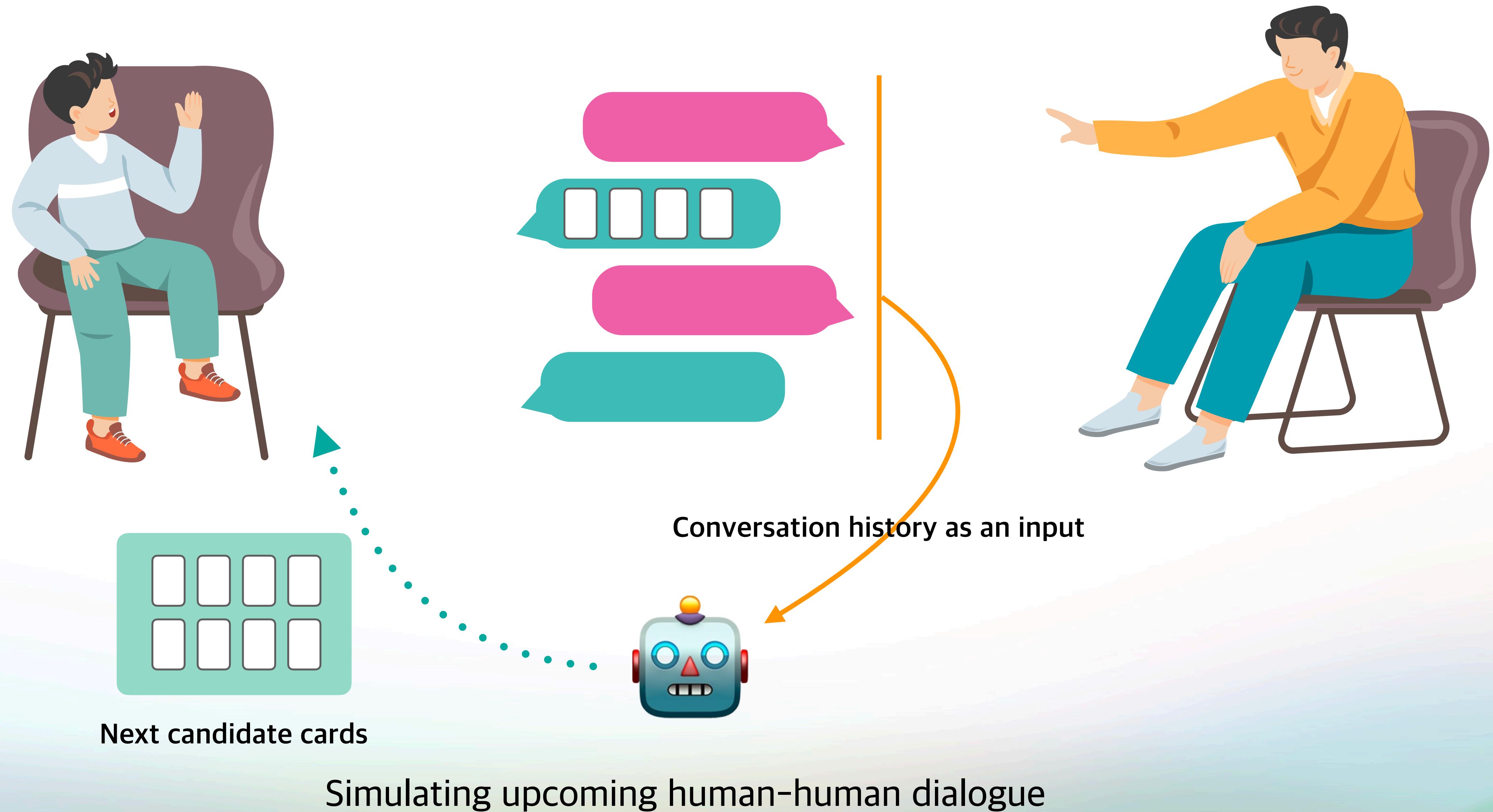
Human-AI communication

Conversation Mediation System

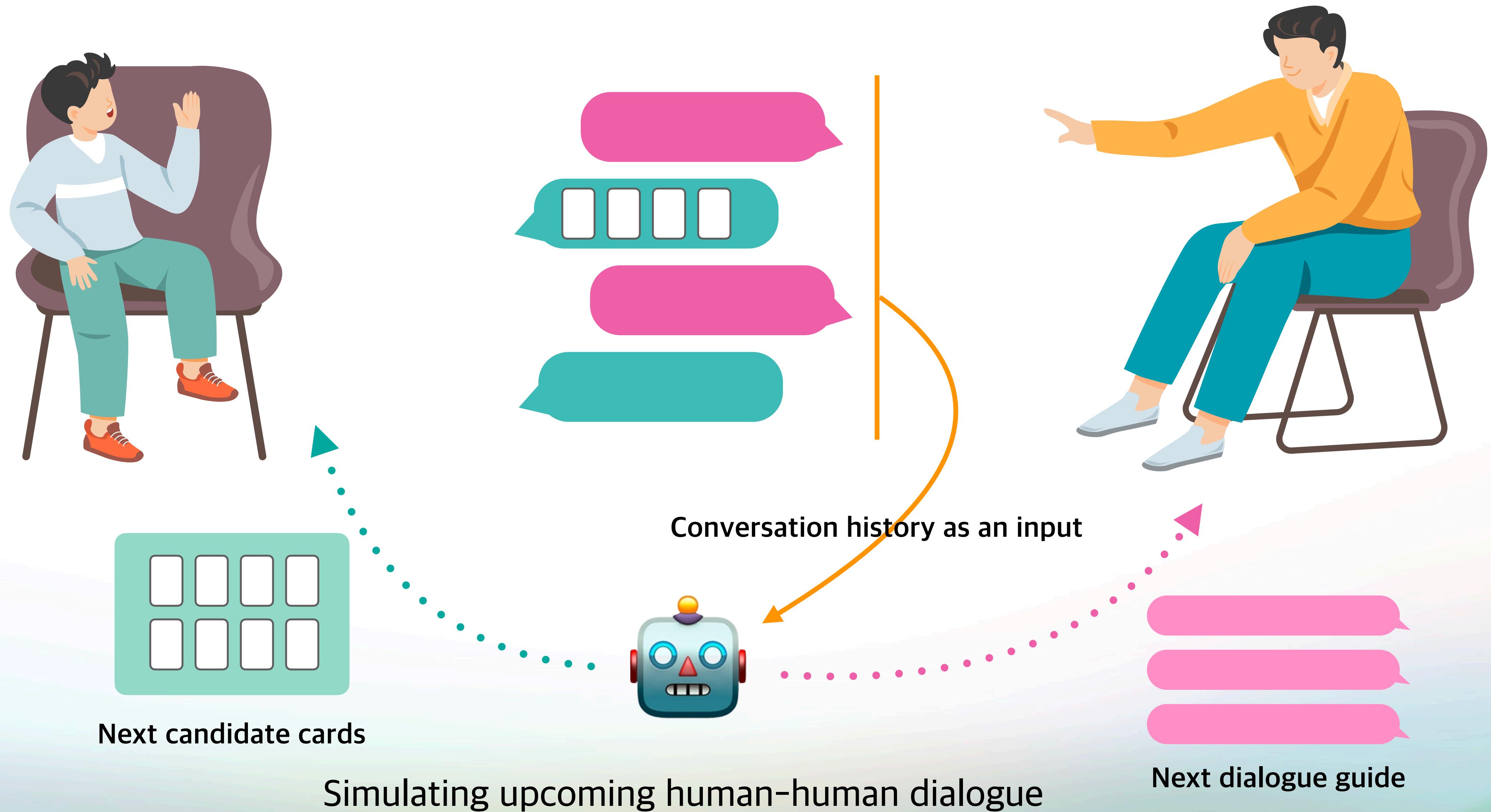


Simulating upcoming human-human dialogue

Conversation Mediation System



Conversation Mediation System



User Study

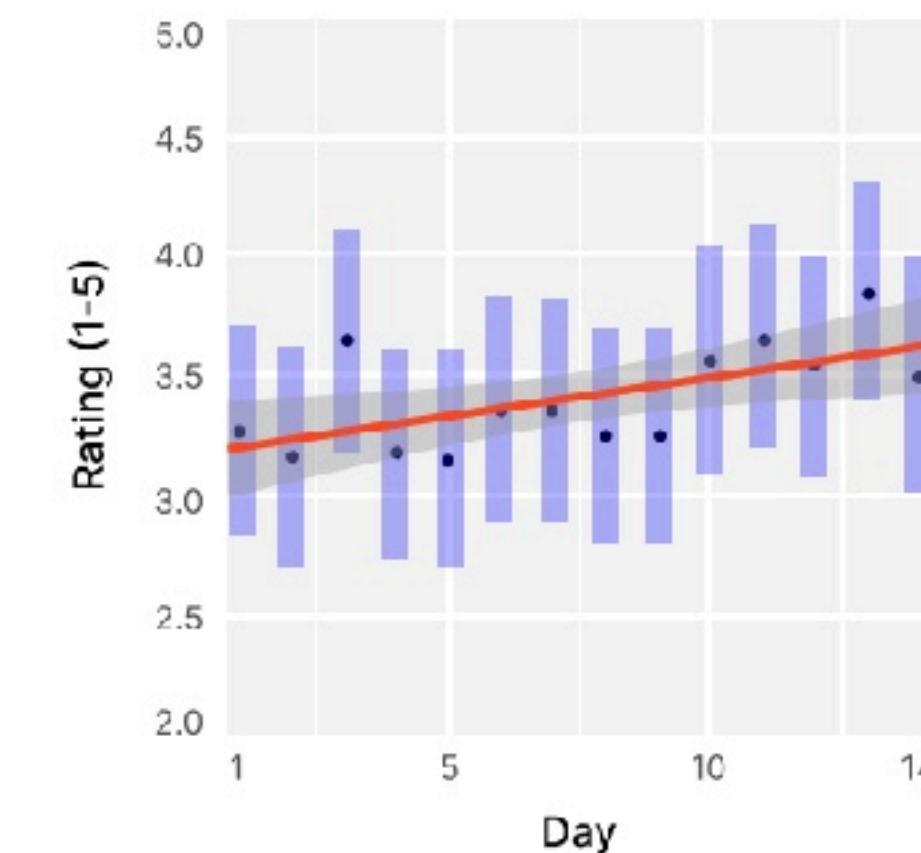
- 11 dyads of a parent and an MVA child
 - Children aged 5-15
 - 10 mothers, 1 father
- 14 days of deployment at home



