



Job Hack 2021
#ReinvigorateHK
Team G

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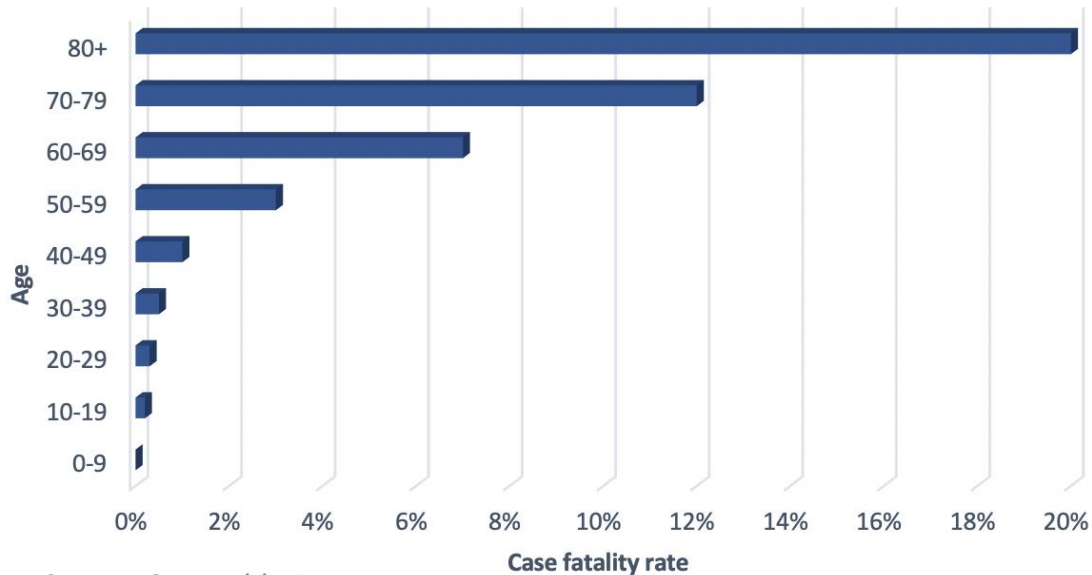
Silver Immunity

Unlock the power of technology for the Elderly

Elderly's high vulnerability makes them in greater need of healthcare support

Elderly are most vulnerable under the virus

Coronavirus: Case fatality rates by age



Source: OurWorldInData.org

92%

of COVID-19 deaths in Hong Kong are people aged 70 or older

Caused by



Poorer immunity system

Higher risks of infections and lower chances of recovery



Existing health conditions

Increase risks of complications and death



Unaware of proper hygiene practices

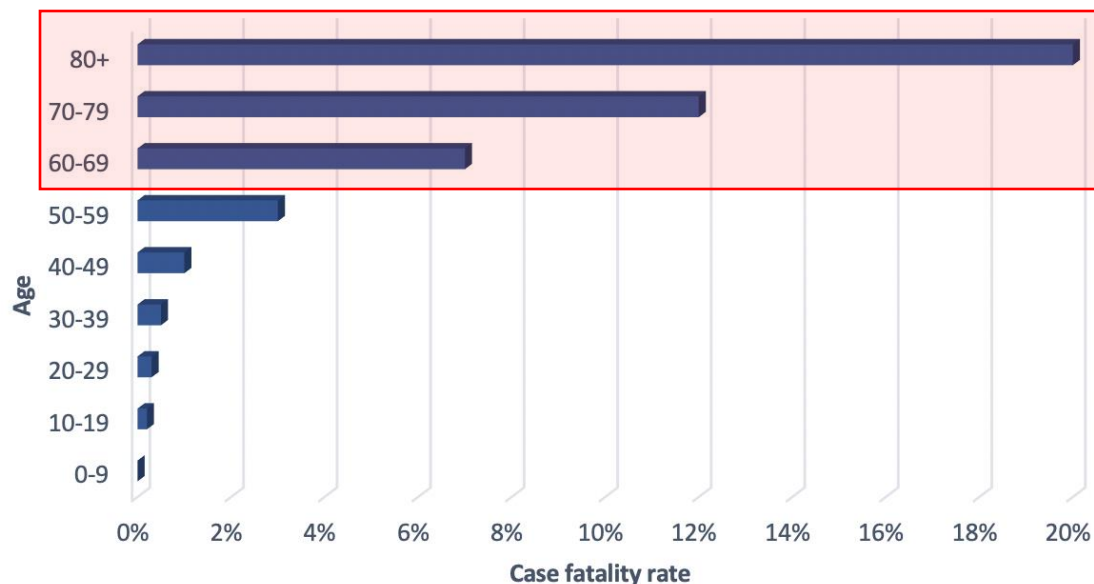
e.g. how to wear masks

Elderlies are in need of more healthcare information and support about the virus

Elderly's high vulnerability makes them in greater need of healthcare support

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e.g. how to wear masks

Elderlies are in need of more healthcare information and support about the virus

Social distancing measures force elderlies into further isolation

Before COVID-19



*Frequent social gatherings with friends , families
and visited by volunteers*

Social distancing measures force elderlies into further isolation

Before COVID-19

After implementation of social distancing measures

Frequent social gatherings with friends , families and visited by volunteers

Now...



Social distancing measures and fears of infection leads to elderlies spending much more time alone


Social distancing measures force elderlies into further isolation



Now...

Isolation and anxiety amid virus leads to dramatic increase in mental health issues

52% YoY increase in cases where elderly need emotional support

 SCHSA: Increasing signs of emotional distress and anxiety, or even symptoms of post-traumatic disorder

**Especially for solitary elder*

Social distancing measures and fears of infection leads to elderlies spending much more time alone

Elderlies are in need of companions and greater emotional support

Low familiarity in new technologies obstructs daily living

Elderlies are unfamiliar with digital applications

57% of elderlies have no experience in using smartphones

Due to:



Inability to use smartphones



High price of smartphones



Fears for security and privacy issues

Under the pandemic



Elderlies have fewer chances to go out or be visited by their families



Elderlies lack online shopping experience



Elderlies lack sources of entertainment

Elderlies find it harder to adapt to the “new normal”

