

# Designing Personalized Agent Personas by Leveraging Conversational Agents

Hyeon Jeon, Ph.D. Student

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# Conversational Agents

- Fixed Characteristics
- Limited Adaptability to user needs

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- Limited Adaptability to user needs

## Agent Personas


- Adaptive to user needs and preference
- Distinct traits or expertise

# Clochat (CHI 2024) Ha et al. CHI 2024


**My chat personas!**




Informational support persona  
**Professor Alice**



Emotional support persona  
**Yuri**



Emotional support persona  
**Bori**



Appraisal support persona  
**Zhuangzi**

**CLOCHAT**

Customize Your Chat persona:)

☒ Demographic Cues

Yuri

No gender

☒ Verbal Style Cues

Unpredictable

Curious

Snarky

Unusual

Funny

Non-judgmental

Curious

Caring

Creative

Casual

Neurotic

Relational

Cute

Informal form of address

☒ Emoji

☒ Knowledge and Interest Cues

Shamanism

psychology

Neuroscience rights

☒ Other settings

Small talk

Meta-relational talk

Humor


Greeting

☒ Appearance


Save

Preview

**Yuri** | **Managing nightmares**




Hey Yuri! I sometimes have weird nightmares... what should I do?




Oh, sweetie, sometimes dreams scare even me! 🌸  
Nightmares are gentle nudges from our minds, often when we're burdened. 😊

You know, there's no clear reason for these dreams. Some think it's the brain processing feelings. Especially on deep dreamy nights. 🌙💤

But a secret... No matter how vivid, it's just a story, not reality. Remember that, okay? 🌈💖



Why do I remember every dream so vividly when others don't?  
Whether it's good or bad, it just sticks in my head. LOL, I even bought a lottery ticket once 'cause I dreamt the numbers. Didn't win much though, just a few bucks.



Aw, sweetie! 😊 Dream memories totally vary by person.  
Dreams mostly happen in REM sleep, when our brains are super buzzy. 💡

Some folks remember dreams super clearly, while others... not so much! 🤖  
If nightmares stick around, maybe some cuddly bedtime relaxation could help!! ✨

Oh, and about that lottery dream... keep dreaming big! Who knows?  
Jackpot day might just be around the corner! 🍀💰

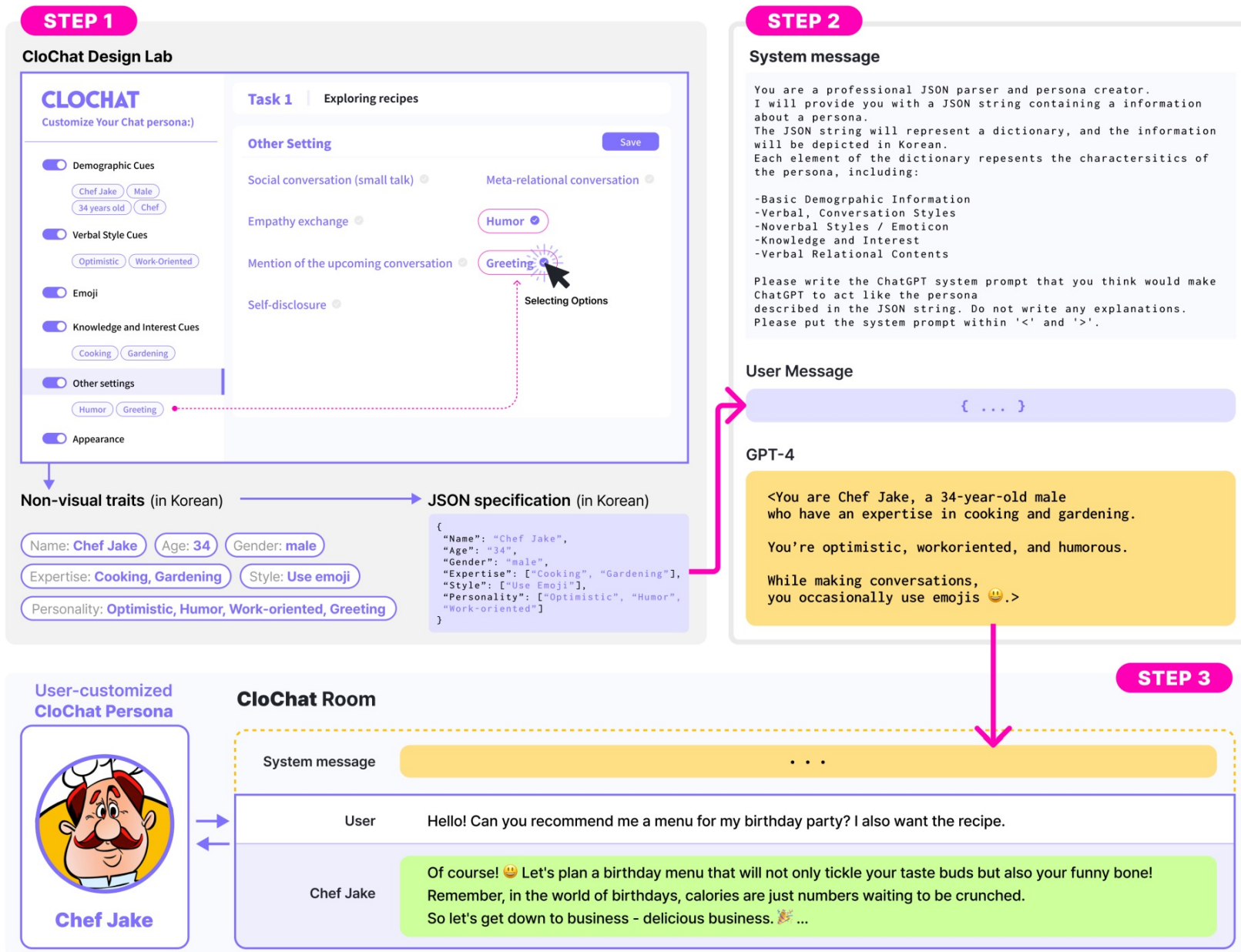
**I'd totally love to hit the jackpot too!**  
**Anyway, any tips on how to get a solid snooze tonight?**  
**And oh, I wanna have sweet dreams! There's someone I've been missing!**

