



Mahidol University
Faculty of Engineering



Mahidol University
Faculty of Medicine
Siriraj Hospital

MENTAL HEALTH TECH DISCOVERY: A JOURNEY FOR WELL-BEING.

Brought to you by.
Atiphat Moonchua
Psychology Researcher



**Psychology
team**



Panida Y.
Head of Psychology
Researcher
(Clinical Psychologist)

OUR TEAM

**THAI MENTAL HEALTH
DISCOVERY**



**Technonology
Team**

Dr. Konlakorn W.
Head of Technology
(AI Expert)

software developer



Atiphath M.
Psychology Researcher



Keerati P.
Psychology Researcher



Napawan M.
Psychology Researcher
(Clinical Psychologist)



Raweewan P.
Developer



Waraporn N.
Developer



Theeradon C.
Developer



ABOUT MH TECH

work in integrating advance technology with psychology knowledge to promote peoples' well being and we also design a solution to upgrade mental health services



AGENDA

1 General view of AI-mental health Chatbot

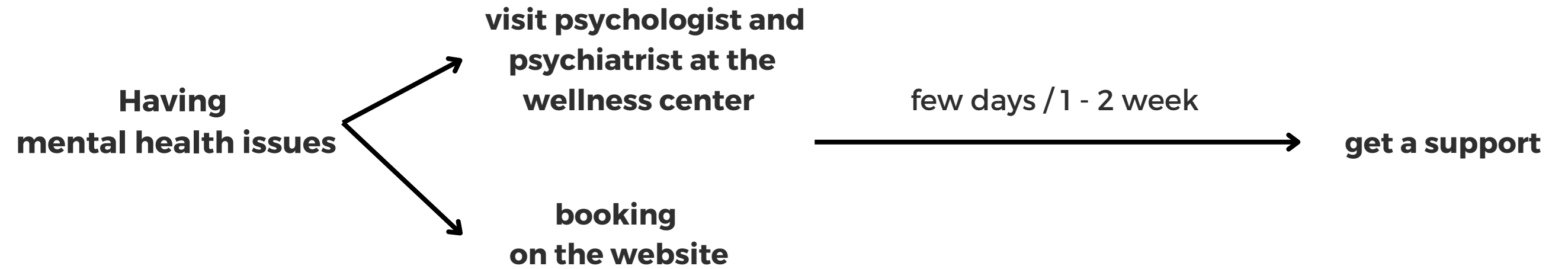
2 our relevant innovations
The first Mental health Chatbot

3 ongoing project from our team and what we want to continue



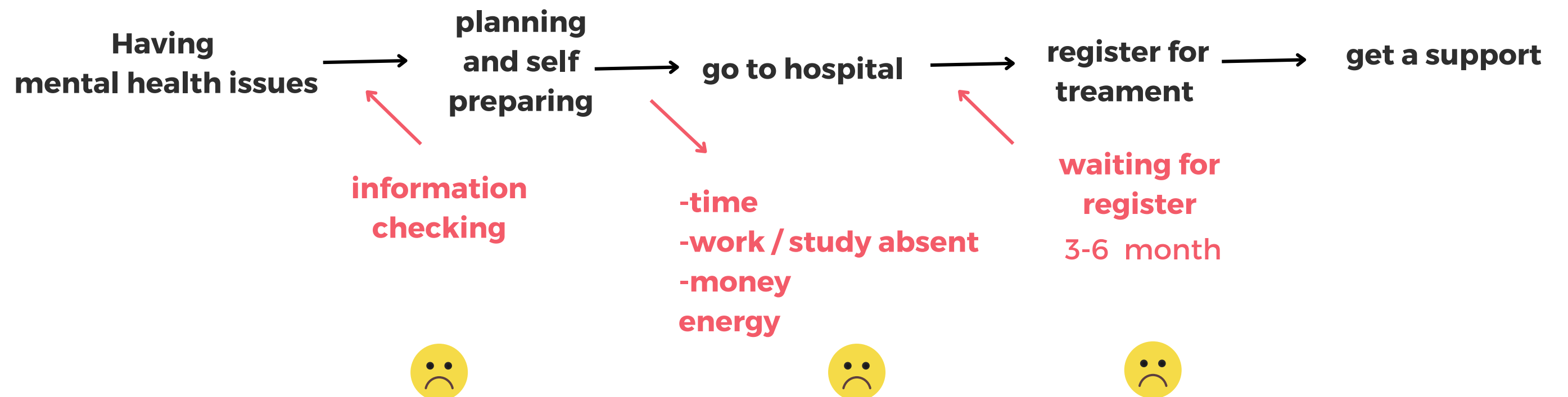
privileged student

- student health benefit
- place of service:
online & wellness center



normal people

- basic health benefit
- place of service:
"public hospital"