Elderlies are in need of a simple, low-tech way to fulfill daily needs

Our solution provides multiple services to improve elderlies' livelihoods



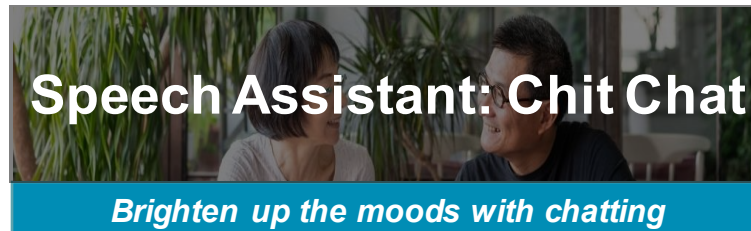
Physical health:

in need of information about the virus



Emotional health:

in need of care and companion

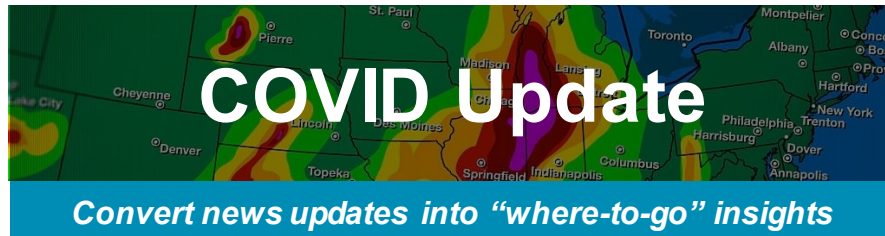


Daily living:

need assistance in purchasing necessities



Features

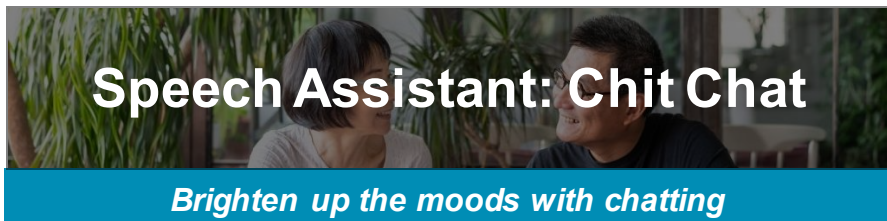
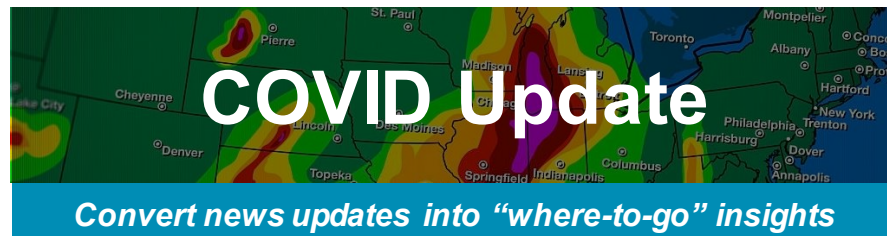


Technology and Application

Problem: Low familiarity with new technologies
Less accessible for online data and News

Solution: Bing COVID-19 Tracker (Real time)
Where to and not to go

Features



Technology and Application

Problem: Low familiarity with new technologies
Less accessible for online data and News

Solution: Bing COVID-19 Tracker (Real time)
Where to and not to go

Problem: Social Distancing Rules
Limited visit from friends or family
Lack of companionship and gets lonely

Solution: Mental checkup and chit chat from AI Robot
Q&A Format to check on elderly daily

Features



Technology and Application

Problem: In need of groceries
Elderlies health at risk under COVID-19
Reduce the frequency for groceries shopping

**Solution: Call the AI Robot Centre for volunteer
to help purchase contact-free delivery**

Features

Speech Assistant: Order Necessities

Order necessities with community support

Speech Assistant: Physical Check Up

Assess the risk of getting COVID-19

Technology and Application

Problem: In need of groceries
Elderlies health at risk under COVID-19
Reduce the frequency for groceries shopping

**Solution: Call the AI Robot Centre for volunteer
to help purchase contact-free delivery**

Problem: Forth Wave of COVID-19
Neglected the symptoms for possible infection

Solution: Physical checkup from AI Robot
AI Robot: Ask if any COVID-19 related symptoms
**Generate data together, 50%> alert the social centre to help
the elderly to reserve for Community COVID-19 Testing
Centres online**

Data Source

Data: Registered elderlies from social centre

- ✓ Phone number
- ✓ Address
- ✓ Personal Information

Developer Tools

Azure Cognitive Services: Natural Language Processing

- **Speech:** Speech to text and text to speech
- **Language** understanding: Text Analytics (NLP)
- **Knowledge:** Recommendation
- Bing **Search**