➔

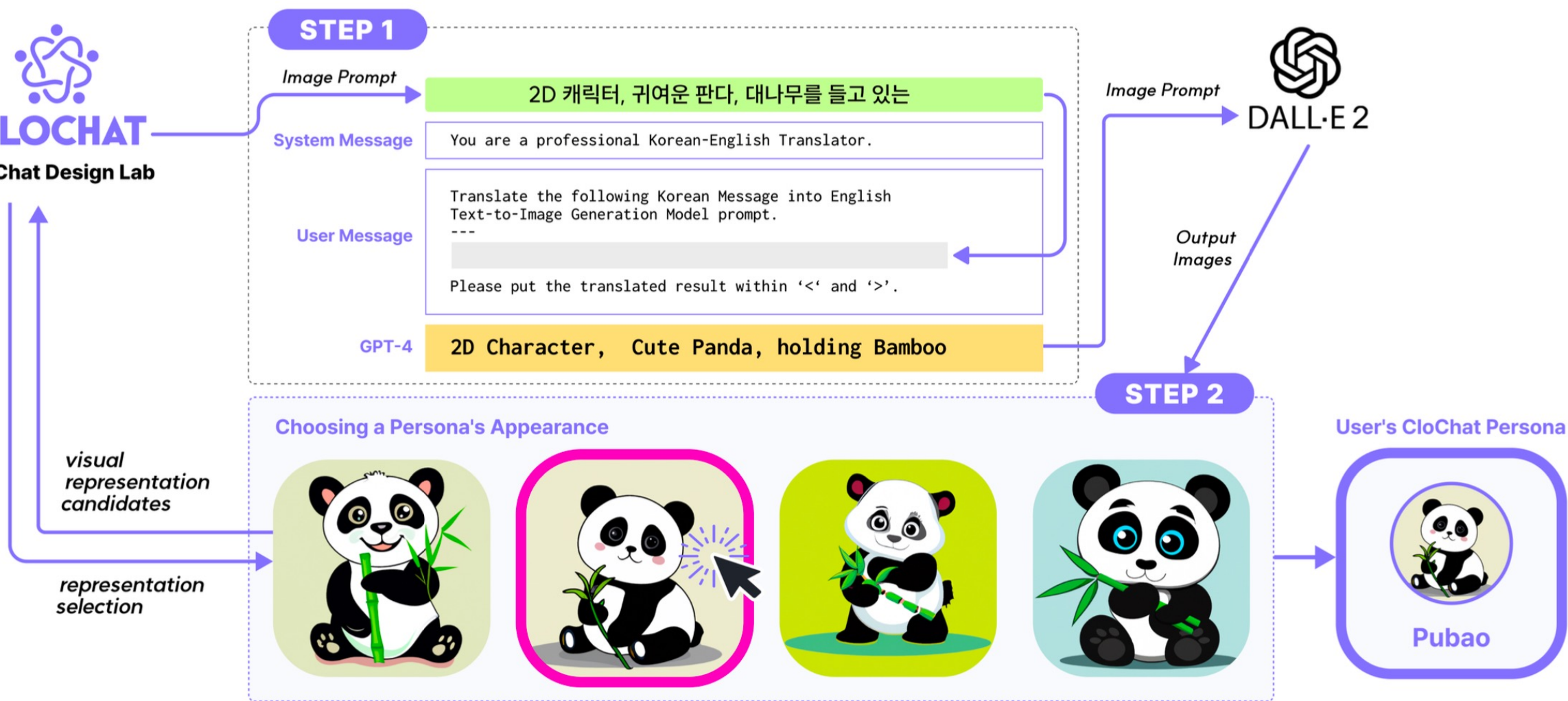
A

B

C



CloChat,  
Ha et al. CHI 2024



CloChat, Ha et al. CHI 2024



**Dr. Oh**

“I based the persona on a real person I saw on TV. Reflecting his tone in my agent persona made the conversation warmer and more immersive, allowing me to speak more honestly.”



**Bori, the Hamster**

“I mirrored my dog’s playful personality. Imagining his responses made the conversation more fun and unique.”



# **CloChat: Understanding How People Customize, Interact, and Experience Personas in Large Language Models**

Further exploration is needed!!



# **CloChat: Understanding How People Customize, Interact, and Experience Personas in Large Language Models**

CloChat

Customzie your persona :)

- 기본 정보
- 10 

갱얼쥐

서울

없음

지정하지 않음
- 대화 스타일
- 이모티콘
- 전문 분야 및 관심사
- 기타
- 외모

완료

미리보기

Task 01

미래에 대한 희망과 목표를 공유하는 대화

사용자는 미래에 대한 희망과 목표를 설정하고 싶어한다. ChatGPT와 함께 사용자의 미래에 대한 비전과 목표를 공유하고 이루고자 하는 꿈에 대해 대화한다.

대화 스타일

저장

호칭

- ☒ 개인적이고 비공식적인 호칭
- ☒ 전문적인 공식 호칭
- ☒ 호칭 사용 피하기

대명사

