Aging in the Digital World: From the Internet to AI Environments

Moon Choi, PhD, FGSA
Head & Associate Professor
KAIST Aging and Technology Policy Lab
aging.kaist.ac.kr
aging.kaist.ac.kr

The first lab with a focus on aging, social welfare, and technology policy at KAIST since 2014

We do research and seek solutions to solve current and emerging social problems to promote evidence-based policy-making, with special interest in improving the quality of life of marginalized people such as older people, people with disabilities, ethnic minorities, and people under poverty.
What Does New Technology Mean? A Life-course Perspective

- Wikipedia is launched
- YouTube is launched
- Facebook is launched
- Twitter is launched
What Does New Technology Mean? A Life-course Perspective

- Wikipedia is launched
- YouTube is launched
- Facebook is launched
- iPhone is launched
- Twitter is launched
- Instagram is launched
What Does New Technology Mean? A Life-course Perspective

- Wikipedia is launched (2001)
- YouTube is launched (2005)
- Facebook is launched (2004)
- iPhone is launched (2007)
- Twitter is launched (2006)
- Instagram is launched (2010)
- ChatGPT is released (2022)
- Multimodal AI is launched (2022)
Personas in Digital Literacy

- Daily use of smart devices
- Don’t be afraid of learning new technologies

- Able to use essential apps like KakaoTalk
- Be afraid of and struggle with learning new technologies

- Never experienced new technologies
- Unwilling and/or unable to learn how to use them

*Note. The images were created using ChatGPT 4o.*
Personas in Digital Literacy

- Daily use of smart devices
- Don’t be afraid of learning new technologies

- Able to use essential apps like KakaoTalk
- Be afraid of and struggle with learning new technologies

- Never experienced new technologies
- Unwilling and/or unable to learn how to use them

*Note. The images were created using ChatGPT 4.*
Social Model of Disability
Social Model of Disability
Social Model of Disability

Digitalization

UX Design
Alternative Methods

Environmental Modification
- Ramps; universal design

Enabling Process

Functional Restoration
- Neural repair; Range of motion; Artificial Hip Replacement

Training

“Enlarge” the environment to make it more accessible

© 2024 AT Policy Lab. All Rights Reserved.
CASE I - NAVER CLOVA CareCall

CareCall: a Call-Based Active Monitoring Dialog Agent for Managing COVID-19 Pandemic

Sang-Woo Lee 1, Hyunboon Jung 2, SukHyun Ko 1, Suyoung Kim 1, Hyewon Kim 1, Kyoungtae Doh 1, Hyunjung Park 1, Joseph Yoo 1, Sang-Hoon Ok 1, Joohoang Lee 1, Sungsoo Lim 1, Minyoung Jeong 1, Seongjae Choi 1, SeungTae Hwang 1, Eun-Young Park 2, Gwang-Ja Ma 2, Seok-Joo Han 2, Kwang-Seung Cha 2, Nako Sung 1, Jung-Woo Ha 1

Figure 1. Schematic flow of CareCall system for active monitoring of self-quarantining people.

Note. The content in this slide was provided by Mr. Sang Houn Ok, Leader, NAVER Cloud.
CASE I - NAVER CLOVA CareCall

Note. The content in this slide was provided by Mr. Sang Houn Ok, Leader, NAVER Cloud.
CASE I - NAVER CLOVA CareCall

Local government / Welfare institutions

- welfare center
- Public health center

Service Contact

BPO

Care Coordinator

- System operation
- Care counseling

1. Registration

CLOVA CareCall

2. AI Calls

3. Answers

4. Report

5. Contact individually for those with safety and health issues

2021

- 1 city
- 100

November 2021

Haenamgu, Busan

2022

- 40 cities
- 1,000

December 2022

Parts of Seoul, Gyeonggi and Busan

Throughout Dangoo and Incheon

2023

- 80 cities
- 12,000

December 2023

Seoul, Gyeonggi, Busan, and Ganguo parts

Dangoo, Chungbok and Jeonnam Province

2024

- 130 cities
- 30,000

July 2024

all major metropolitan local governments

Gyeongnam, Jeonnam, and parts of Chung

Note. The content in this slide was provided by Mr. Sang Houn Ok, Leader, NAVER Cloud.
CASE I - NAVER CLOVA CareCall

Note. The content in this slide was provided by Mr. Sang Houn Ok, Leader, NAVER Cloud.