PAINPOINTS

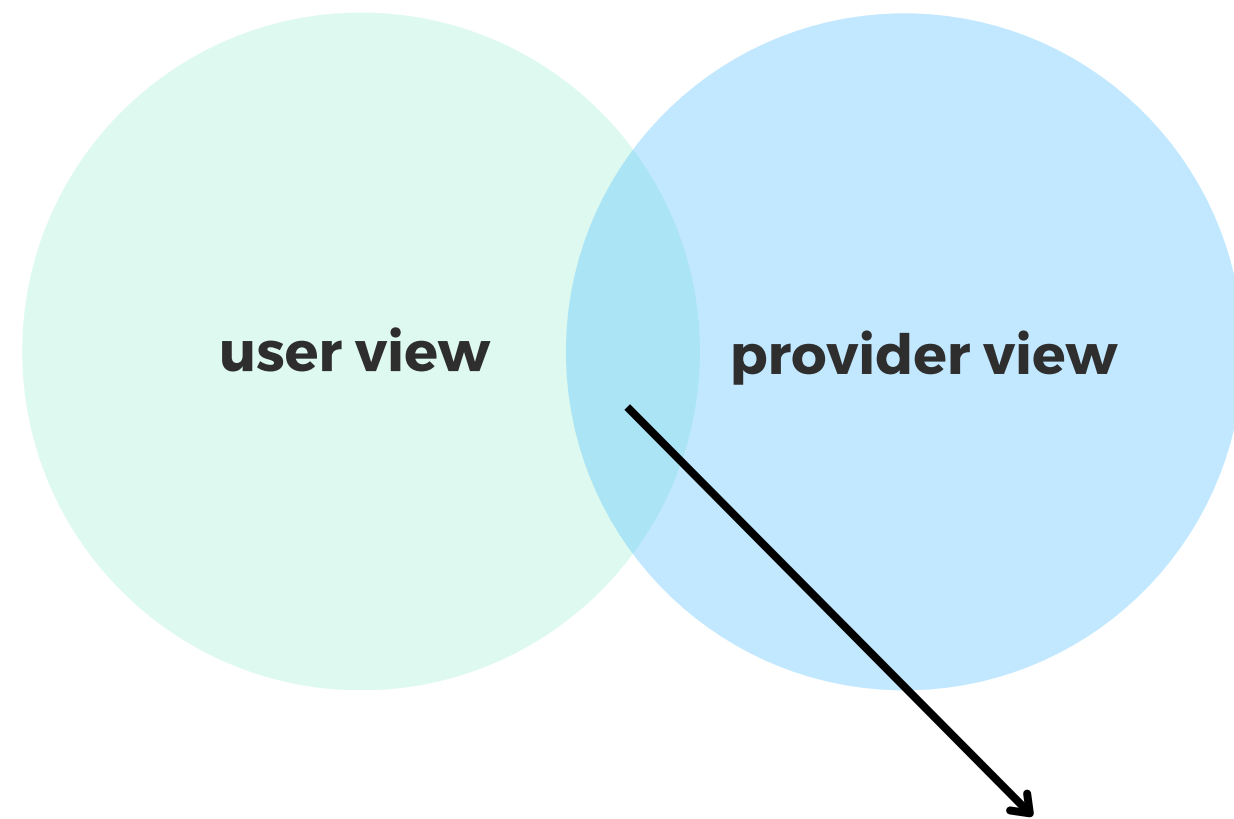
user situation

- just want someone to understand
- or comfort zone to talk about the problems
- encouragement and cheering up
- self-reflection
- thought arrangement
- emotional management