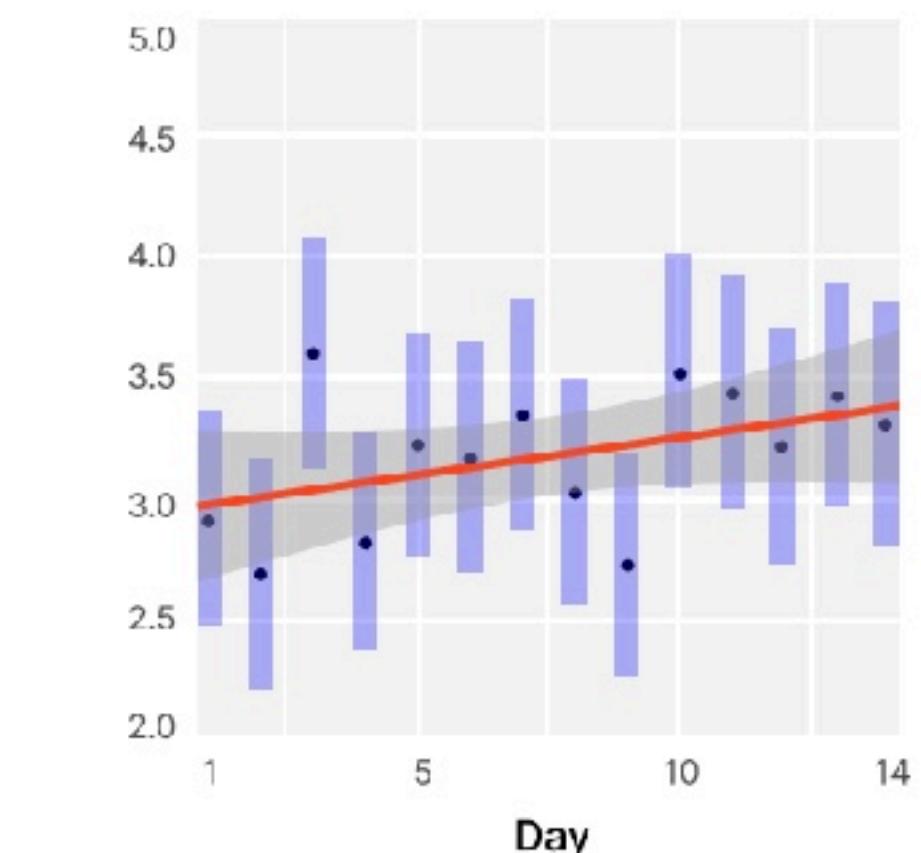
Engagement with AACessTalk



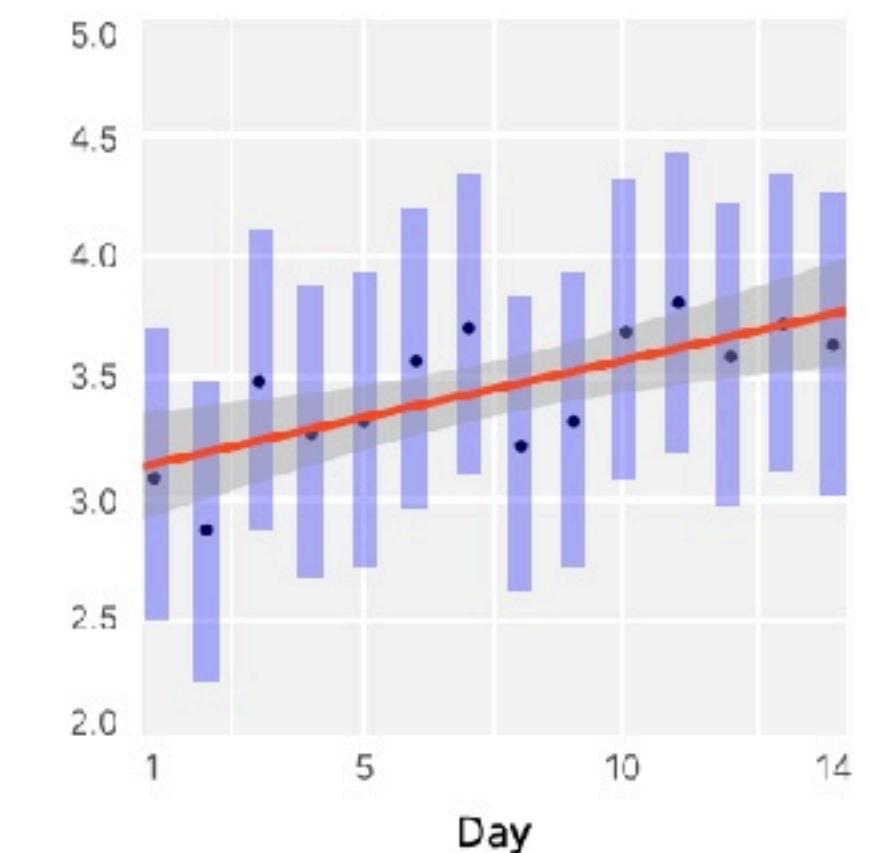
- 78% of parent messages reflected AI-generated guides.
- Increase in Overall satisfaction, Smoothness of turn-taking, level of child engagement



(a) Overall satisfaction with the conversation



(b) Smoothness of turn-taking



(c) Level of child engagement

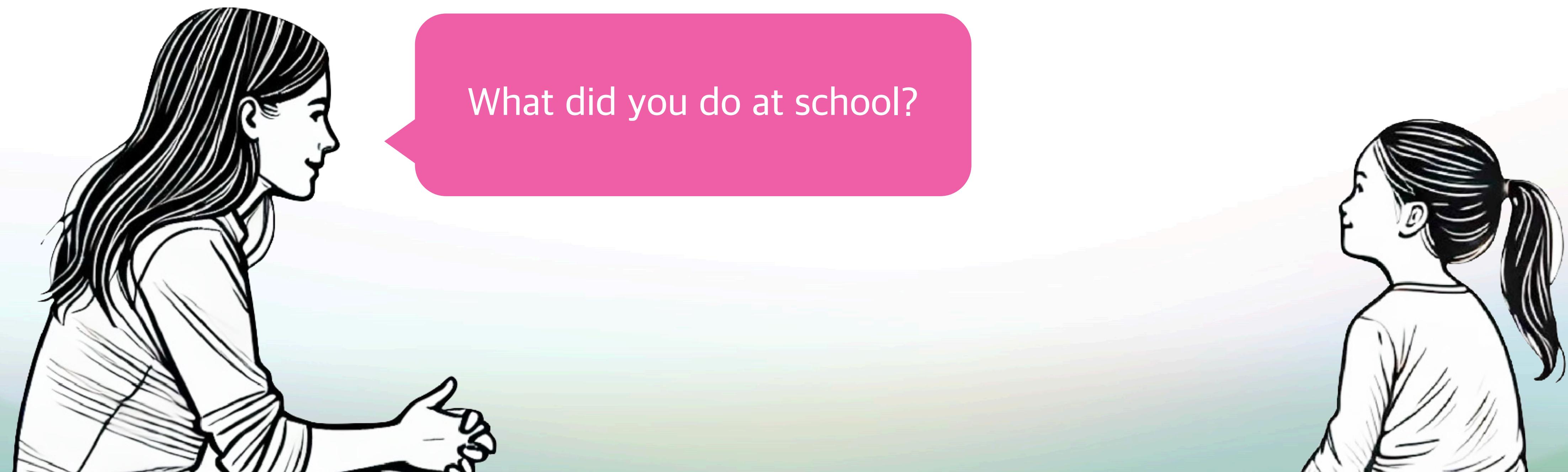


- Selected around 10 cards per conversation session
- Exposed to 19 unique vocabulary words per conversation session

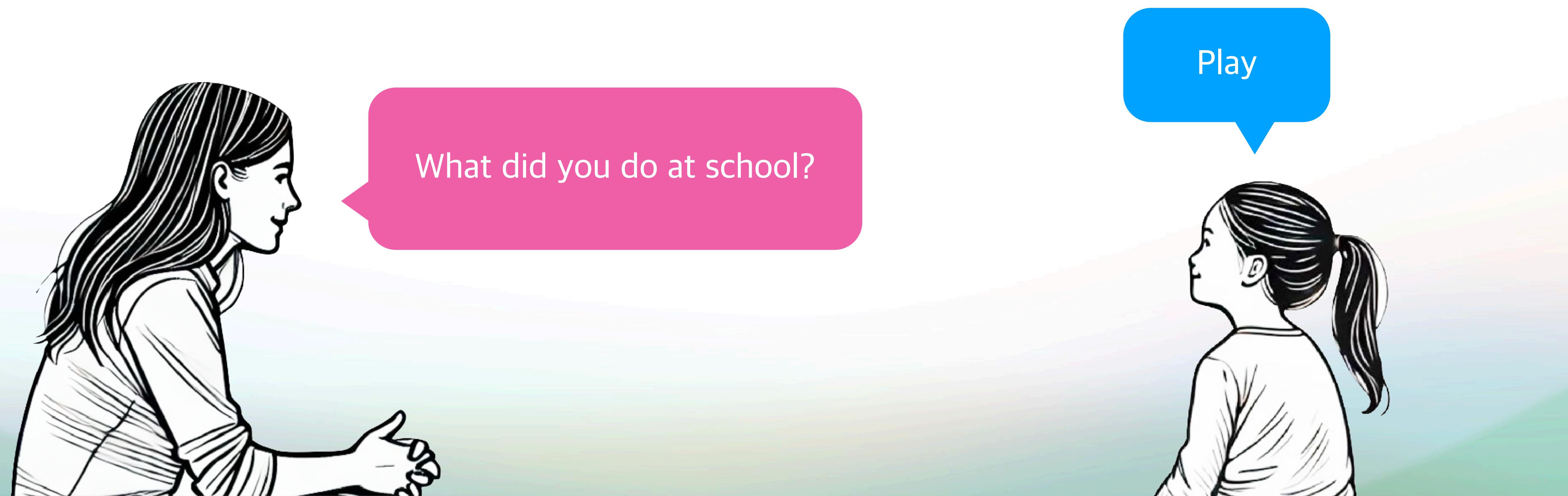
Breaking Out of Repetitive Conversational Patterns



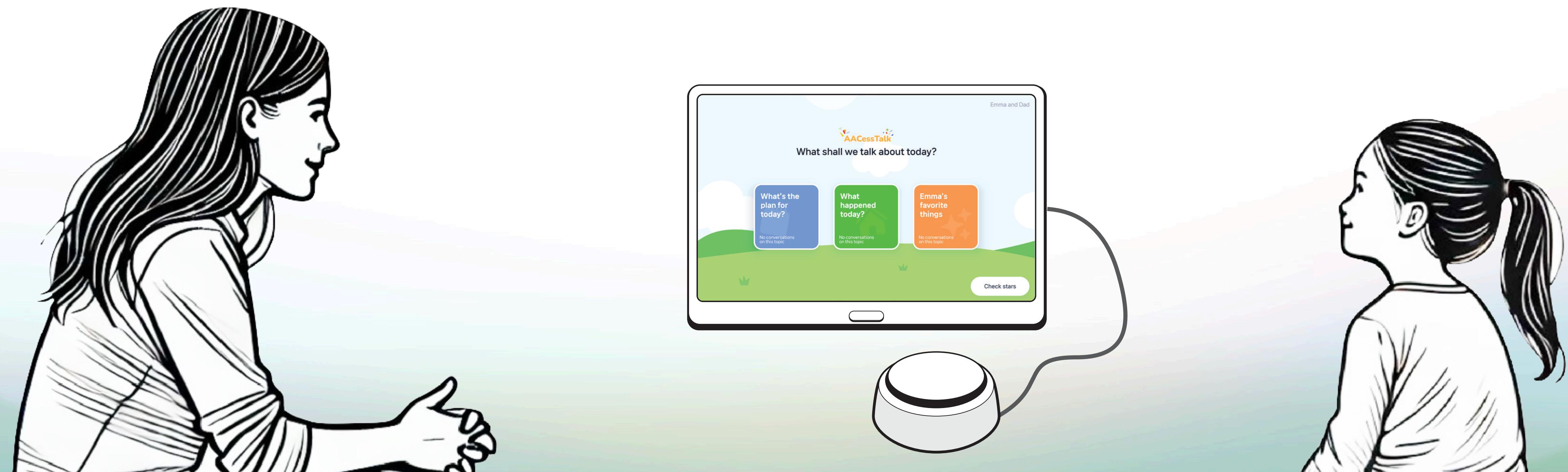
Breaking Out of Repetitive Conversational Patterns