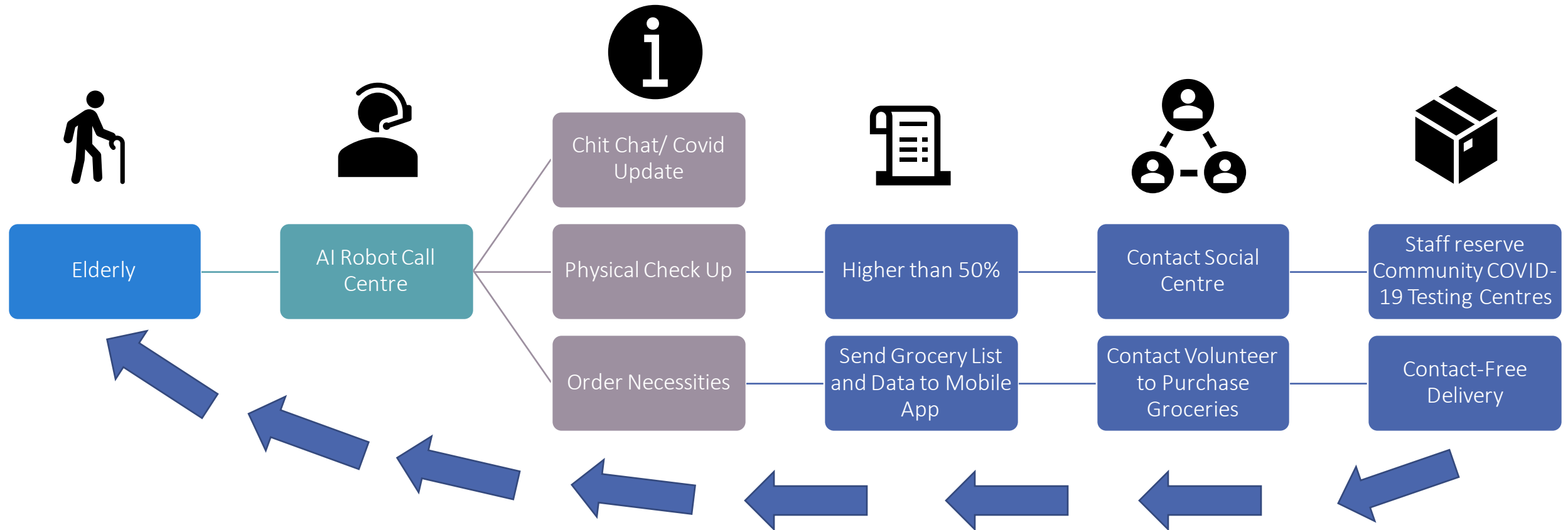
Application Services

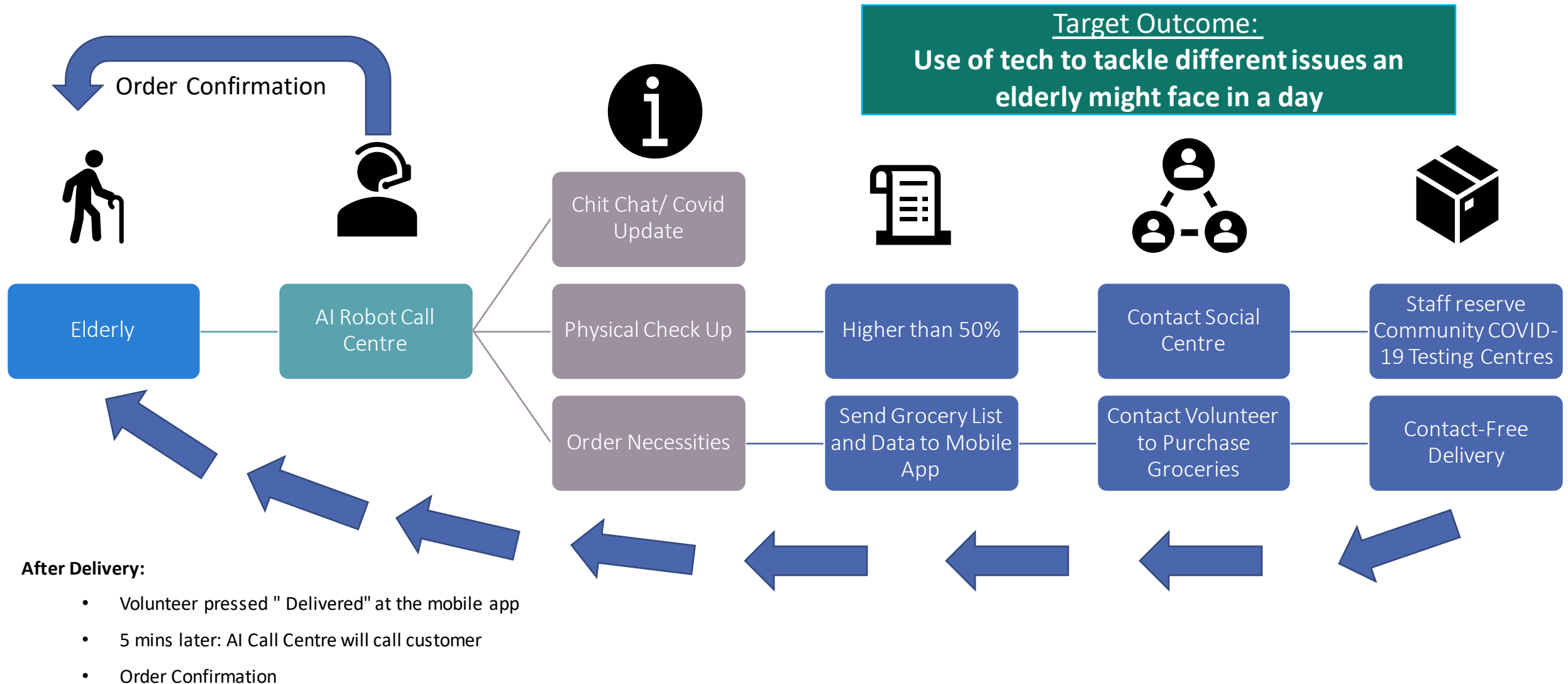
AI Robot Call Centre

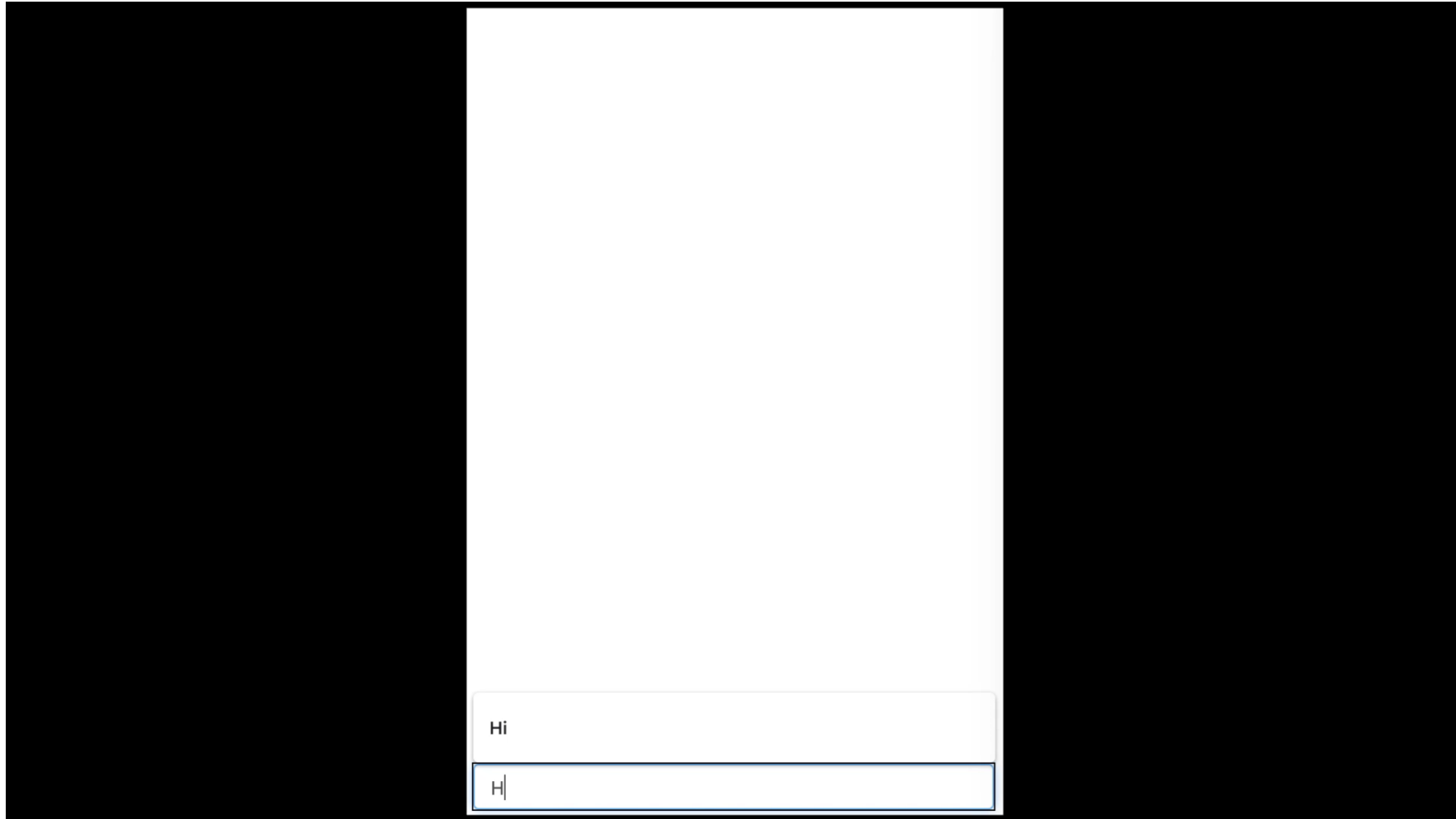
- Bot Service Framework

Mobile Apps









Provide service during Covid 19 to the user by simple conversation.

AI shopping experience

Hi there! What do you need?