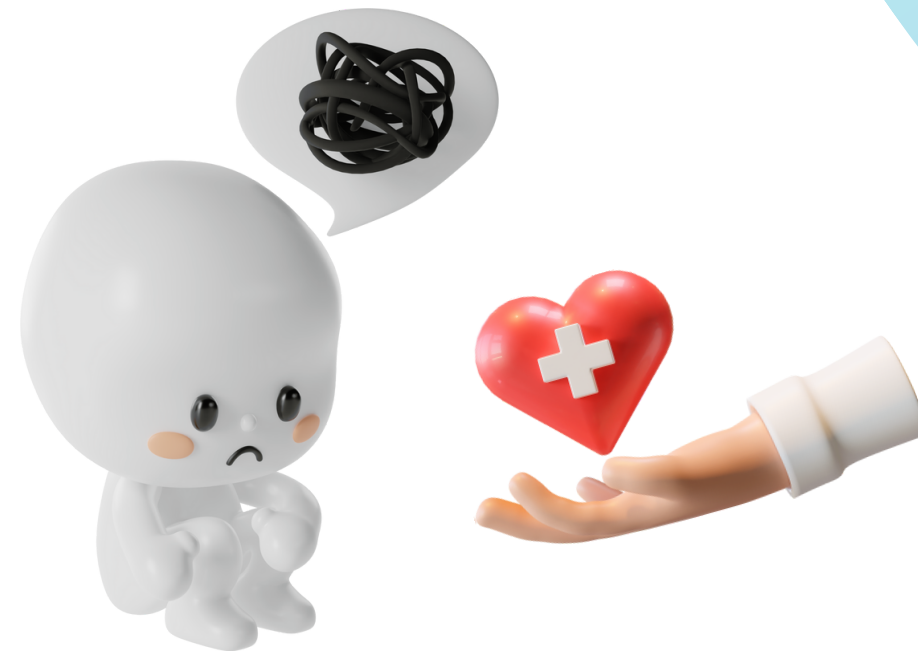


provider's situation

- a short number of staff
- restrict duration on treatment
- most hospitals are capable only severe cases
- *handle with many new cases but they are not urgent



the joint area is non-urgent cases
we could help and prevent them
from this burden