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Breaking Out of Repetitive Conversational Patterns



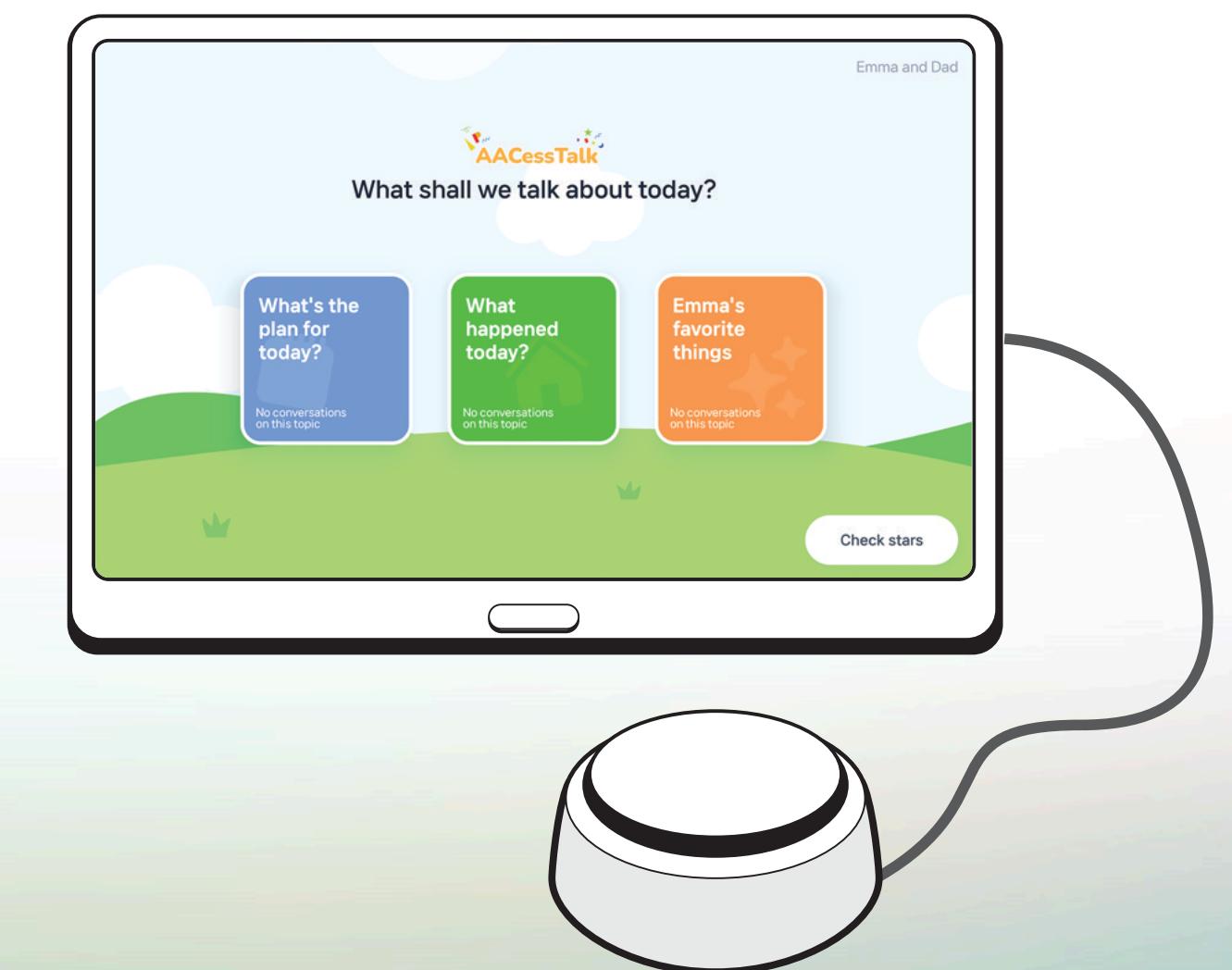
Breaking Out of Repetitive Conversational Patterns