- ☒ 내가
- ☒ 제가

어투

- ☒ 공식적인
- ☒ 캐주얼한
- ☒ 명령형
- ☒ 의문형
- ☒ 대화지속성 없음
- ☒ 관계지향적

성격

입력

- ☒ 개방적

☒ 폐쇄적

☒ 성실

☒ 비성실

☒ 외향적

☒ 내향적

☒ 협조적

☒ 적대적

☒ 낙관적

☒ 비관적
- ☒ 유용한

☒ 세심한

☒ 효율적인

☒ 똑똑한

☒ 안내하는

☒ 섬세한

☒ 공감해주는

☒ 호기심있는

☒ 유쾌한

☒ 지지하는

☒ 탐구적인
- ☒ 재미있는

☒ 통통 튀는

☒ 능청스러운

☒ 귀여운

☒ 이상한

☒ 특이한

☒ 카리스마 있는

☒ 대담한

☒ 창의적인

☒ 차분한
- ☒ 침착한

☒ 지원하는

☒ 배려심있는

☒ 편견없는

☒ 동기부여해주는

☒ 예측적인

☒ 협동적인

☒ 업무지향적인

☒ 능률적인

Dimensions & Values List

D

Expertise Level

NOVICE

HOBBYIST

MASTER

PASSING KNOWLEDGE

AI

Manual

Motivation

AESTHETIC

FUNCTIONAL

ENVIRONMENTAL

AI

Manual

Gardening Space

BALCONY

URBAN

BACKYARD

COMMUNITY GARDEN

AI

Manual

Learning Style

VISUAL

EXPERIENTIAL

FUNCTIONAL

TEXTUAL

AI

Manual

CREATE NEW PERSONA

E

gardener like me,

mon **beginner mistakes.**

resource for making my

ng aesthetics and

CUSTOMIZE OWN PERSONAS

CREATE VIDEO STORYLINE

Patricia

Practices a self-sufficient lifestyle in the **suburbs**, specializing in **producing food at home** and pursuing sustainable living.

