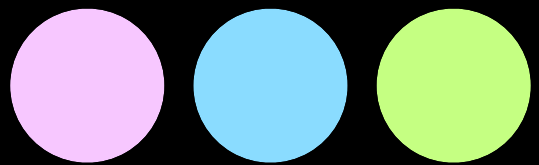


New communication among Olds Living Lab Project



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#1

Globalization issue we focused on : Environment(Fine dust)



Globalization and Environment issues: Fine-dust

Climate change - Air pollution

Globalization and industrial development have contributed to severe climate change.

Among the resulting issues, **air pollution** has significantly affected our daily lives. Despite various multilateral agreements, progress remains limited.

Air pollution - Fine dust (Particulate matter(PM))

Among various air pollution issues, 'fine dust' poses a grave threat.

Fine dust or particulate matter(PM) has been classified as a group 1 carcinogen by the International Agency for Research on Cancer(IARC) under WHO.

In addition to physical harm, **PM2.5 affects mental health**. Through hypothalamic endoplasmic reticulum stress and oxidative stress pathways, **PM2.5 causes depressive-like behaviors** ending up causing **dopaminergic dysfunction**.

*(Kim et al., 2024)

#2

Why focus on the impact on 'the elderly living alone?'



Fine dust and depression: Impact is more severely on the elderly

Due to a decline in physiological functions, **the elderly have a lower ability to expel and detoxify inhaled PM2.5.*** As a result, they are more likely to experience depression triggered by PM2.5 exposure compared to younger adults. *(Jo et al., 2021)

The elderly 'living alone': vulnerable living condition

Elderly individuals living alone are more vulnerable to depression caused by fine dust compared to elderly couples, due to the characteristic of their household structure.

Difficulties faced by elderly people living alone are greater than elderly couples. Key difficulties the elderly living alone face are lack of care when sick (39.9%) and emotional challenges such as psychological anxiety and loneliness(11.6%). *(KIHASA, 2023)

Gangwon province - The elderly living alone

Gangwon Province has the fourth-highest proportion of the elderly living alone in S. Korea, with the largest number residing in Wonju. *(KOSIS, 2023)

Programs Wonju has provided for them: **'one-way delivery model'**

-> essential to develop user(the elderly living alone)-led mental health programs

#3

What is the NaO Living Lab Project?



When | 2025.07~
Where | Any place where you can use your cell phone

outline

The NaO Living Lab project aims to reduce the loneliness of elderly people living alone through phone calls with anonymous users. These people may be neighbors, or they may be elderly people living alone.
NaO Living Lab project targets elderly people living alone aged 65 or older.

NaO Project

Voluntary communication building

Through the app, elderly people living alone have the opportunity to form a voluntary community and create new relationships.

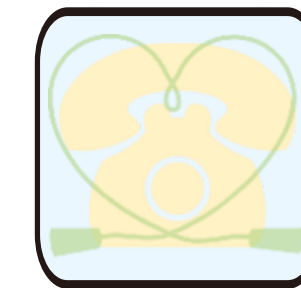
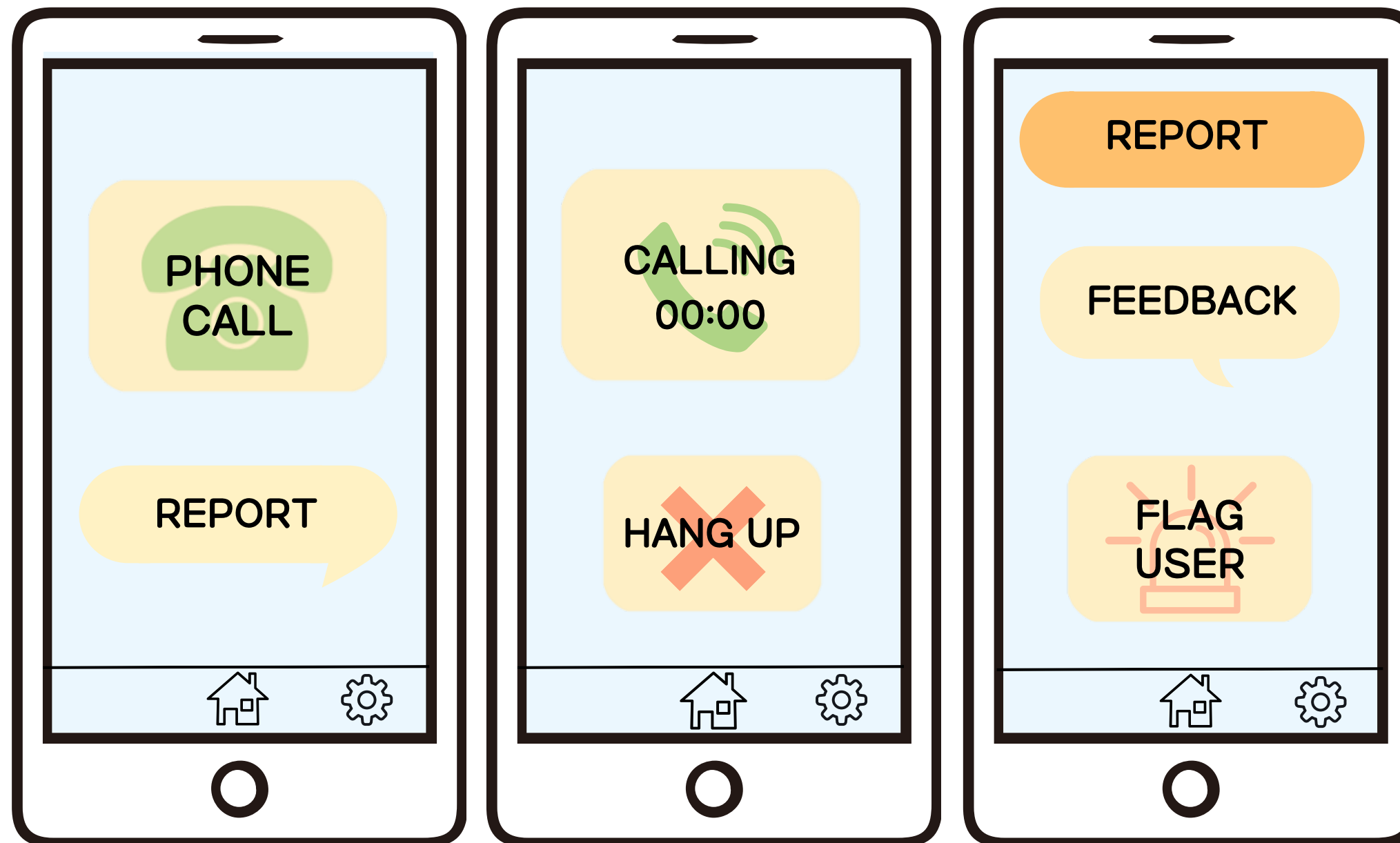
We started the NaO project to let nobody isolated