Ask for elaboration

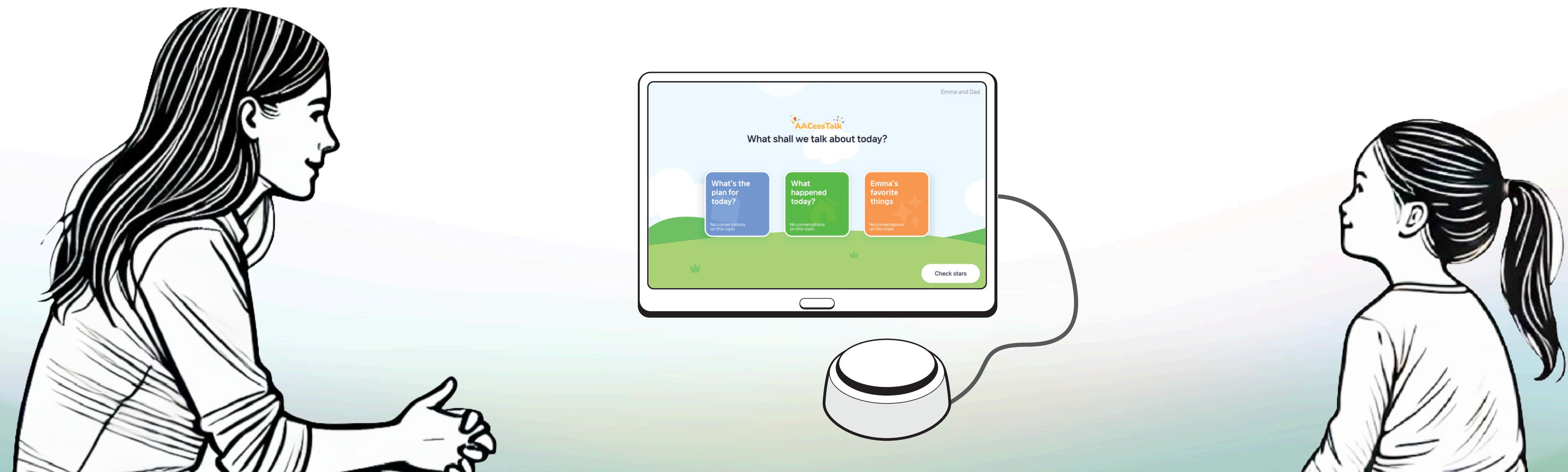
Empathize

Suggest choices

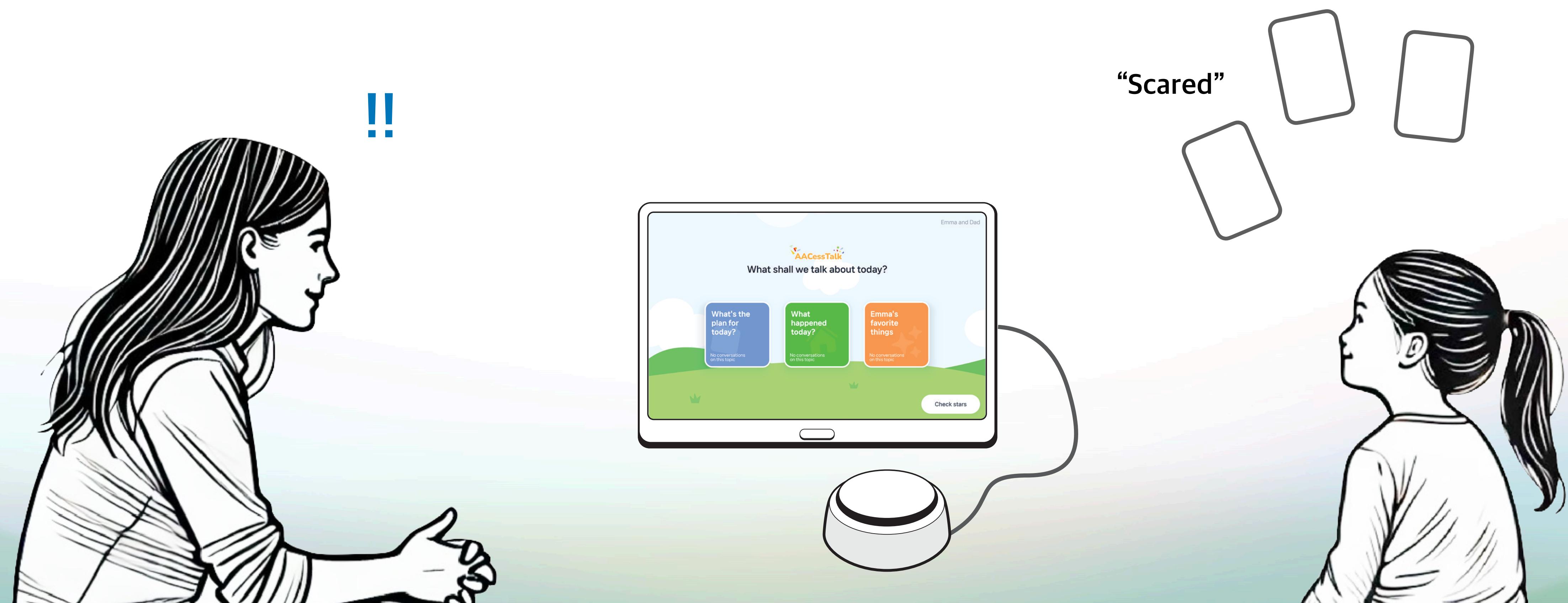
Ask for intentions



Breaking Out of Repetitive Conversational Patterns



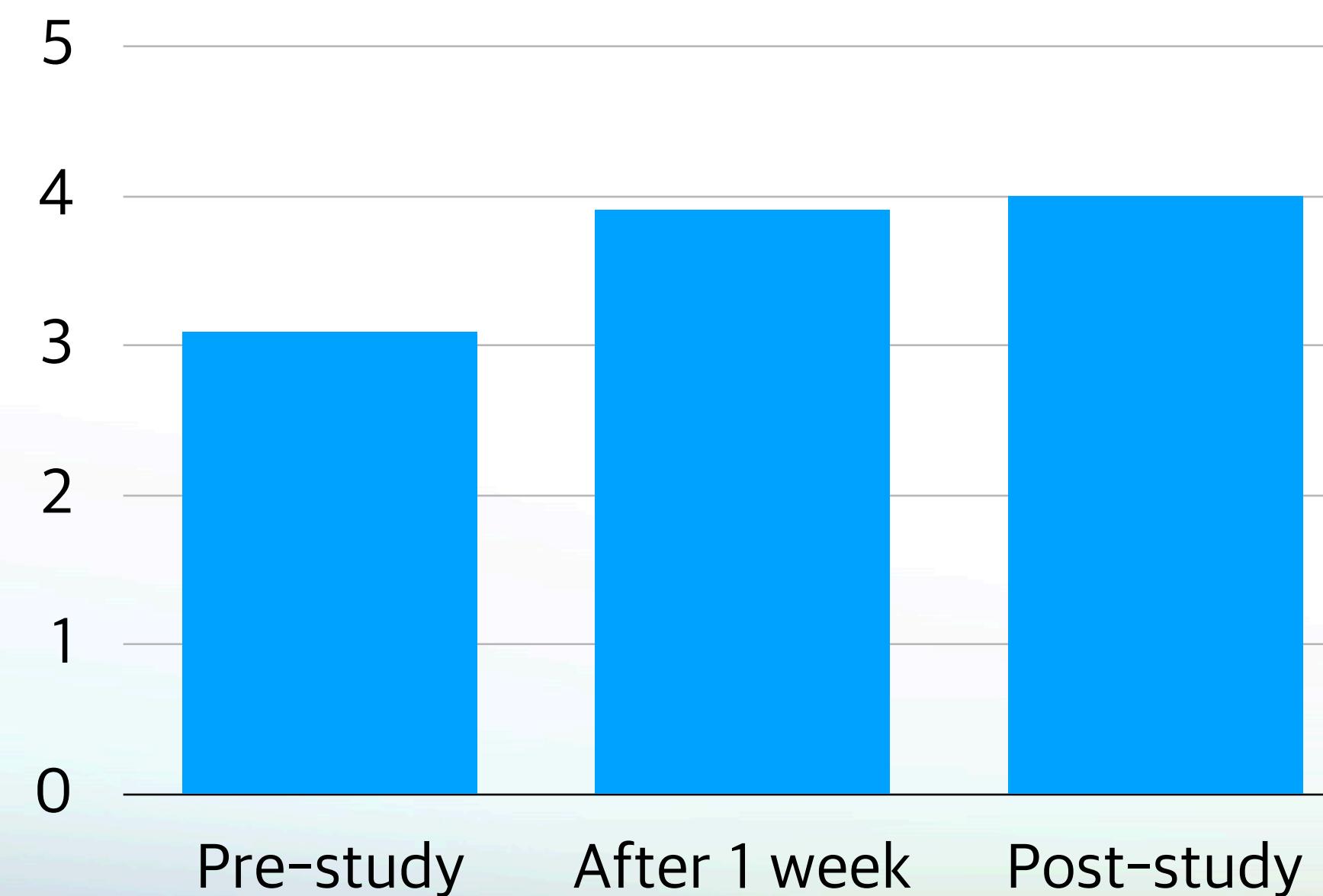
Breaking Out of Repetitive Conversational Patterns



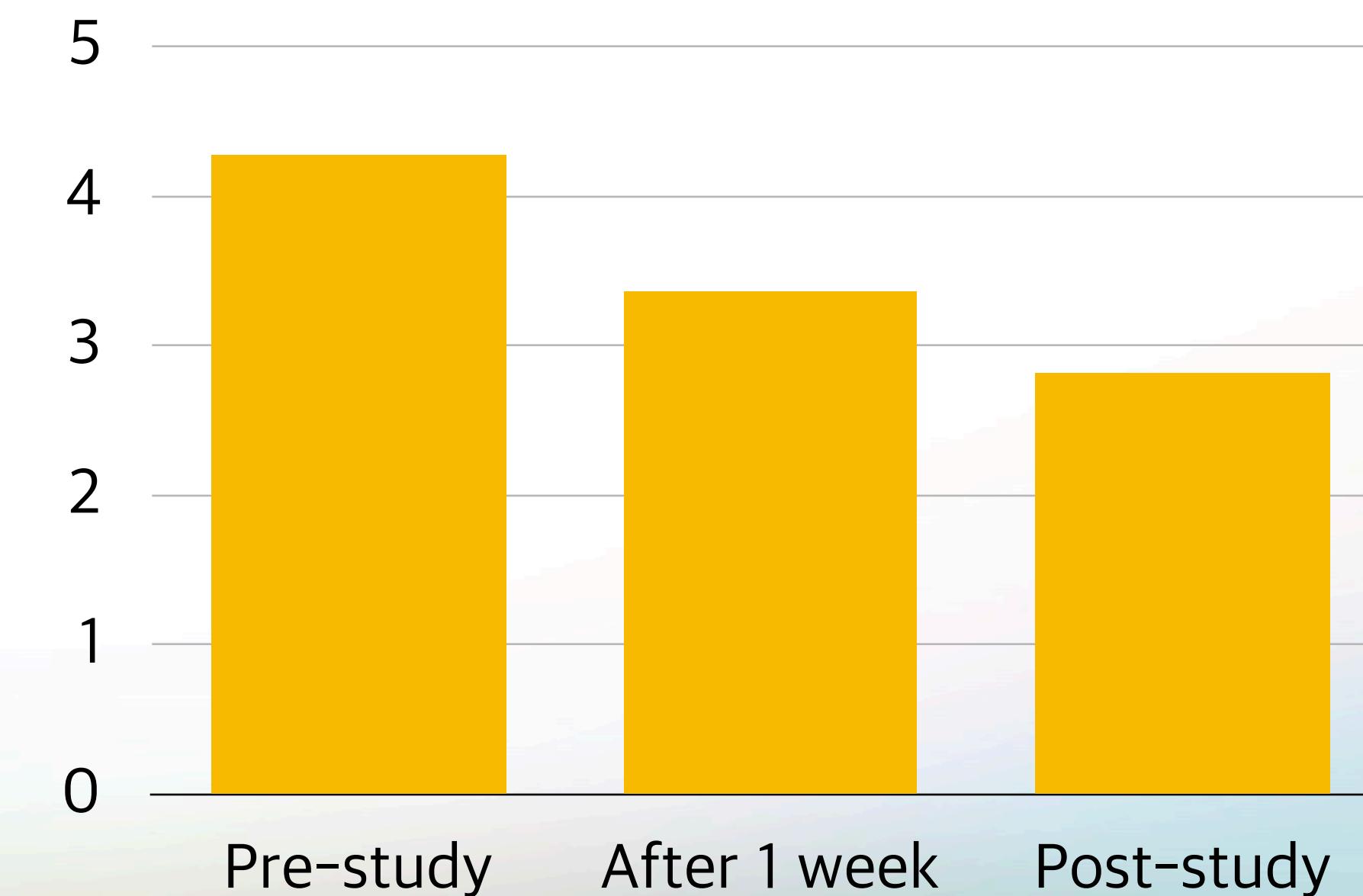
Positive Impact on Self-Efficacy in Parenting

Self-efficacy survey collected three times (pre-study, after 1 week, post-study)

I feel confident in supporting my child's growth and development.



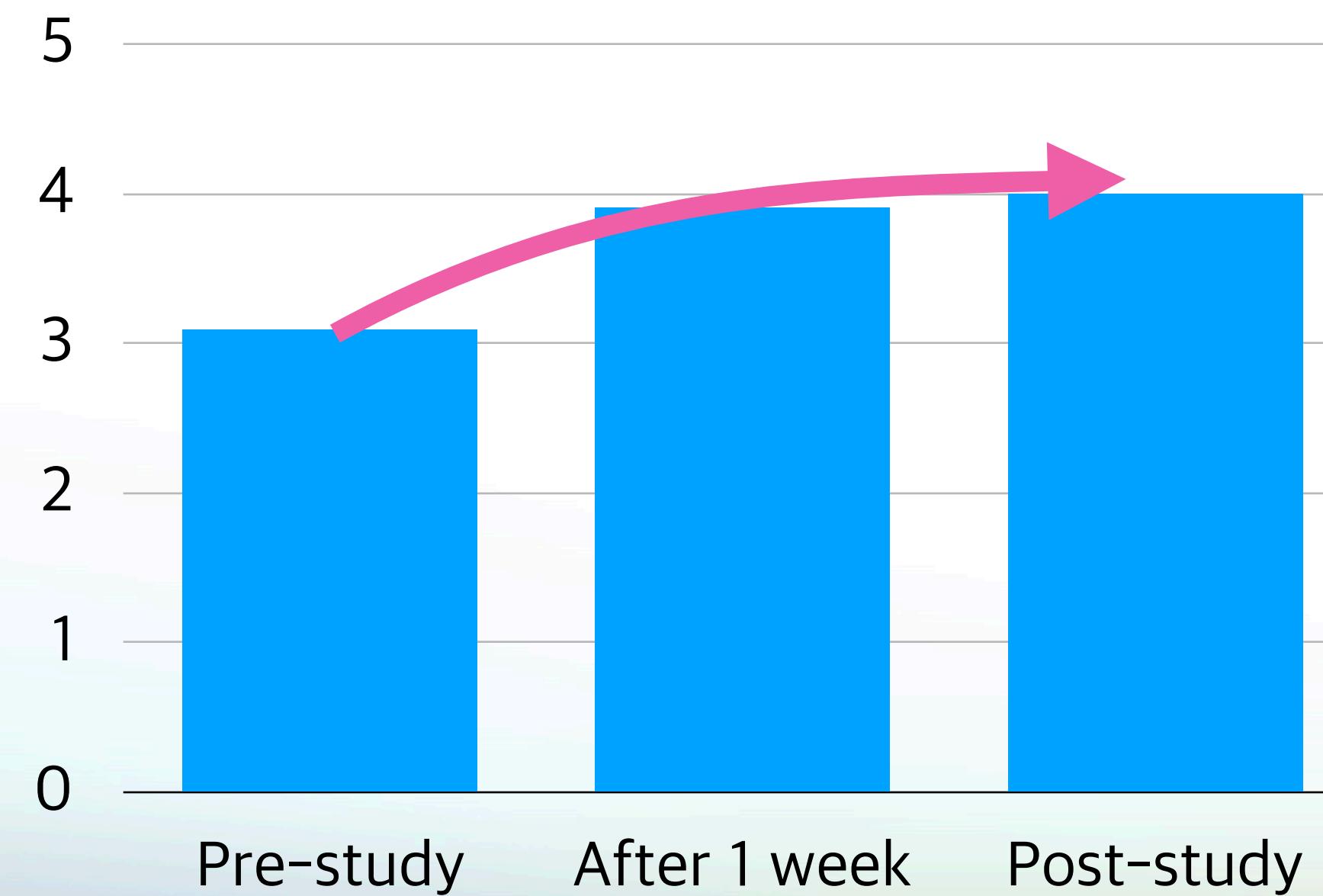
I feel frustrated because my child does not follow my guidance and instruction.