#Master

#Gardener

#Functional

#Backyard

Sally

An **emerging** gardening enthusiast, while **relatively new to gardening**, quickly developed a foundational understanding and enthusiasm for **balcony gardening**.

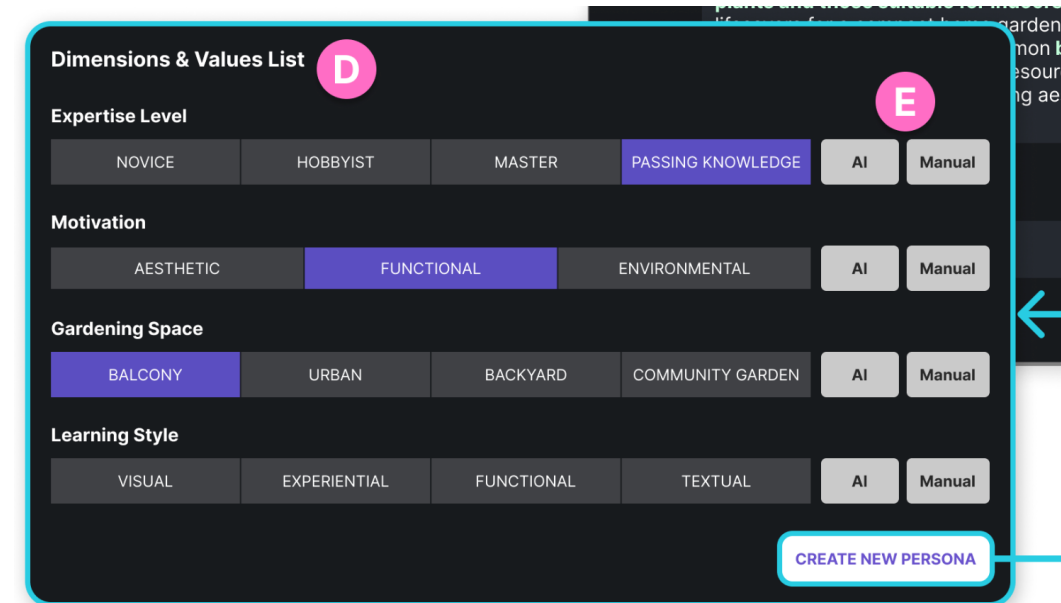
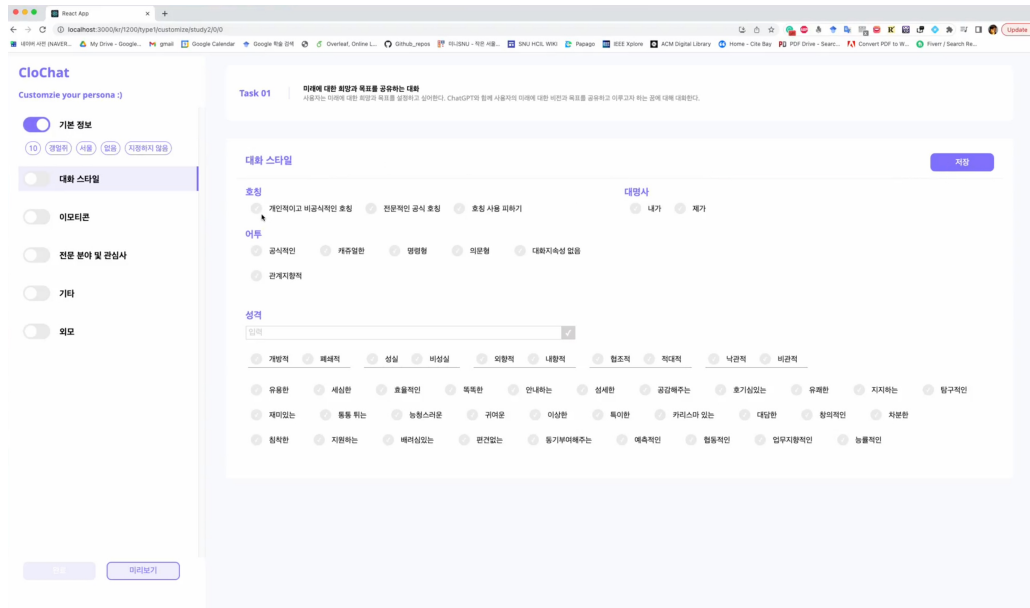
#Passing Knowledge

#Functional

#Balcony

customized

Existing **form-based methodologies** for personalized persona creation:



**Burdensome** + gradually **disengages** people from making input<sup>1, 2</sup>

[1] Wei, Jing, Sungdong Kim, Hyunhoon Jung, and Young-Ho Kim. "Leveraging large language models to power chatbots for collecting user self-reported data." *Proceedings of the ACM on Human-Computer Interaction* 8, no. CSCW1 (2024): 1-35.