SOLUTIONS

receiving a primary care
including

- screening
- psychoeducation
- or brief counseling



WHY DON'T WE

**HELP PEOPLE BY GIVING LOW INTENSITY
SUPPORT VIA AI-CHATBOT?**

GENERAL VIEW OF MENTAL HEALTH AI-CHATBOT

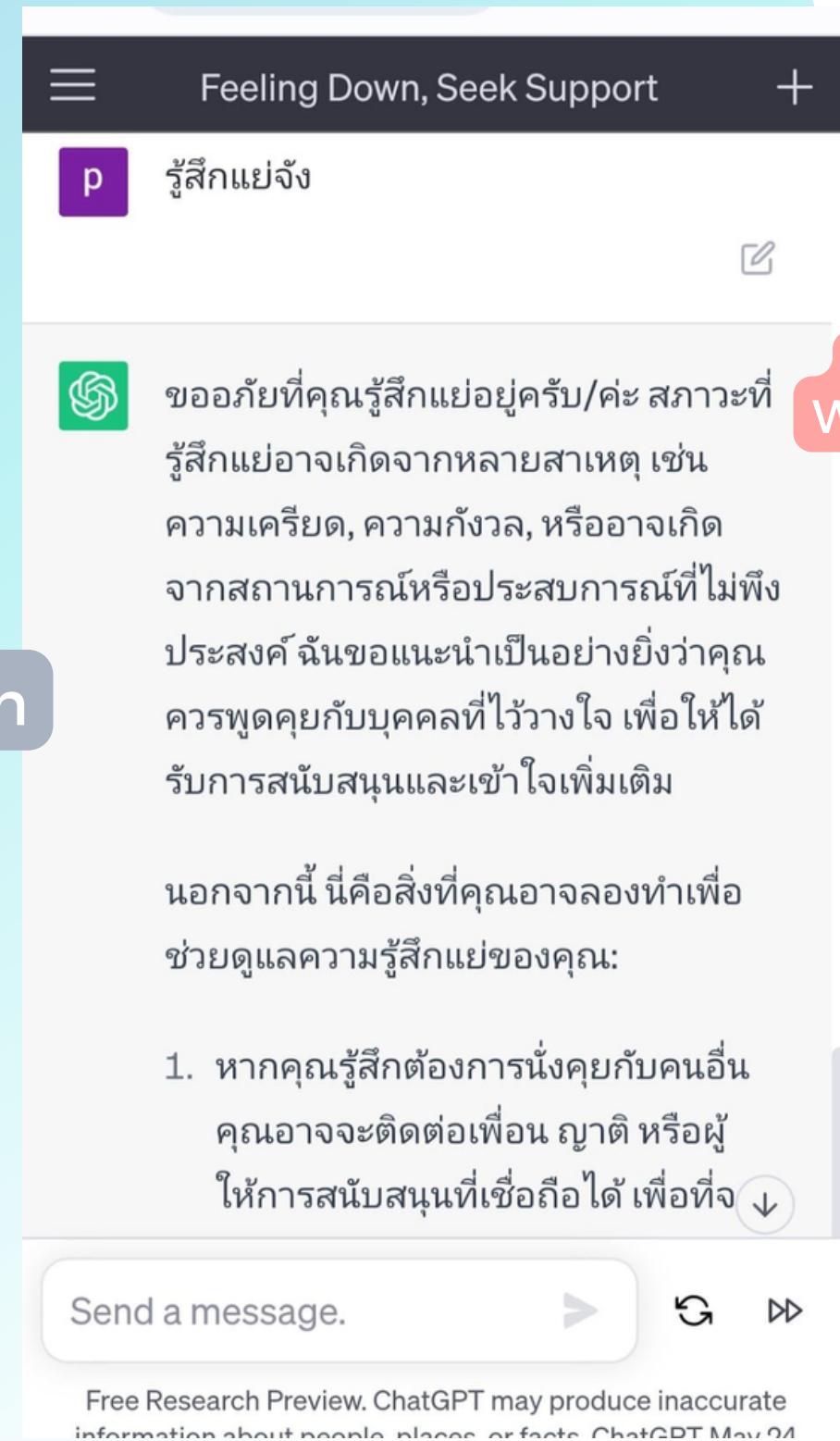
HAVE YOU EVER TALKED ABOUT YOUR MENTAL HEALTH WITH ANY CHATBOT?