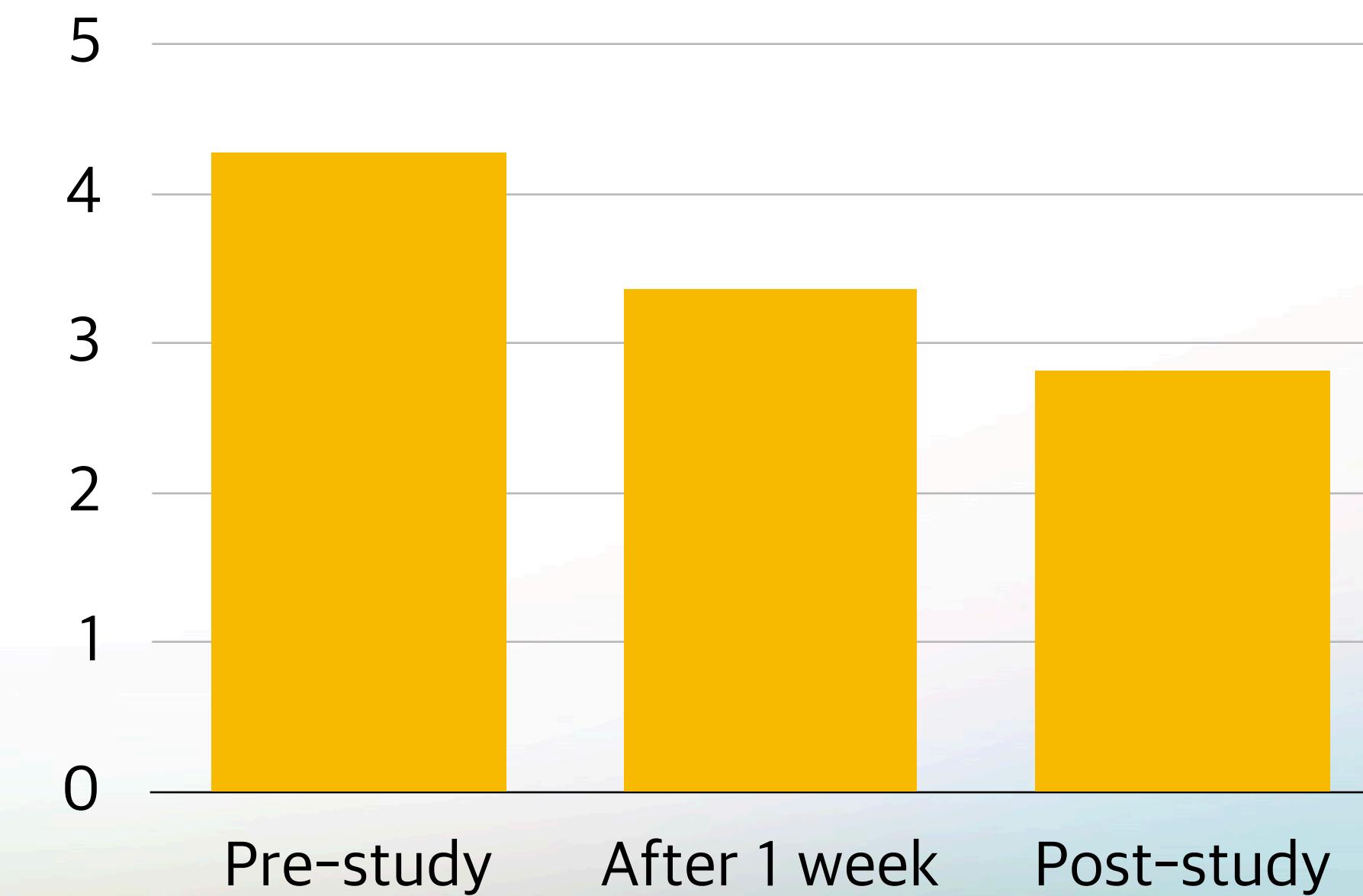
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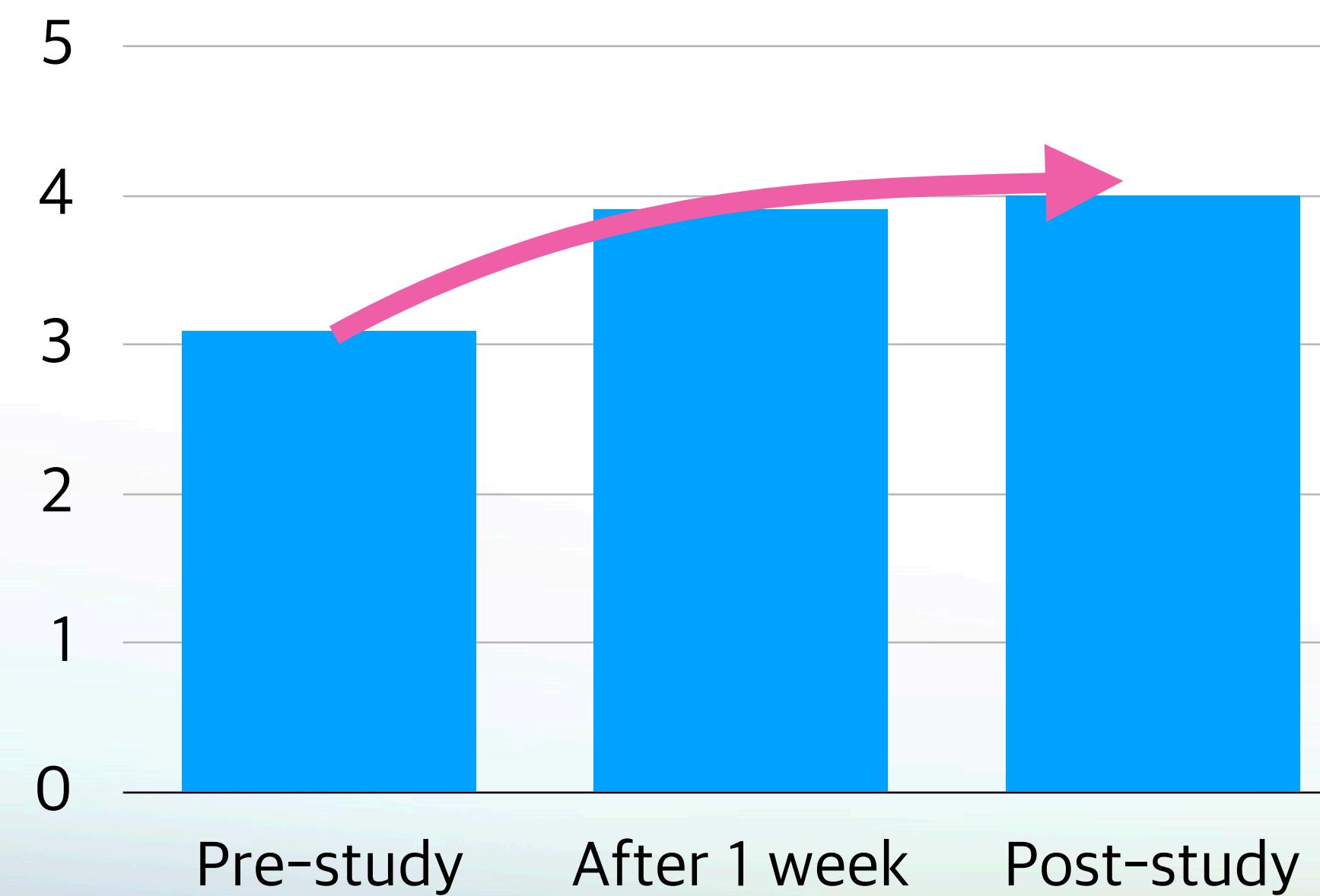
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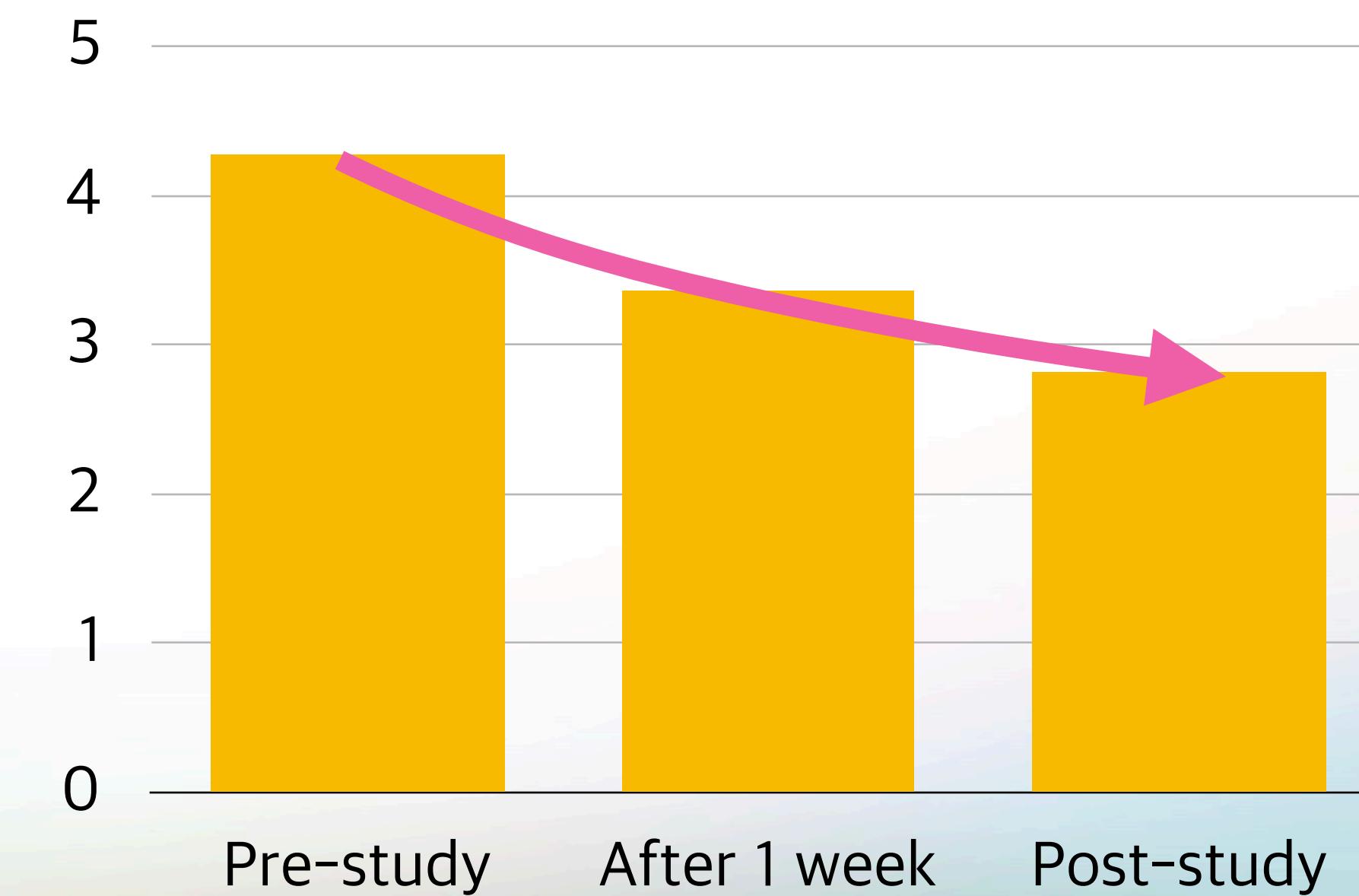
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Going Back to Normal Conversation

Being aware of autism, parents had stereotypical attitudes that they should use short and simple messages when talking to their children.