Silver immunity (Test) at 3:44 AM

I want to order tissue

[Inspect](#) You

Sure! How much do you need?

Silver immunity (Test) at 3:44 AM

10 boxes

[Inspect](#) You

No problem! Anything else?

Silver immunity (Test) at 3:44 AM

Not really

[Inspect](#) You

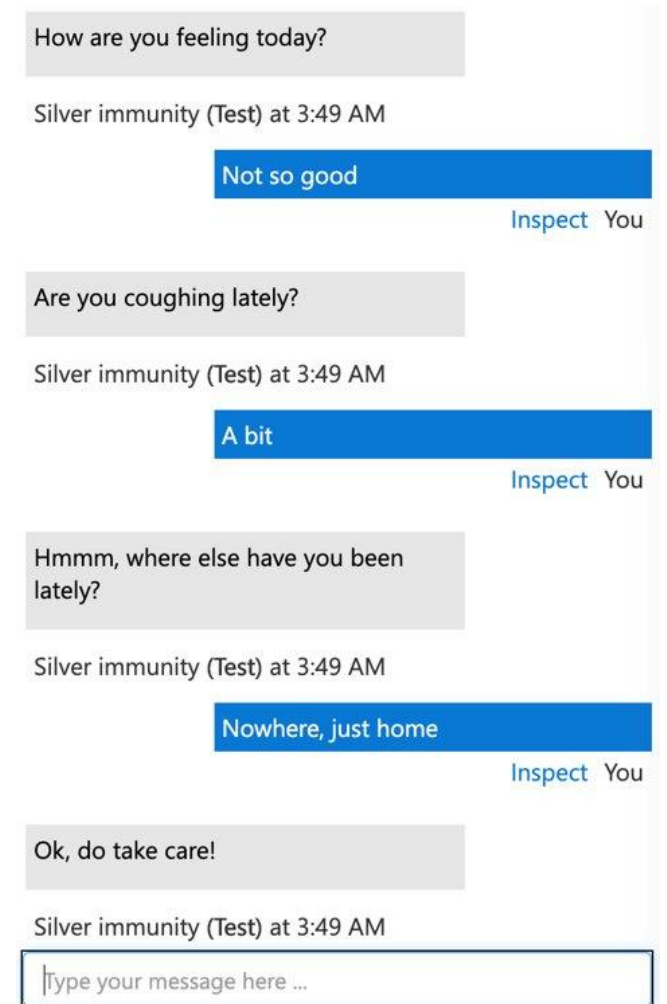
Okay! Your order has been placed!

Silver immunity (Test) at 3:44 AM

Type your message here ...

Provide assessment for physical health to the elderly.
Provide more information if the elderly is not feeling well.

Simple Questions to determine whether the user should seek medical help with their situation.
Such as elderly that have coronavirus disease symptoms, or people who had been diagnosed with respiratory diseases before or during Covid 19.



The screenshot shows a chatbot interface with a light gray background. It features a series of questions and user responses. Each question is in a light gray box, and each response is in a blue box. The chatbot's name 'Silver immunity (Test)' and the time 'at 3:49 AM' are displayed between the question and response boxes. At the bottom, there is a text input field with the placeholder 'Type your message here ...'.

How are you feeling today?

Silver immunity (Test) at 3:49 AM

Not so good

[Inspect](#) [You](#)

Are you coughing lately?

Silver immunity (Test) at 3:49 AM

A bit

[Inspect](#) [You](#)

Hmmm, where else have you been lately?

Silver immunity (Test) at 3:49 AM

Nowhere, just home

[Inspect](#) [You](#)

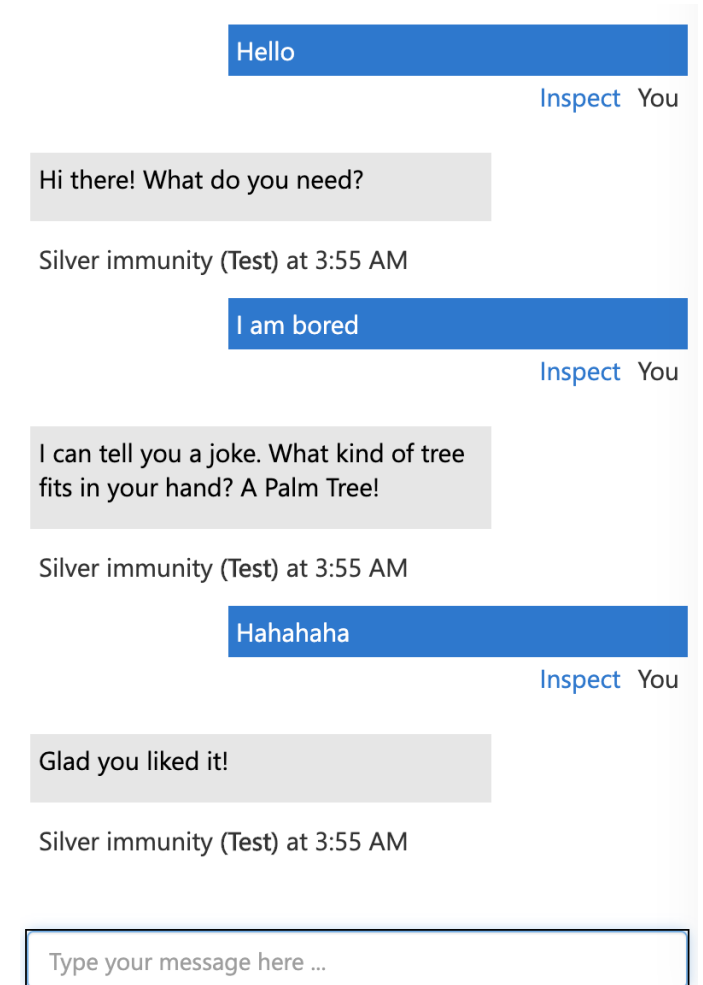
Ok, do take care!

Silver immunity (Test) at 3:49 AM

Type your message here ...

Provide entertainment through conversation.

Greetings, Jokes, emotion keywords.



The screenshot shows a chat window with a light gray background. At the top, a blue message bubble contains the text "Hello". Below it, on the right, are the links "Inspect" and "You". A gray message bubble contains the text "Hi there! What do you need?". Below that, the text "Silver immunity (Test) at 3:55 AM" is displayed. Another blue message bubble contains the text "I am bored". To its right are the links "Inspect" and "You". A gray message bubble contains the text "I can tell you a joke. What kind of tree fits in your hand? A Palm Tree!". Below that, the text "Silver immunity (Test) at 3:55 AM" is displayed. Another blue message bubble contains the text "Hahahaha". To its right are the links "Inspect" and "You". A gray message bubble contains the text "Glad you liked it!". Below that, the text "Silver immunity (Test) at 3:55 AM" is displayed. At the bottom, there is a text input field with the placeholder text "Type your message here ...".

Silver Immunity Portal (Volunteer side)

Silver Immunity Portal

Volunteer Login

Account name

Password

[Log in](#)

Don't have an account?

[Create Account](#)

Forget Password?