© 2024 AT Policy Lab. All Rights Reserved.
CASE II - SKT AI Speaker

Approximately 17,300 older adults living alone used this service in May 2023.
CASE II - SKT AI Speaker

Unable to communicate - a request was made for emergency services (119)

She fell inside the house, complaining the lower back pain. She was transported to the emergency room.

A request for help was made via AI speaker, but communication was not possible. Emergency services (119) were dispatched.

Her hand was stuck between the bed and she was unable to move. She was rescued.
CASE II - SKT AI Speaker

Unable to communicate - a request was made for emergency services (119)

She fell inside the house, complaining the lower back pain. She was transported to the emergency room.

A request for help was made via AI speaker, but communication was not possible. Emergency services (119) were dispatched.

Her hand was stuck between the bed and she was unable to move. She was rescued.
Since 2013, EverYoung Korea has trained and provided employment opportunities in the IT field to older people in South Korea. The primary business area is **data monitoring and database development and management.** About 300 older people are currently working at the company.
CASE III - EverYoung Korea

Eligibility

- No restrictions related to education, age, or gender
- Familiarity with MS Excel
- Ability to use a computer, the Internet, and email on a daily basis
- Ability to adapt to the work environment (willingness to start a new stage of life)

Training

- With the partnership with NIA, the company provides those in their 50s and 60s with training and education related to information technology.
- Future and young older adults can join the labor force based on this training.
CASE III - EverYoung Korea

Eligibility

- No restrictions related to education, age, or gender
- Familiarity with MS Excel
- Ability to use a computer, the Internet, and email on a daily basis
- Ability to adapt to the work environment (willingness to start a new stage of life)

Training

- With the partnership with NIA, the company provides those in their 50s and 60s with training and education related to information technology.
- Future and young older adults can join the labor force based on this training.
SUGGESTIONS
Active Ageing in the Digital World

WHO (2002) - The Concept

It allows people to realize their potential for physical, social, and mental well being throughout the life course and to participate in society according to their needs, desires and capacities, while providing them with adequate protection, security and care when they require assistance.

The word “active” refers to continuing participation in social, economic, cultural, spiritual and civic affairs, not just the ability to be physically active or to participate in the labour force.
Active Ageing in the Digital World

WHO (2002) - The Concept

It allows people to realize their potential for physical, social, and mental well being throughout the life course and to participate in society according to their needs, desires and capacities, while providing them with adequate protection, security and care when they require assistance.

The word “active” refers to continuing participation in social, economic, cultural, spiritual and civic affairs, not just the ability to be physically active or to participate in the labour force.
Call for Evidence-based Policies and Practices

● A lack of evidence.
  ○ Prior works tend to have input-based reports only (e.g., number of trainings offered).
  ○ Longitudinal randomized controlled trials need to be developed.

● Consideration of different levels of digitalization

● Consideration of different socio-cultural contexts

● Future research needs to address anxiety towards new technologies.
KAIST Aging & Technology Policy Lab: Recent Project I

Research on Assessment and Mitigation of Digital Divide among Older Adults Related to The Use of Mobility Services in the Era of Digital Transformation
KAIST Aging & Technology Policy Lab: Recent Project I

Digital Divide Intervention Using AI and Gamification
(May 2024 – April 2029)

Principal Investigator: Moon Choi, PhD, FGSA

Funding: National Research Foundation of Korea
Mid-Career Researcher Program
<Epilogue> Personas in Digital Literacy

- Daily use of smart devices
- Don’t be afraid of learning new technologies
- Able to use essential apps like KakaoTalk
- Be afraid of and struggle with learning new technologies
- Never experienced new technologies
- Unwilling and/or unable to learn how to use them

*Note. The images were created using ChatGPT 4o.*
<Epilogue> Personas in Digital Literacy

- Daily use of smart devices
- Don’t be afraid of learning new technologies

- Able to use essential apps like KakaoTalk
- Be afraid of and struggle with learning new technologies

- Never experienced new technologies
- Unwilling and/or unable to learn how to use them

*Note. The images were created using ChatGPT 4o.
Moon Choi, PhD, FGSA

aging.kaist.ac.kr
moonchoi365@gmail.com

agesuit experiment