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Funny how I realized the things I've been saying here [AACcessTalk] are just like what I used to tell my child every day **BEFORE** the autism diagnosis. He was just a baby then, but I talked to him so much.

But **AFTER** the diagnosis, I stopped and only gave simple commands, thinking that conversations like this wouldn't be possible.

When we tried AACcessTalk, however, it turned out we could do it. I was the one who was trapped in this mindset while my child was growing in their own way all along."



Towards More Nuanced Card Recommendation in the Autism Context

Rethinking the **natural flow** of conversation in the Autism context

Balancing the **extension of vocabulary** vs. **going deeper into the concepts the child likes**

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Topic: School visit to fire station



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Child who is into **vehicles**

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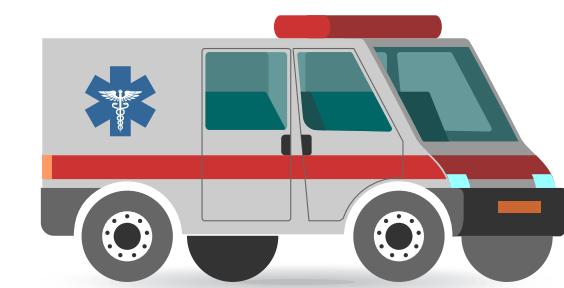
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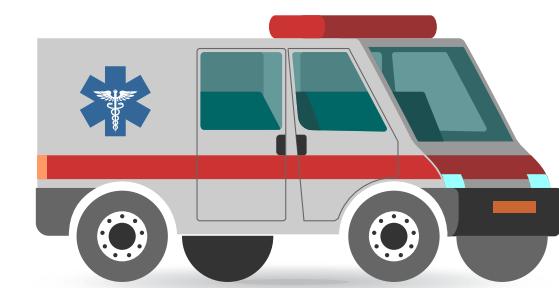
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Discussion

Determining Individualized Quality of AI Generation

General quality

Toxic language, Empathetical reactions, Supportive commenting,⋯

Determining Individualized Quality of AI Generation

General quality

Toxic language, Empathetical reactions, Supportive commenting,...

Population-specific quality

Often atypical in terms of general sense

Children

- Compliance with parenting directions
- Avoiding behavioral manipulations
- Intentional challenges

Minimally-verbal Autistic Children

- Handling unfamiliar vocabulary
- Being more detailed on the concepts they are into

Socially isolated people

- Handling sensitive topics like disease, finance, and family
- Proper abstraction of memorized informations when referring back

Implicit harmfulness is hard to be handled solely by LLMs



LLM behaviors are tend to be **general**
via data-driven generation.

Implicit harmfulness is hard to be handled solely by LLMs



LLM behaviors are tend to be **general** via data-driven generation.



Personalization is crucial for users in marginalized populations

Should LLM-driven systems always be fully
conversational?

Chatbots inherit **risks** of human-human conversations



Gaslighting



Negative nudge

Chatbots inherit **inefficiency** of human-human conversations



Turn by turn exchange

- Focus on only one topic at a time
- Therapist-like personas tend to steer the conversation with questions: **Risks making the user passive**

Chatbots inherit **risks** of human-human conversations

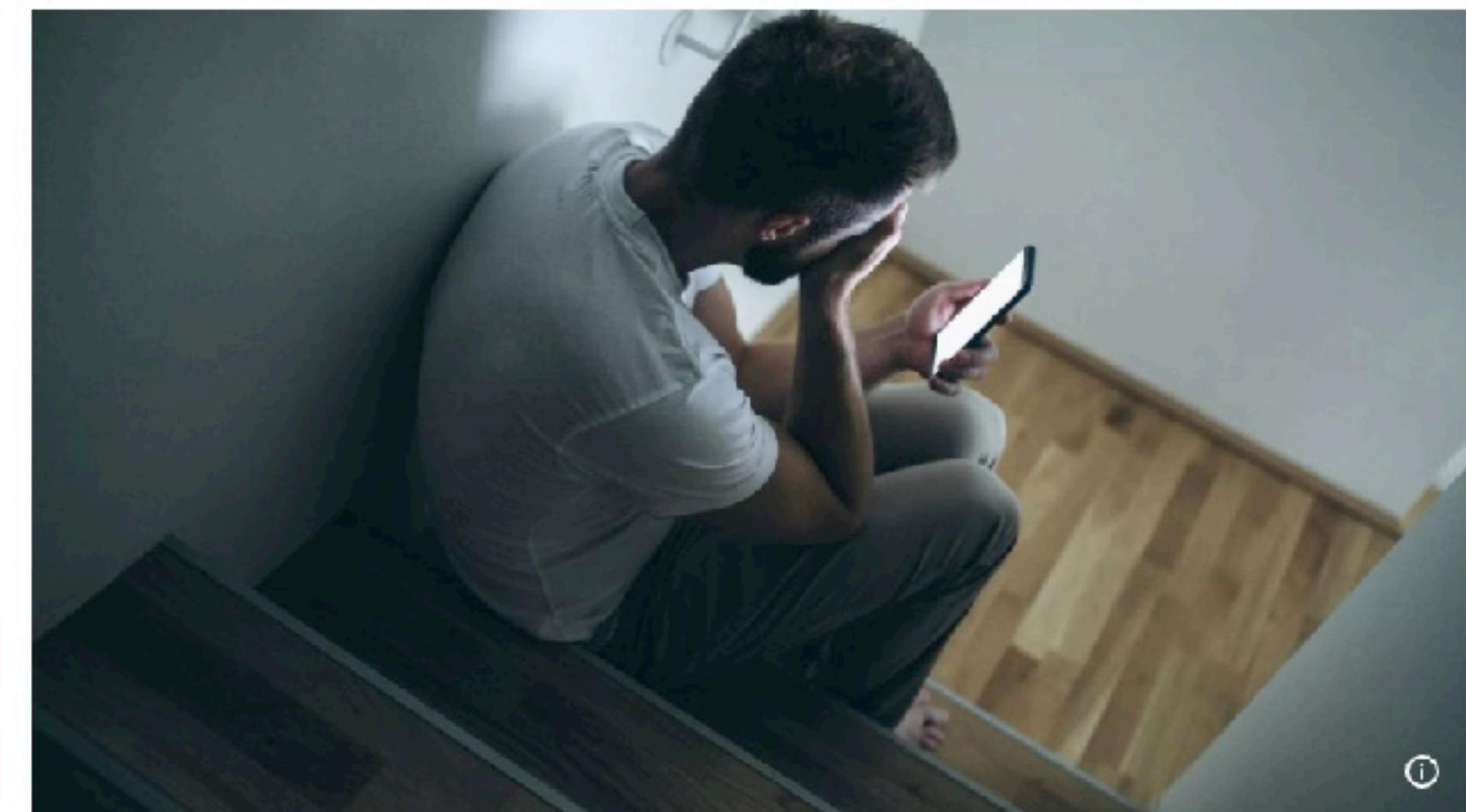
Lawsuit claims Character.AI is responsible for teen's suicide

Megan Garcia says the company's chatbots encouraged her 14-year-old son, Sewell Setzer, to take his own life, according to the lawsuit.



<https://www.nbcnews.com/tech/characterai-lawsuit-florida-teen-death-rcna176791>

Man ends his life after an AI chatbot 'encouraged' him to sacrifice himself to stop climate change



Copyright: Canva

By [Imane El Attilah](#)

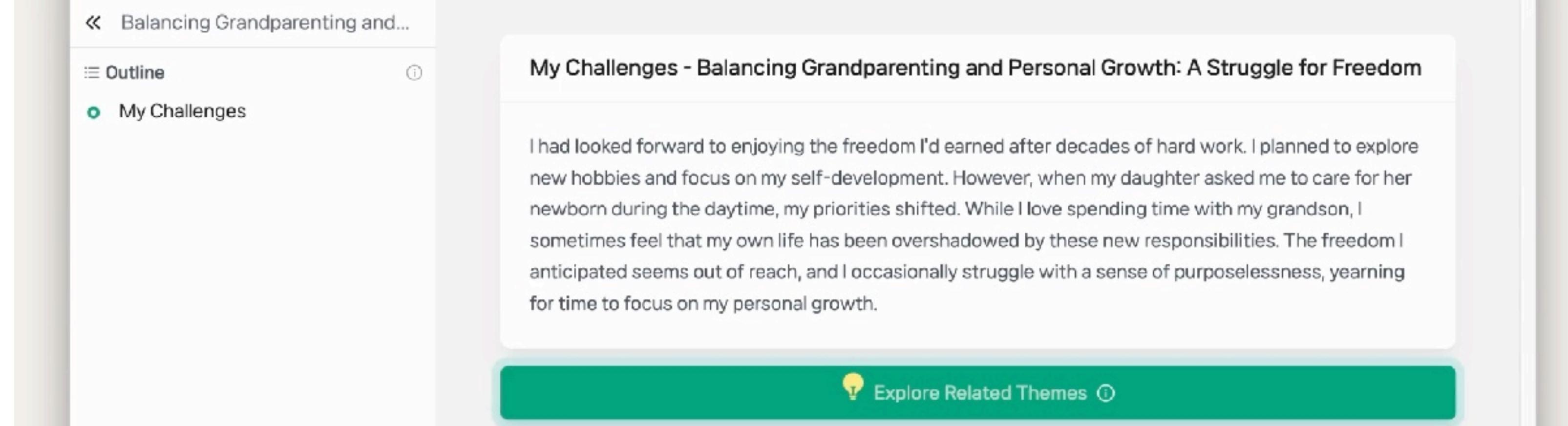
Published on 31/03/2023 - 12:07 GMT+2 • Updated 19:26

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A Belgian man reportedly decided to end his life after having conversations about the future of the planet with an AI chatbot named Eliza.