Email Address:

[Send authentication to email](#)

Users: Volunteers from non-profit organisations, individual volunteer

Functions:

1. Register: Create an account to match volunteer with elderly in need
2. Log in and log out
3. Account Settings: Phone, address, service area
4. Service requests: Accept or decline requests
5. Past Requests: Review past requests
6. Delivery Status: Track the item delivery, confirm delivery and notify the elderly
7. Report problems: Report technical problems, requests problems or personal information changes.
8. Volunteer Guide: Explain each function and a list of their shortcuts
9. Recover account: Enter email to recover the account when the user forgot their password.

12:19

apps.powerapps.com

Welcome back, Chan Tai Ming.

District: Kowloon

Account: chantaiming

Account Settings

Service Requests

Past Requests

Delivery Status

Report Problems

Volunteer Guide

Sign out

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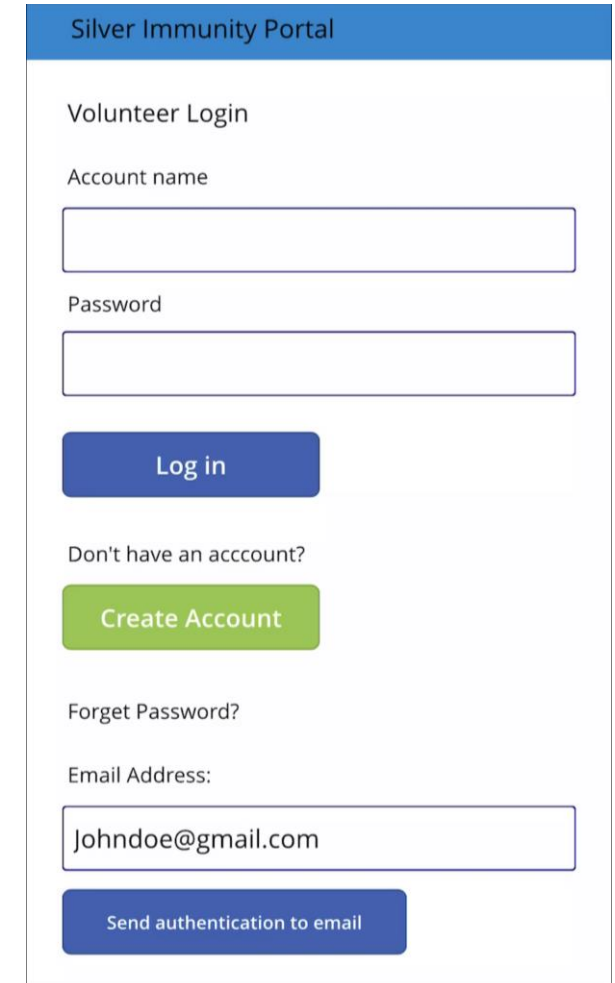
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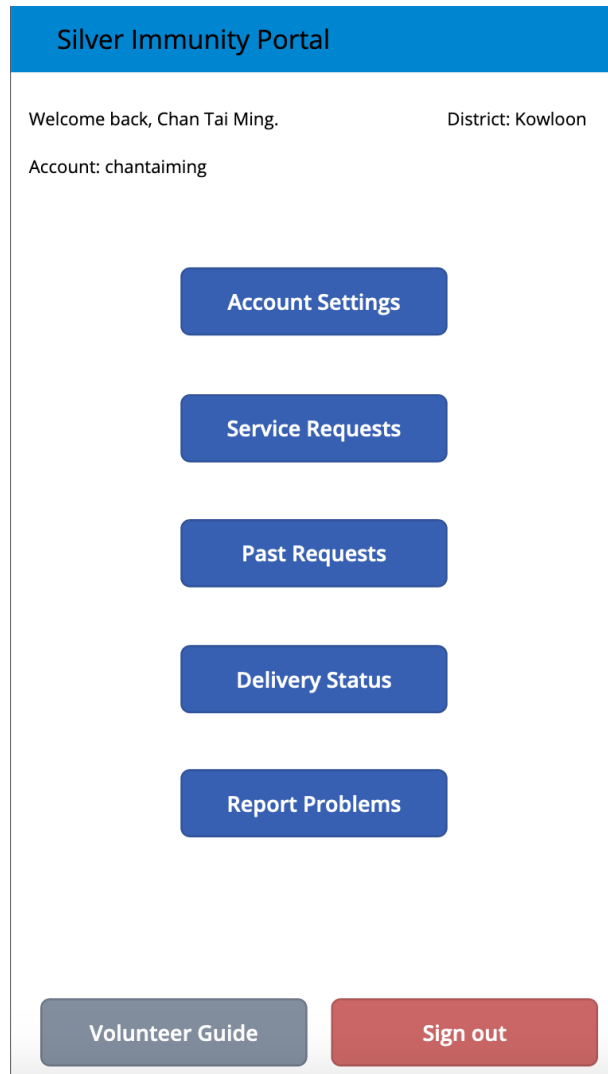
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The screenshot shows the 'Silver Immunity Portal' interface. It features a blue header with the portal name. Below the header, the section is titled 'Volunteer Login'. There are two input fields: 'Account name' and 'Password'. Below these fields is a blue 'Log in' button. Underneath the login button, there is a link 'Don't have an account?' followed by a green 'Create Account' button. Further down, there is a link 'Forgot Password?' followed by an 'Email Address:' label and an input field containing 'Johndoe@gmail.com'. At the bottom of this section is a blue button labeled 'Send authentication to email'.



Main Page

Menu of all functions in the app

Every function will have a return to main page shortcut

Silver Immunity Portal

Account: chantaiming

District: Kowloon

Account name: chantaiming

Email: chantaiming@gmail.com

Service District: (select 1 or more)

1. Kowloon

2. Hong Kong Island

3. New Territories

1

2

3

Address: 123 ABC St, Kowloon, Hong Kong

Phone number: 1234 5678

Save and return to Main Page

Volunteer Guide

Sign out

Select service locations

Volunteer moved/ changed number

To find the nearest helper for the elderly

Silver Immunity Portal

Welcome back, Chan Tai Ming. District: Kowloon

Current requests:

Ms Ma, 68, requests for: Apples * 5
ID: 95234483 Address: 523 ABC ST, Kowloon

[Accept](#) [Decline](#)

Mr Chan, 72, requests for: Toilet Paper * 8, Dish Wash * 1
ID: 97214676 Address: 628 BDE ST, Kowloon

[Accept](#) [Decline](#)

Mrs Lee, 67, requests for: Masks * 12, can opener * 1
ID: 90407952 Address: 42 CTA ST, Kowloon

[Accept](#) [Decline](#)

[Save and return to Main Page](#)

[Volunteer Guide](#) [Sign out](#)

List of service requests

Accept or decline the requests

Silver Immunity Portal

Welcome back, Chan Tai Ming.