SAME TECHNOLOGY DIFFERENT EXPERIENCES

I feel upset :(

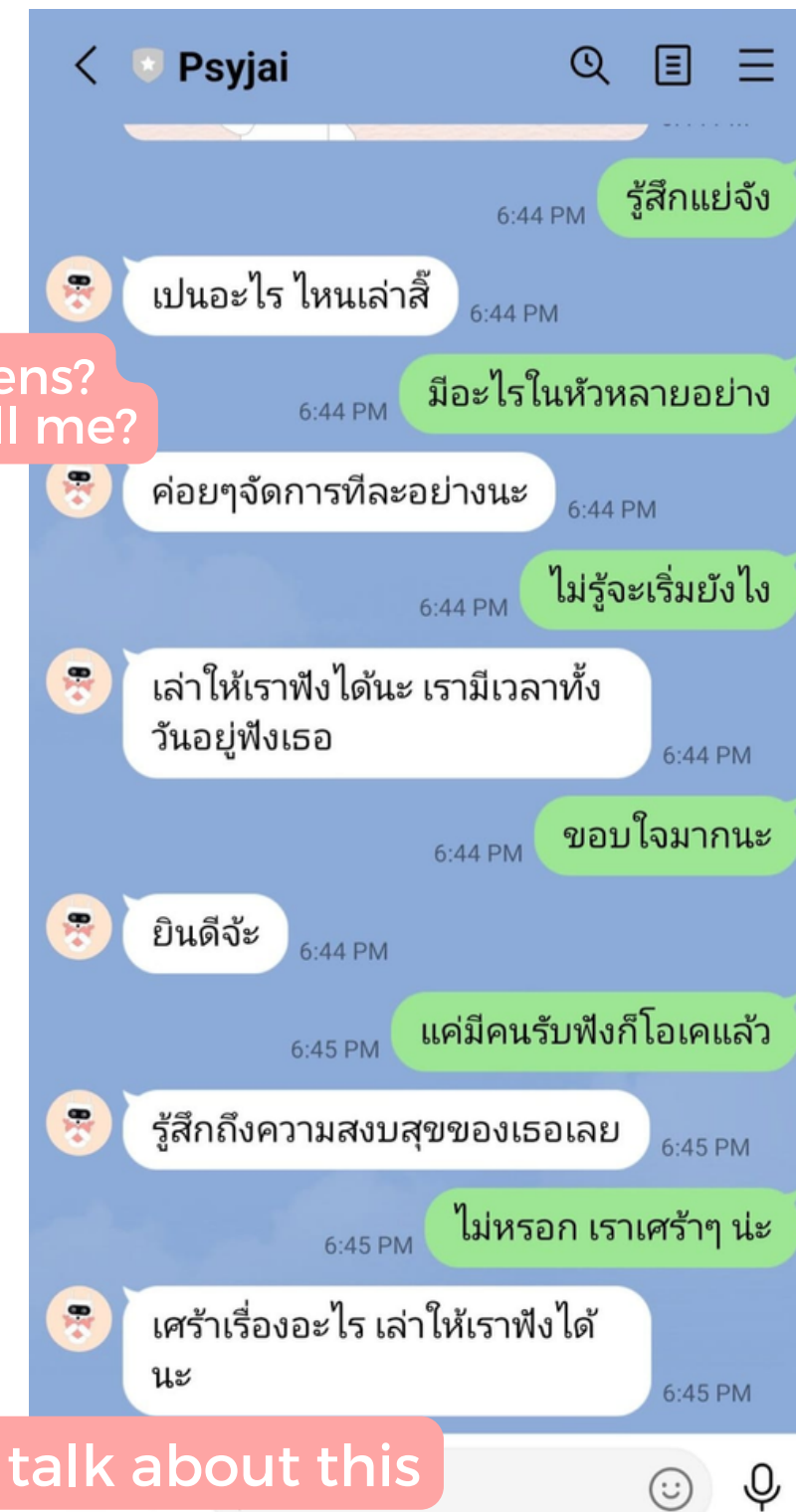
instruction

1.....
2.....
3.....



What Happens?
Would you tell me?