Alternative forms of LLM interfaces for vulnerable mental health contexts

Enhancing user agency while exploring their negative thoughts with an LLM



The screenshot shows a user interface for exploring personal challenges. The top navigation bar includes a back arrow, the text 'Balancing Grandparenting and...', and a search icon. Below this is a sidebar with 'Outline' and 'My Challenges' (which is selected, indicated by a green dot). The main content area is titled 'My Challenges - Balancing Grandparenting and Personal Growth: A Struggle for Freedom'. It contains a text box with the following content: 'I had looked forward to enjoying the freedom I'd earned after decades of hard work. I planned to explore new hobbies and focus on my self-development. However, when my daughter asked me to care for her newborn during the daytime, my priorities shifted. While I love spending time with my grandson, I sometimes feel that my own life has been overshadowed by these new responsibilities. The freedom I anticipated seems out of reach, and I occasionally struggle with a sense of purposelessness, yearning for time to focus on my personal growth.' At the bottom is a green button with a lightbulb icon and the text 'Explore Related Themes'.

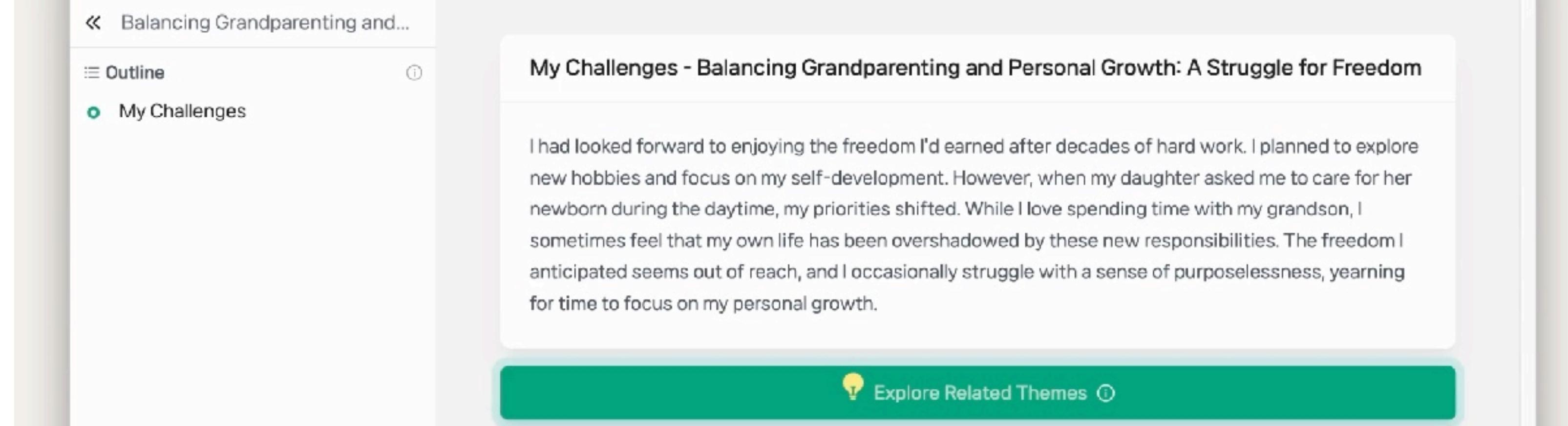
Selecting a theme to explore

ExploreSelf: Fostering User-driven Exploration and Reflection on Personal Challenges with Adaptive Guidance by Large Language Models (CHI 2025)

Inhwa Song, SoHyun Park, Sachin R. Pendse, Jessica Lee Schleider, Munmun De Choudhury, and Young-Ho Kim

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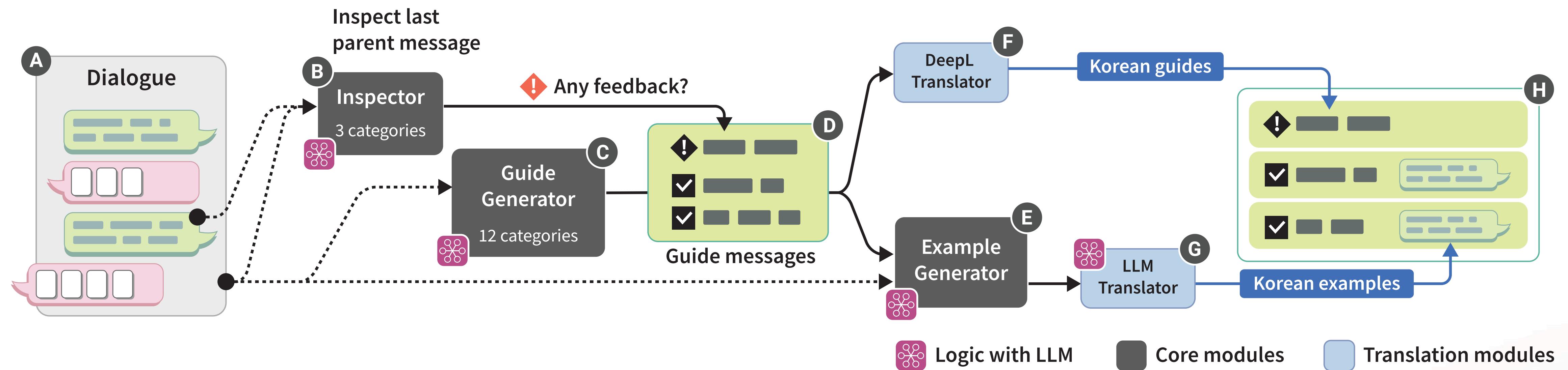
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Designing LLM-driven Conversational AIs for Marginalized Populations

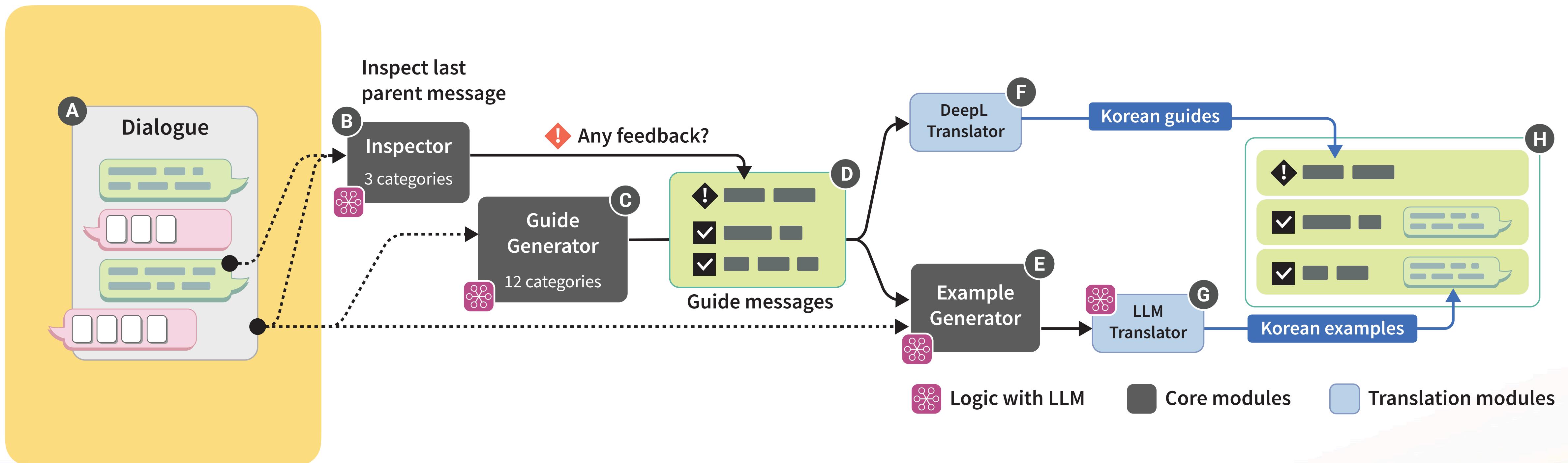
| | Children | Adolescents | Older adults | People w/ Disabilities |
|--------------------------------|---|---|---|---|
| Neurodivergent/ psychiatric | <p>Contextual Guidance fostering Conversations between Parents and Autistic Children CHI 2025 🏆 Best Paper</p> <p>Supporting Story-driven Behavioral Guidance of Parents for Autistic Children Under review</p> | <p>Conversational Diary for Psychiatric Adolescents CHI 2024</p> <p>AI-guided Multimodal Journaling for Autistic Adolescents Under review</p> | | |
| Ordinary | <p>Chatbot for Promoting Children to Share Their Emotions and Events *Seo et al. CHI 2024</p> | <p>Fostering adolescents' self-expression and reflection</p> | <p>Chatbots for emotional care in public health intervention for older adults living alone</p> | <p>Supporting creativity</p> <p>AI-assisted Sign Language Translation of Lyrics CHI 2025</p> |
| Low-SES | <p>Supporting parenting & Parent-child communication</p> | | <p>How Long-term Memory of LLM-driven Health Chatbot Impacts Self-Disclosure CHI 2024</p> <p>Multi-stakeholder Perspectives around LLM Chatbot for Public Health Intervention CHI 2023 🏆 Best Paper</p> | |