District: Kowloon

Account: chantaiming

Past Requests:

Mrs Lee, 67, requests for: Masks * 12, can opener * 1

ID: 90407952 Address: 42 CTA ST, Kowloon

Status: Accepted

Mrs Lee, 67, requests for: Alcohol Cleaner * 2, Toilet Paper * 8

ID: 94724829 Address: 162 CBE ST, Kowloon

Status: Delivered

Confirm and return to Main Page

Volunteer Guide

Sign out

Check the history of requests

Accepted/ Delivered

Silver Immunity Portal

Welcome back, Chan Tai Ming.

District: Kowloon

Account: chantaiming

Pre-Shipment

Mrs Lee, 67, requests for: Masks * 12, can opener * 1

ID: 90407952 Address: 42 CTA ST, Kowloon

Status: Accepted

Delivered

Mrs Lee, 67, requests for: Alcohol Cleaner * 2, Toilet Paper * 8

ID: 94724829 Address: 162 CBE ST, Kowloon

Status: Delivered

Confirm and return to
Main Page

Volunteer Guide

Sign out

Package tracking

Mark as delivered and notify the elderly

AI bot will call the elderly

Silver Immunity Portal

Welcome back, Chan Tai Ming. District: Kowloon

Account: chantaiming

Report Problems

Confirm and return to Main Page

Volunteer Guide Sign out

Report problems

**Technical, requests,
personal information**

A unique and scalable project for Microsoft

Fill in the elderly service gap

Immediate service



Social Workers

Personalized service

Silver Immunity deliver the **daily and personal** service that address holistic wellbeing needs

A unique and scalable project for Microsoft



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Social Workers

Personalized service

Silver Immunity deliver the **daily and personal** service that address holistic wellbeing needs

Leverage on past NGO partners for immediate scale



Using Power BI to establish efficient medical checkup and recording process



Microsoft Teams enables remote consultation services to elderly and chronic patients

A unique and scalable project for Microsoft



Fill in the elderly service gap

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Social Workers

Personalized service

Silver Immunity deliver the **daily and personal** service that address holistic wellbeing needs

Leverage on past NGO partners for immediate scale



Using Power BI to establish efficient medical checkup and recording process



Microsoft Teams enables remote consultation services to elderly and chronic patients