According to MBC News, three out of 10 elderly people living alone feel isolated because they have no one to talk to.

How we promote : Online

We plan to publish articles in cooperation with newspapers and promote NaO project online through SNS such as Instagram.

4 Ring-Ring Application



Ring-Ring

Key Features of the App

"Senior-Friendly Interface"

Large text and simple buttons ensure ease of use for elderly users.

"Automatic Call Recording"

All calls are automatically recorded to help prevent crimes and enable a quick response through direct linkage with the police.

"User Service Portal"

Users can easily submit suggestions for app improvement or flag users directly through the app.

#4

Ring-Ring App User Survey

1. General Information

- Age group
- Gender
- App usage period

3. Emotional Impact

- Did the app reduce feelings of loneliness?
- Did it create a sense of connection?
- Did it help reduce depressive feelings?

2. App Usability

- Was the app easy to use?
- Were the text and buttons easy to see?
- Was the auto-recording feature convenient?
- Was the complaint submission function helpful?
- Any inconveniences?

4. Social Belonging

- Did you talk to someone new through the app?
- Would you like to use the app again?

5. Overall Satisfaction & Feedback

- Would you recommend the app to others?
- Open-ended comments and suggestions

#4

Ring-Ring Application



Where?

"Easy and convenient at home"
This app enables elderly users to connect and form a community simply through their smartphones.
"Promote Offline"
We deliver information through posters and mail tailored for seniors.

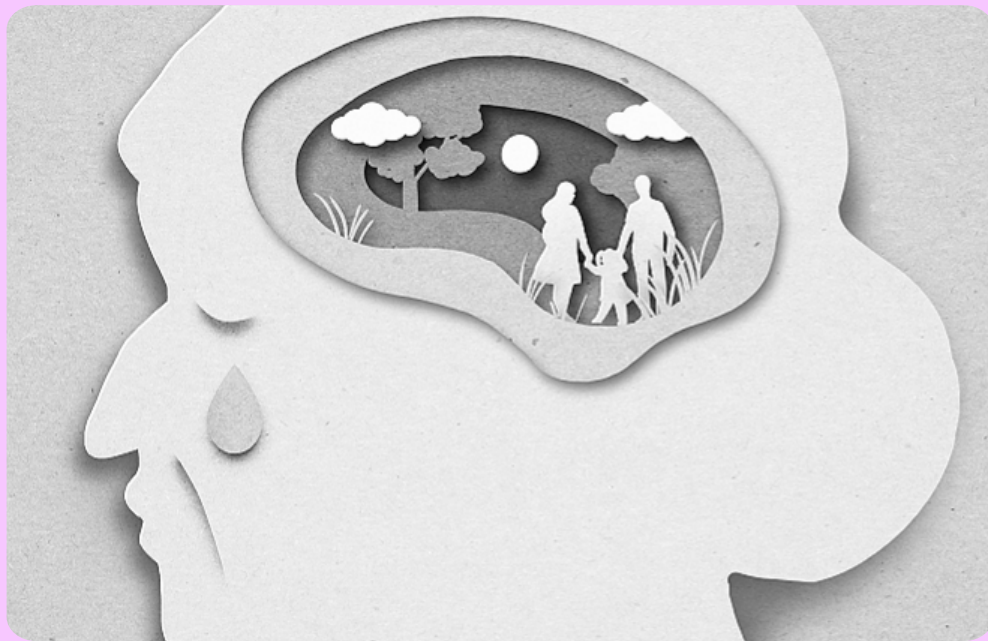
Who?

App Operation & Management - Joint management by Wonju City and private companies
App Development - University students in Wonju
Supporters - Elderly individuals attending local welfare centers

The effect of the app?

Phone-based communication can help reduce depression and social isolation in older adults living alone. Studies show that the frequent communication is often more effective than physical contact in alleviating depressive symptoms. *(Lee & Kim, 2012)

#5 Implications



Focus on the blind spot

Living Lab project focused on mental health issues for elderly people living alone

Living Lab Project for mental health problems of elderly people living alone without practical solutions.



Community for the initiative elderly

The Living Lab project can induce active participation through user-driven principles

Voluntary communication and community building among elderly people living alone.



Decreased sense of isolation

With high accessibility of the app, elderly people living alone can have someone to talk to whenever they want

This project can help to reduce isolation and loneliness among the elderly people living alone.

thank you