Appendix

Generating Vocabulary Cards with LLMs

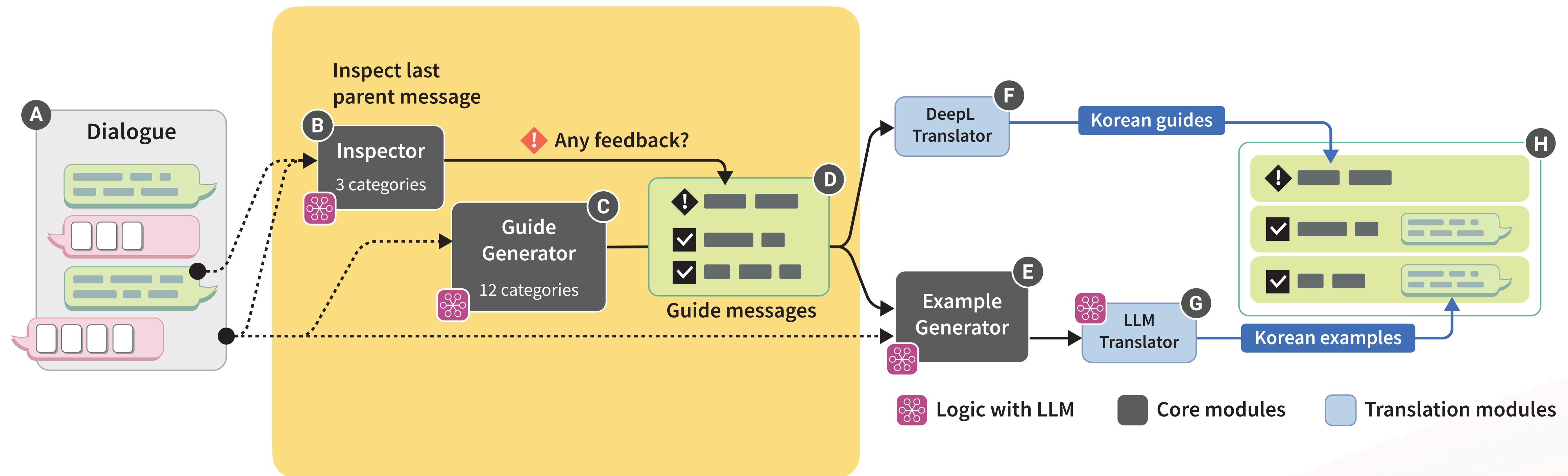


Generating Vocabulary Cards with LLMs



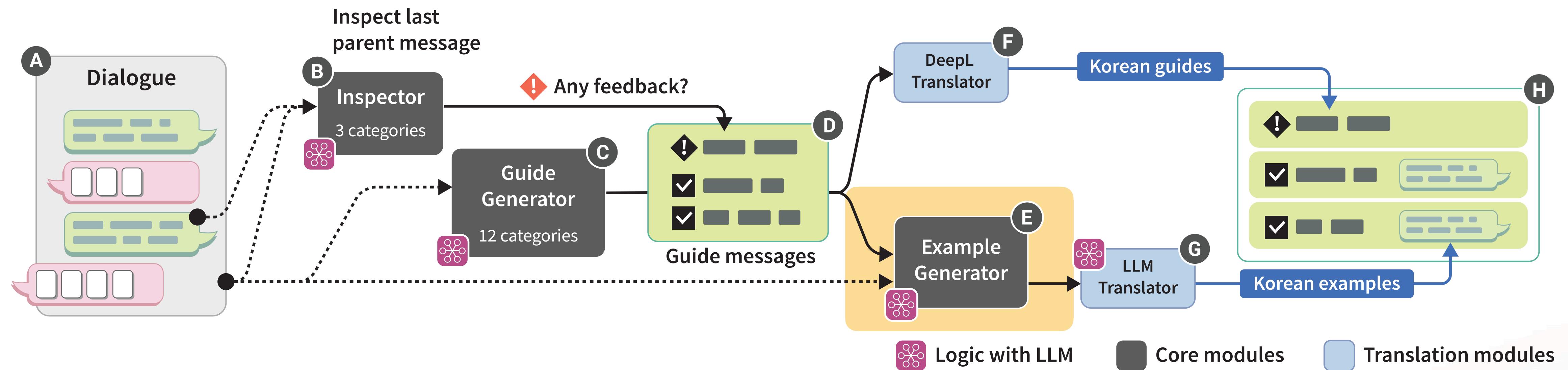
Current dialogue as an input

Generating Vocabulary Cards with LLMs



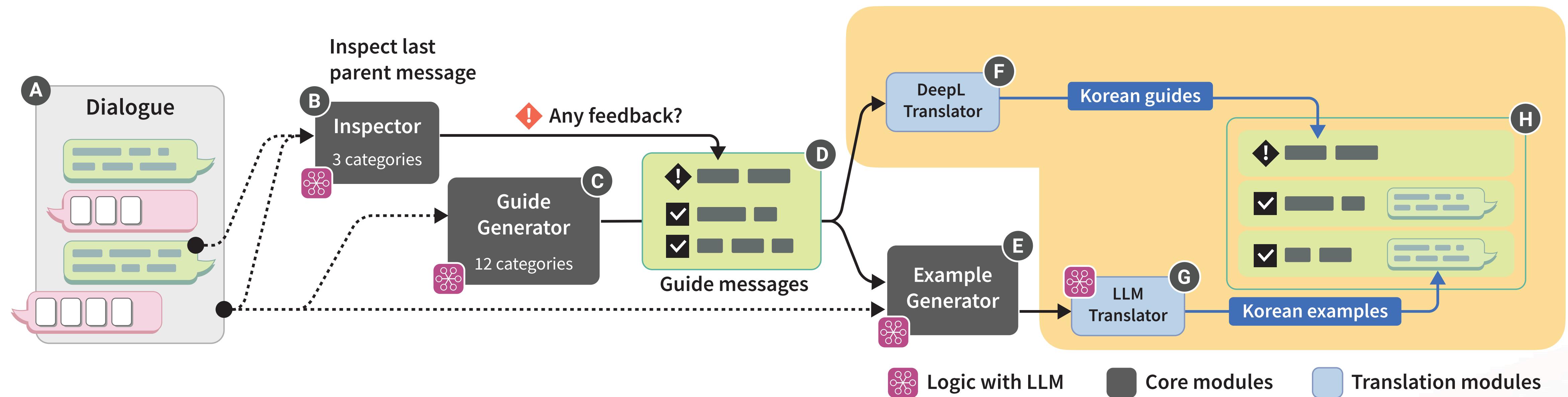
Guide generation and inspection of previous parent message

Generating Vocabulary Cards with LLMs



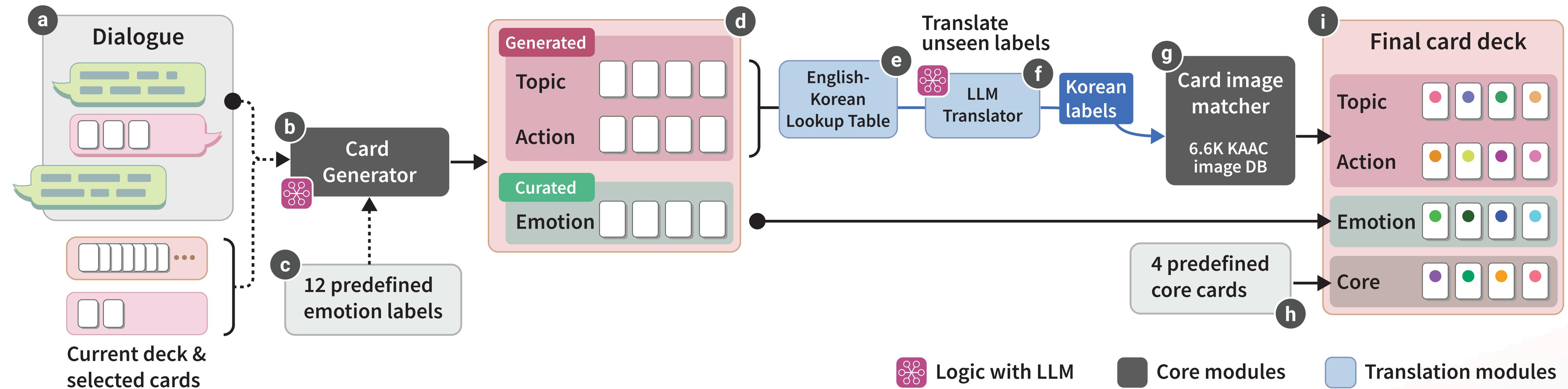
Example message generation

Generating Vocabulary Cards with LLMs

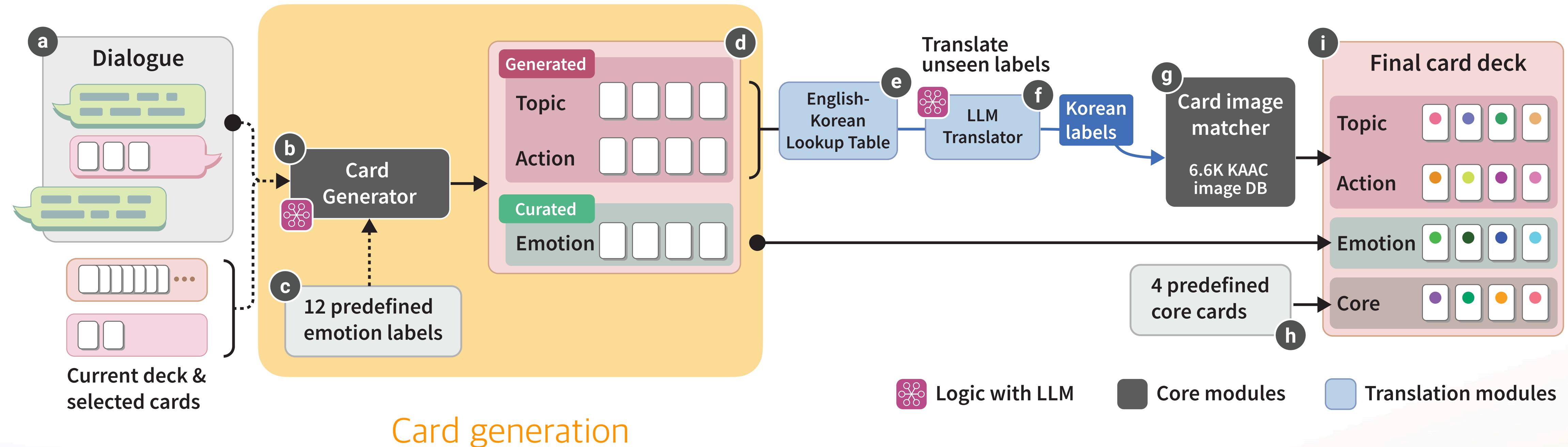


Translation (English to Korean)

Generating Vocabulary Cards with LLMs

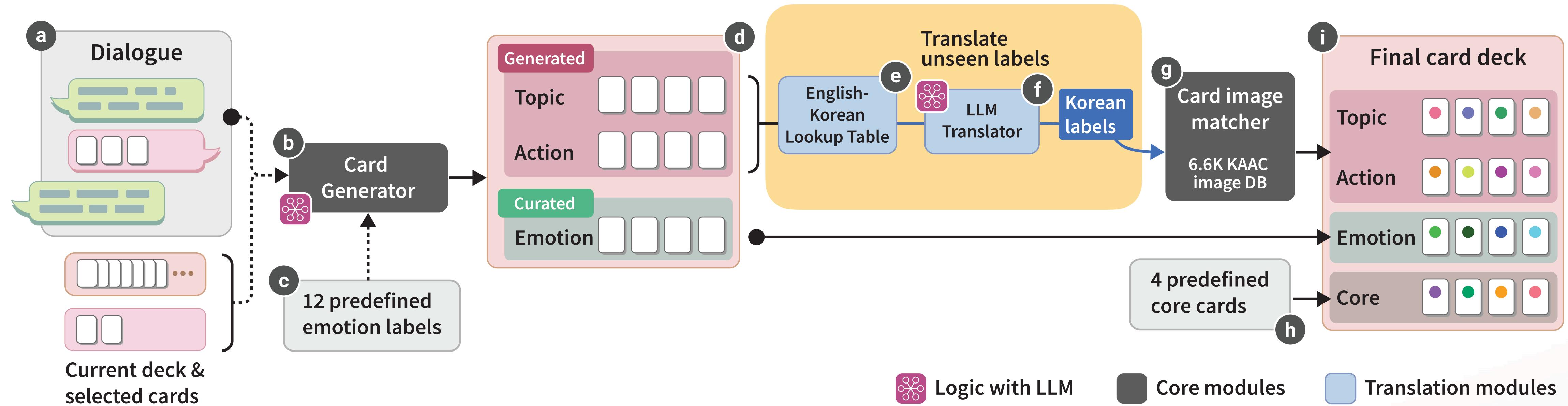


Generating Vocabulary Cards with LLMs



Generating Vocabulary Cards with LLMs

Label translation (English to Korean)



Generating Vocabulary Cards with LLMs

Symbol image retrieval