Aligned with Microsoft AI for Health's vision

Quest for discovery

Provide data to accelerate the research on elderly health issues

Global health insights

Gather insights on global health crisis such as COVID-19

Health equity

Reducing health inequity against the disadvantaged elderly

Instead of the dollar impact, Silver Immunity brings people impact

Input

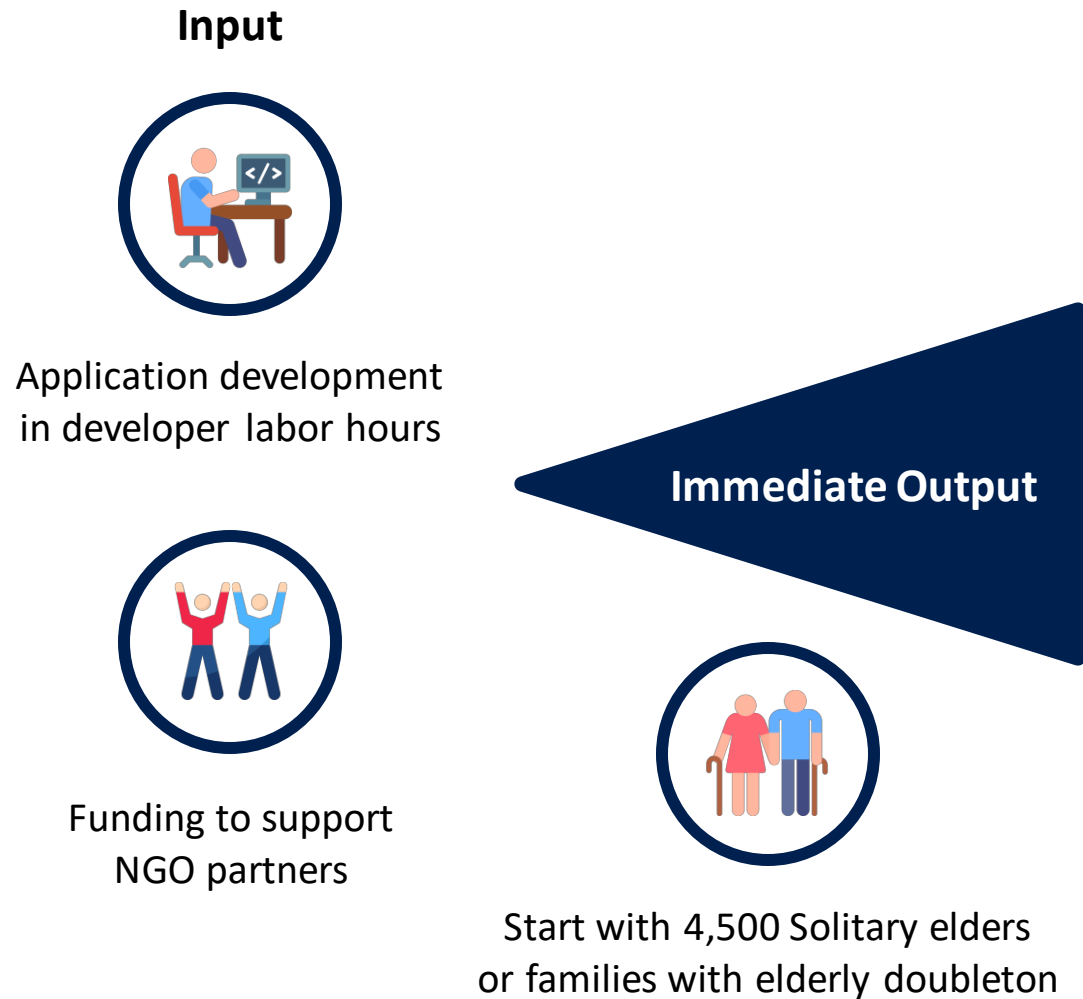


Application development
in developer labor hours

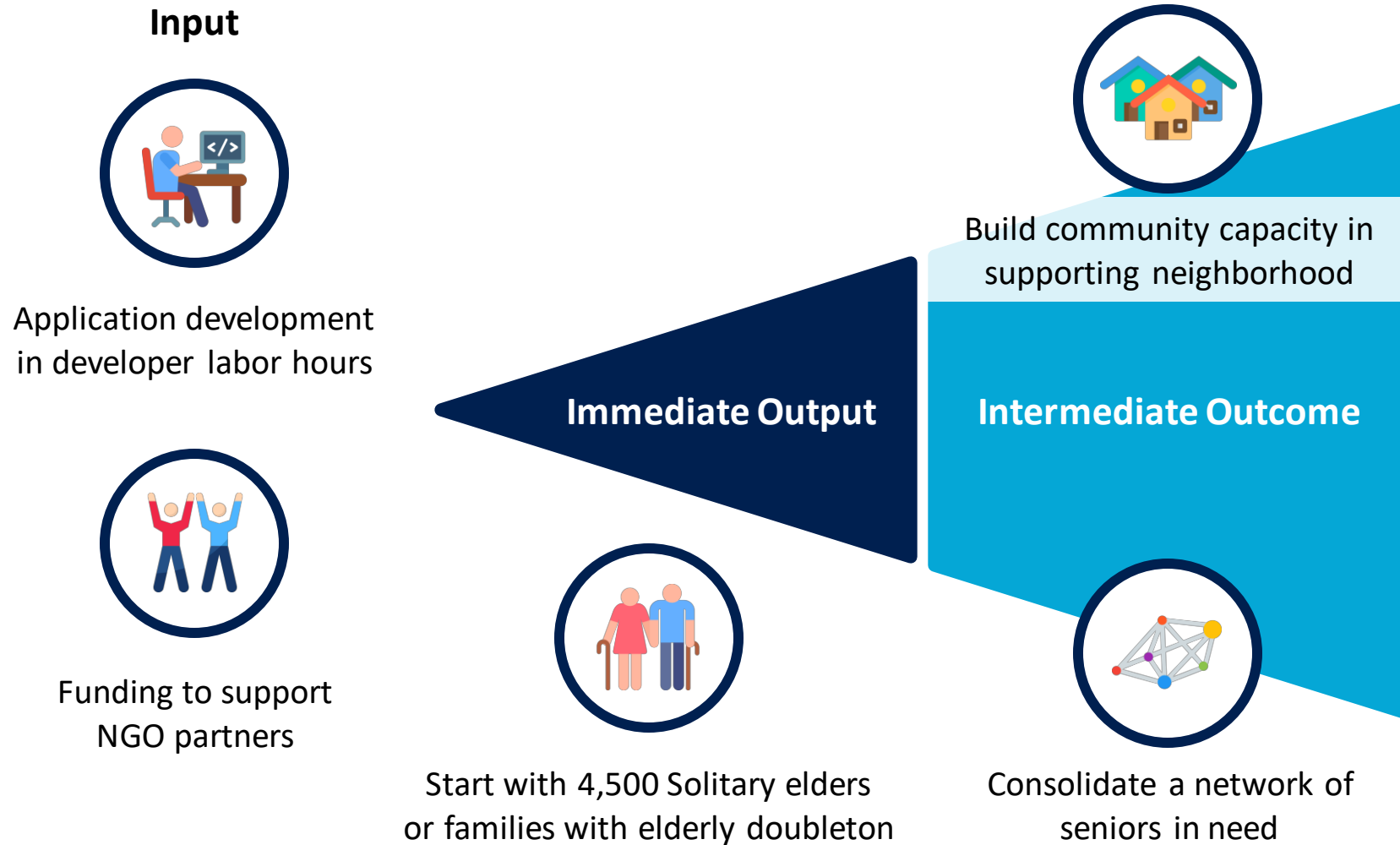


Funding to support
NGO partners

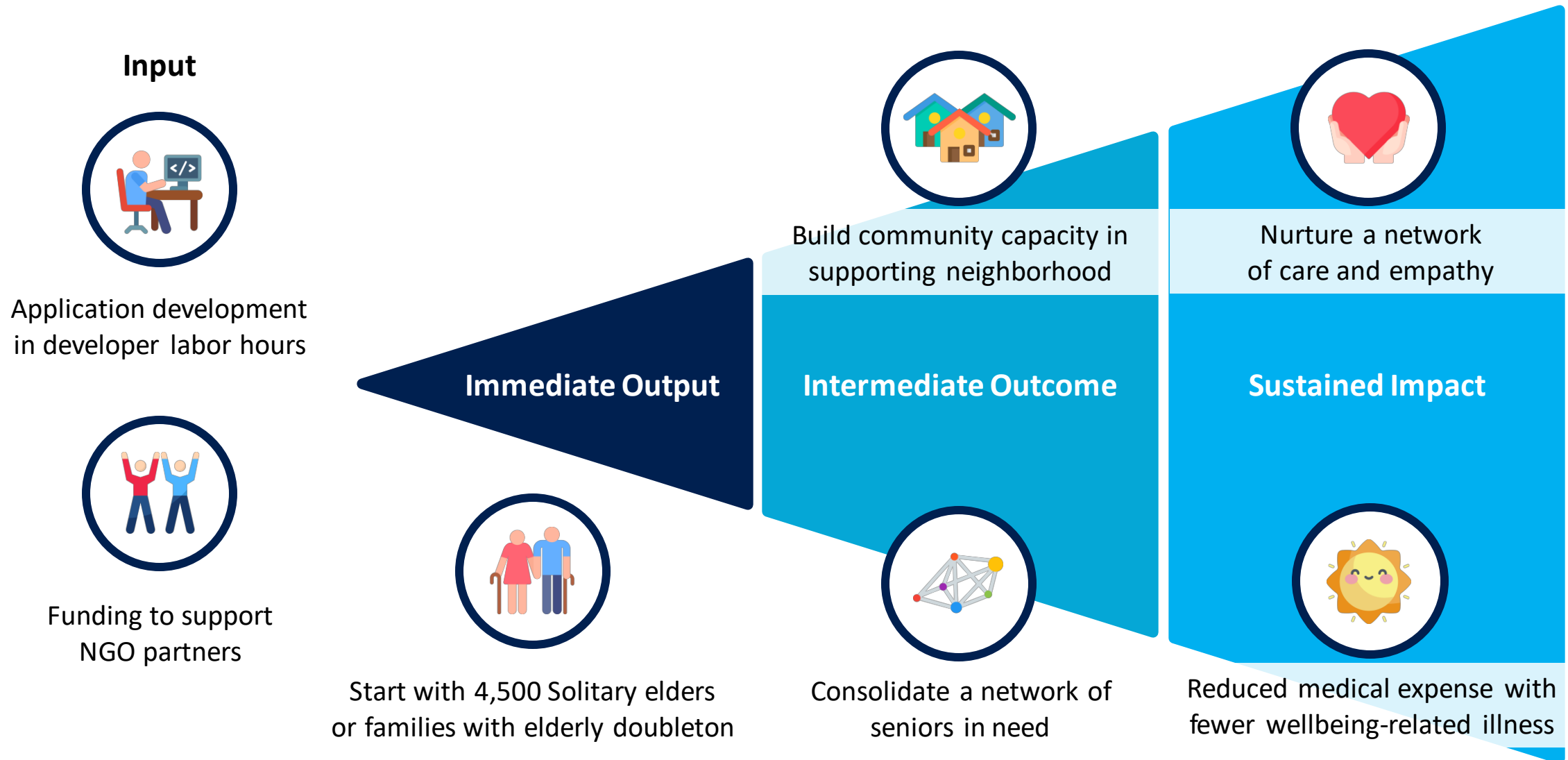
Instead of the dollar impact, Silver Immunity brings people impact