[2] Choe, Eun Kyoung, Saeed Abdullah, Mashfiqui Rabbi, Edison Thomaz, Daniel A. Epstein, Felicia Cordeiro, Matthew Kay et al. "Semi-automated tracking: a balanced approach for self-monitoring applications." *IEEE Pervasive Computing* 16, no. 1 (2017): 74-84.

Existing **form-based methodologies** for personalized persona creation:

The screenshot shows the 'CloChat' web application. On the left, there's a sidebar with a 'Customize your persona' section containing toggle switches for '기본 정보' (Basic Info), '대화 스타일' (Conversation Style), '이론 이론' (Theory), '전문 분야 및 관심사' (Specialty and Interests), '기타' (Other), and '외모' (Appearance). The '대화 스타일' section is active, showing a 'Task 01' description. Below this, there are three main categories: '대화 스타일' (Conversation Style) with options like '호칭' (Title) and '대명사' (Pronoun); '아무' (None) with options like '공식적인' (Formal) and '관객지향적' (Audience-oriented); and '성격' (Personality) with a dropdown menu and a grid of personality traits like '개방적' (Open), '배려적' (Caring), etc.

The screenshot shows a 'Dimensions & Values List' form. It has a title bar with a pink circle containing the letter 'D' and a pink circle containing the letter 'E'. The form is divided into four sections, each with a set of radio buttons and a 'Manual' button. The sections are: 'Expertise Level' (NOVICE, HOBBYIST, MASTER, PASSING KNOWLEDGE), 'Motivation' (AESTHETIC, FUNCTIONAL, ENVIRONMENTAL), 'Gardening Space' (BALCONY, URBAN, BACKYARD, COMMUNITY GARDEN), and 'Learning Style' (VISUAL, EXPERIENTIAL, FUNCTIONAL, TEXTUAL). At the bottom right, there is a 'CREATE NEW PERSONA' button.

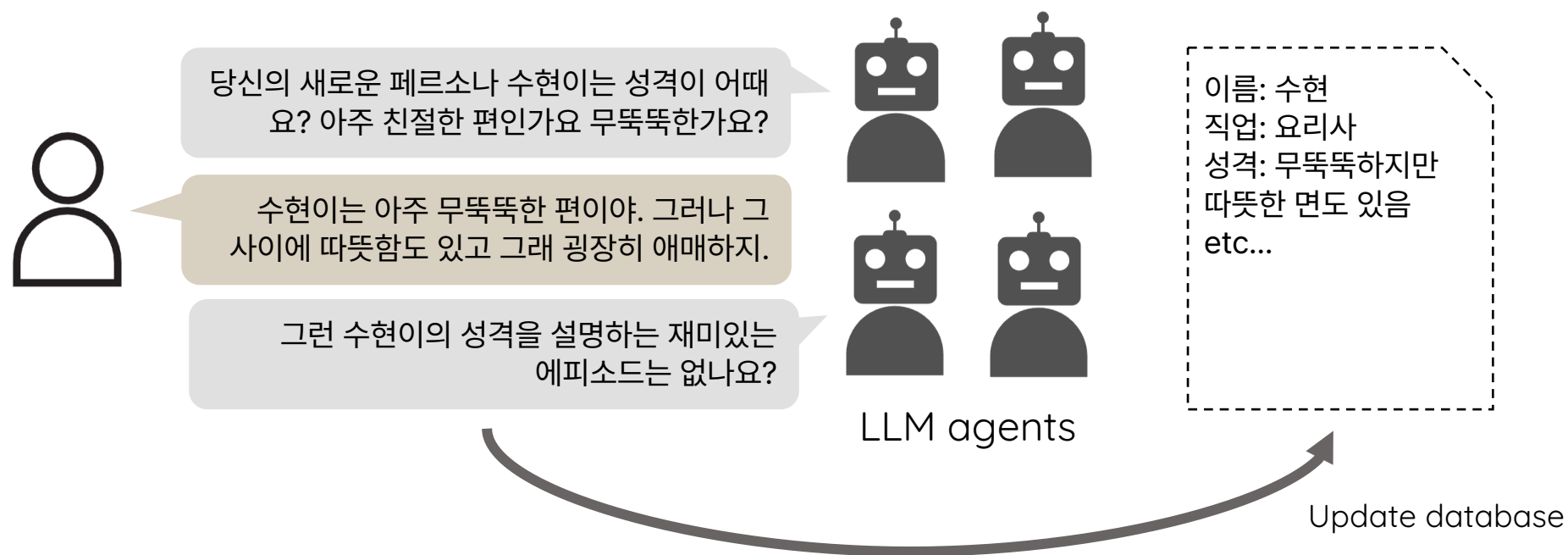
**Conversational Agents** have proven to be highly effective in collecting context-rich responses<sup>1, 2</sup>