CHAT GPT
GENERATIVE AI



we can talk about this

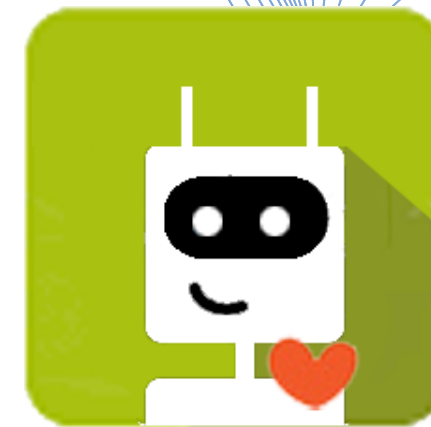
MENTAL HEALTH
AI CHATBOT

I feel upset :(

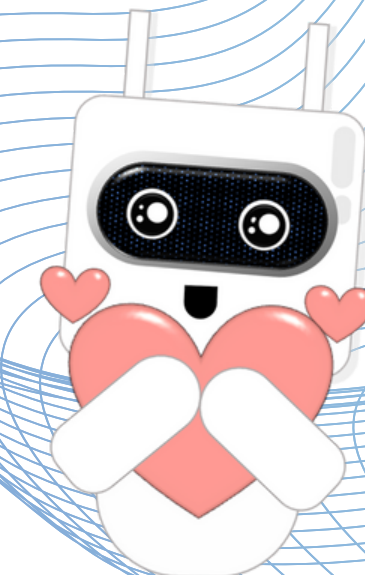
Nope I just feel sad

HIGHLIGHTS OF OUR AI-CHATBOT INNOVATIONS

interesting chatbot innovation