Instead of the dollar impact, Silver Immunity brings people impact



Instead of the dollar impact, Silver Immunity brings people impact





SITUATION

**Vulnerability
to the Pandemic**

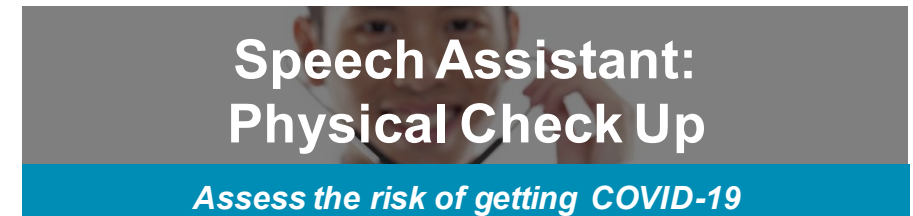
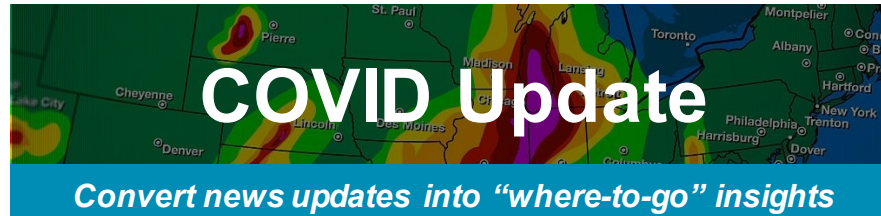
**Social distancing
measures**

**Unfamiliar with new
technologies**

KEY QUESTION

**How can we address the daily needs of the elderly by
overcoming the lockdown and low technology readiness?**

SOLUTION



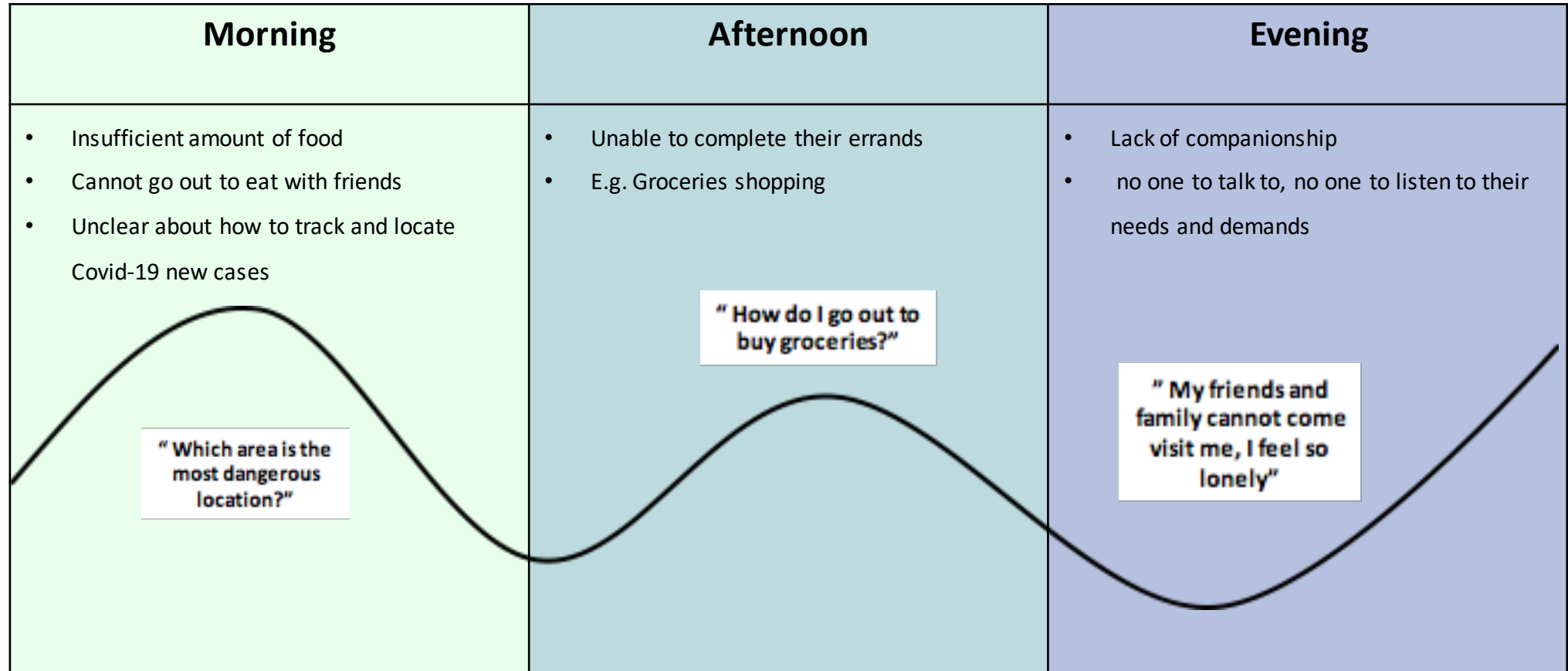
IMPACT

Assist 45,000+ (10%) families of solitary elder or elderly doubleton

APPENDIX: Elderly user journey













Expectations:

- Tackle different issues throughout the day
- One-stop
- Hassle free



APPENDIX: Choice of elderly-facing medium

BEST

	AI Call Center	Smart Phone App	Small Gadget
Ease of use/adopt			
Scalability			
Visual appeal			
Overall			

Assuming **1** volunteers can serve **5-6** nearby seniors
We will need **900** committed volunteers to support the early-stage operations
Sufficient considering Hong Kong total volunteer population is **1.3m**

Finding enough volunteers to support the community model in the LONG run

Campaign to recruit volunteers

Committed volunteers come and go,
campaign with leveraged NGO connections
refill the number of volunteers.

Get manual help to order online

- Decrease** the number of volunteers required with:
1. Volunteers manually order for them via online platforms
 2. The system develops the capability to auto-order from e-groceries platforms

Input



Application development
in developer labor hours

Typical time to develop the AI

5-6 months



Team size

4 experts



Salary per month per person

\$60,000



Est. Development Cost

\$1.32 million



Funding to support
NGO partners

Extra full-time support

4 social workers



Salary per month per person

\$25,000



Monthly Support Cost

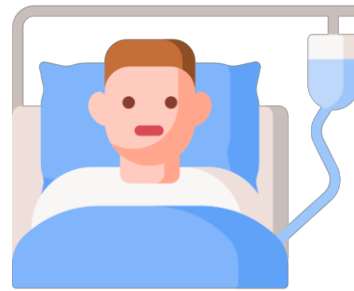
\$100,000

**The cost would decrease as the system runs smoother and fewer errors*

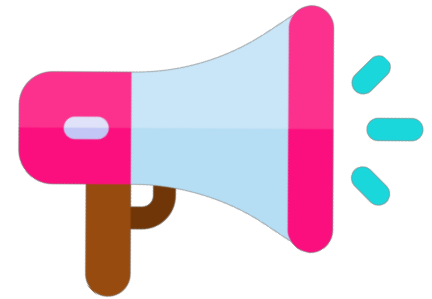
APPENDIX: The impact is going to last even after the pandemic



Apply company-wide research data
to extend diagnostic functions



Expand to the disabled,
or patients with chronic illnesses



Becomes the go-to elderly channel
to for future impact projects