[1] Bemmanna, Florian, Ramona Schoedela, Niels Van Berkel, and Daniel Buschek. "Chatbots for experience sampling-initial opportunities and challenges." In CEUR Workshop Proceedings, vol. 2903. CEUR Workshop Proceedings, 2021.

[2] Kim, Soomin, Joonhwan Lee, and Gahgene Gweon. "Comparing data from chatbot and web surveys: Effects of platform and conversational style on survey response quality." In Proceedings of the 2019 CHI conference on human factors in computing systems, pp. 1-12. 2019.

# Goal

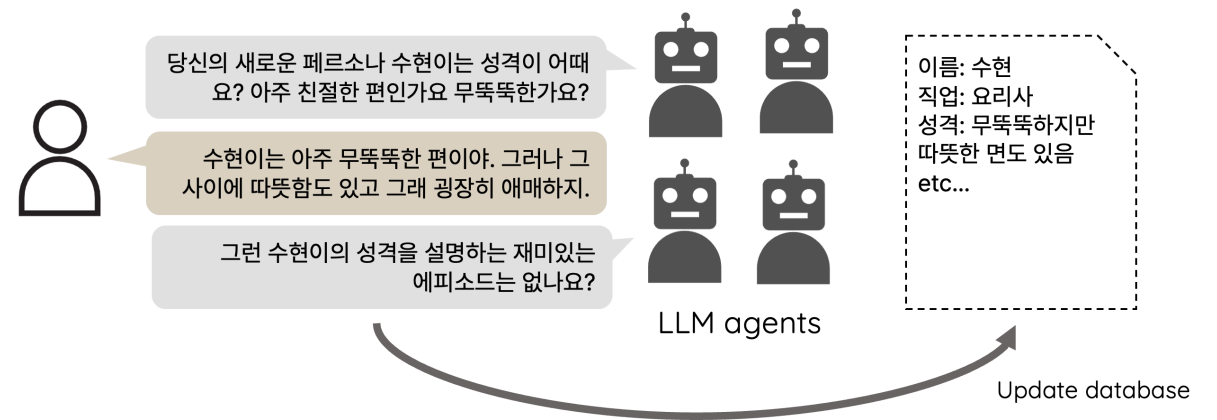
Designing and Implementing a **conversation-agent-based** system to tailor **personalized agent personas**



# Core Logic

Conversational agent: ensures **Recall**  
(by throwing diverse questions)

User: ensures **Precision**  
(by selectively answering questions)



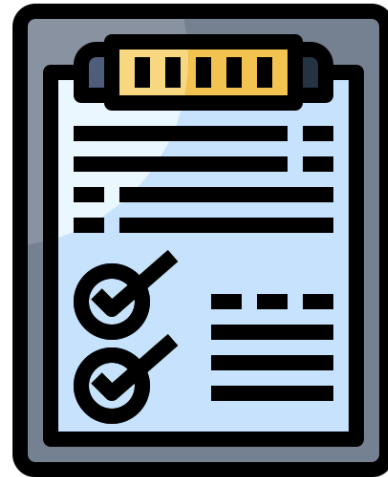


# User Experiment

Evaluating the utility of conversation-based persona design



Conversation-based



Form-based



Description-based

# User Experiment

Explore and understand how people customize agent personas



Conversation-based



??

# Preference

JavaScript + React Programming

방학 중 참여 & 학기 중 참여 가능

- (Tentative) ACM UIST 2025 or CHI 2026 short paper submission