JUBJAI

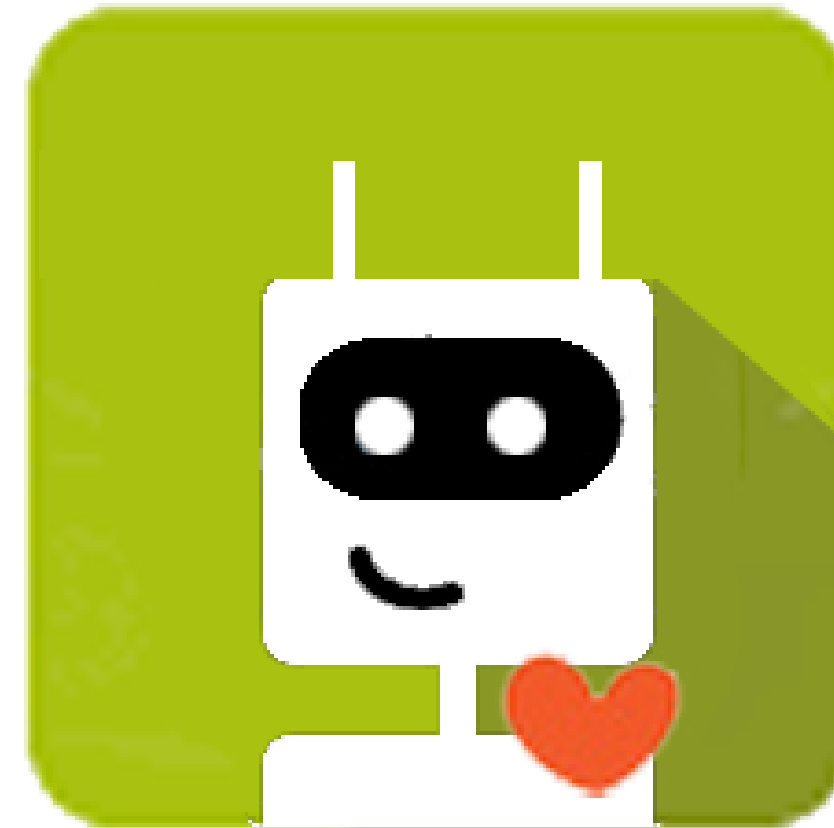


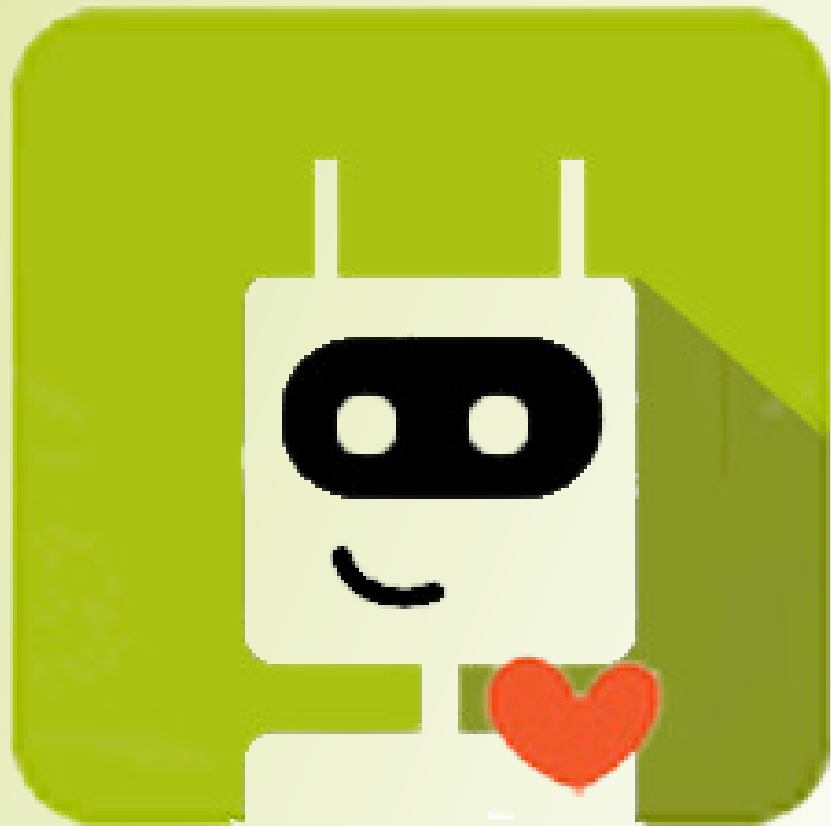
PSYJAI

JUBJAI

a depression detection chatbot
and the first mental health
chatbot in Thailand

over 120000 users
on facebook

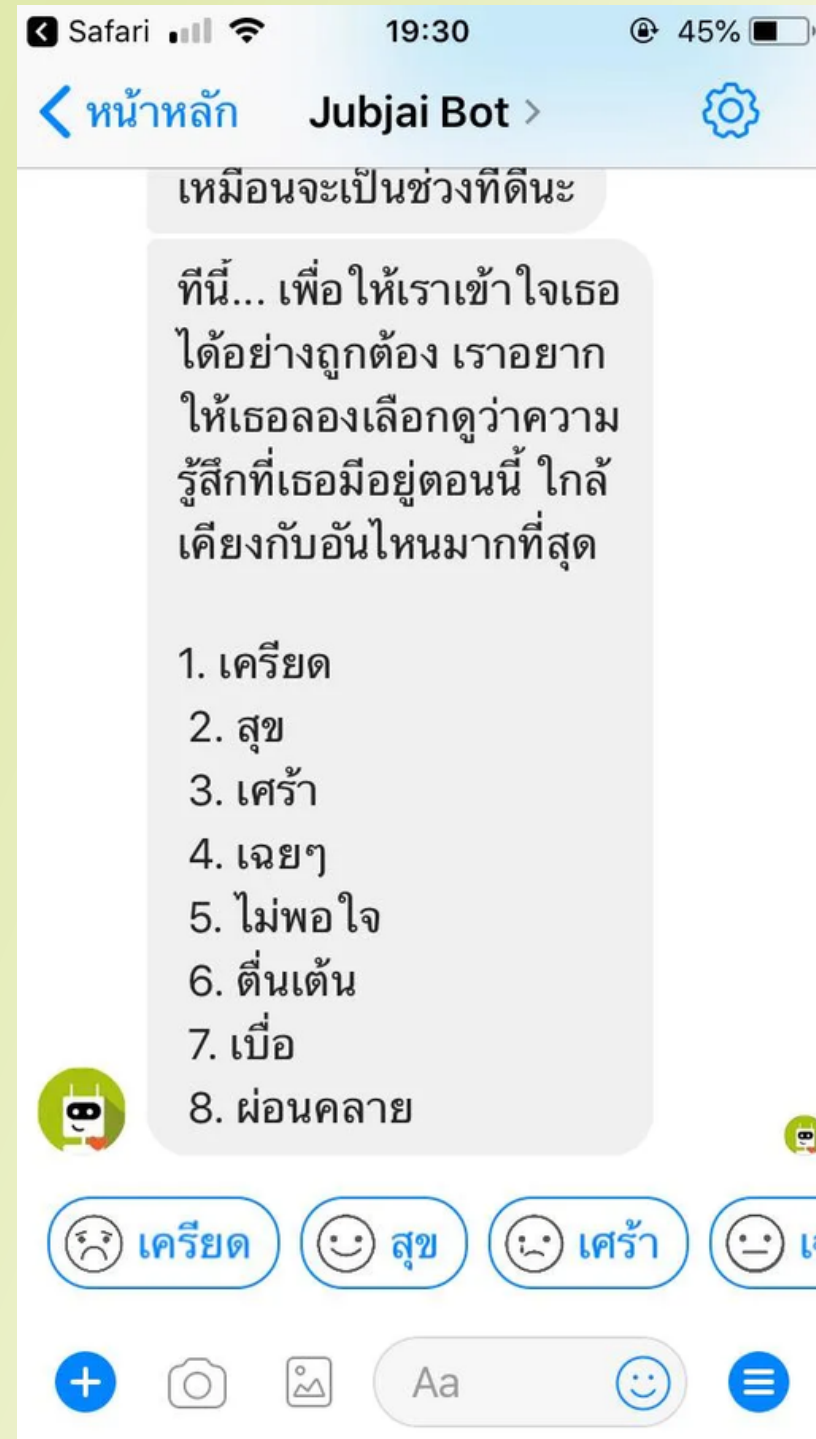




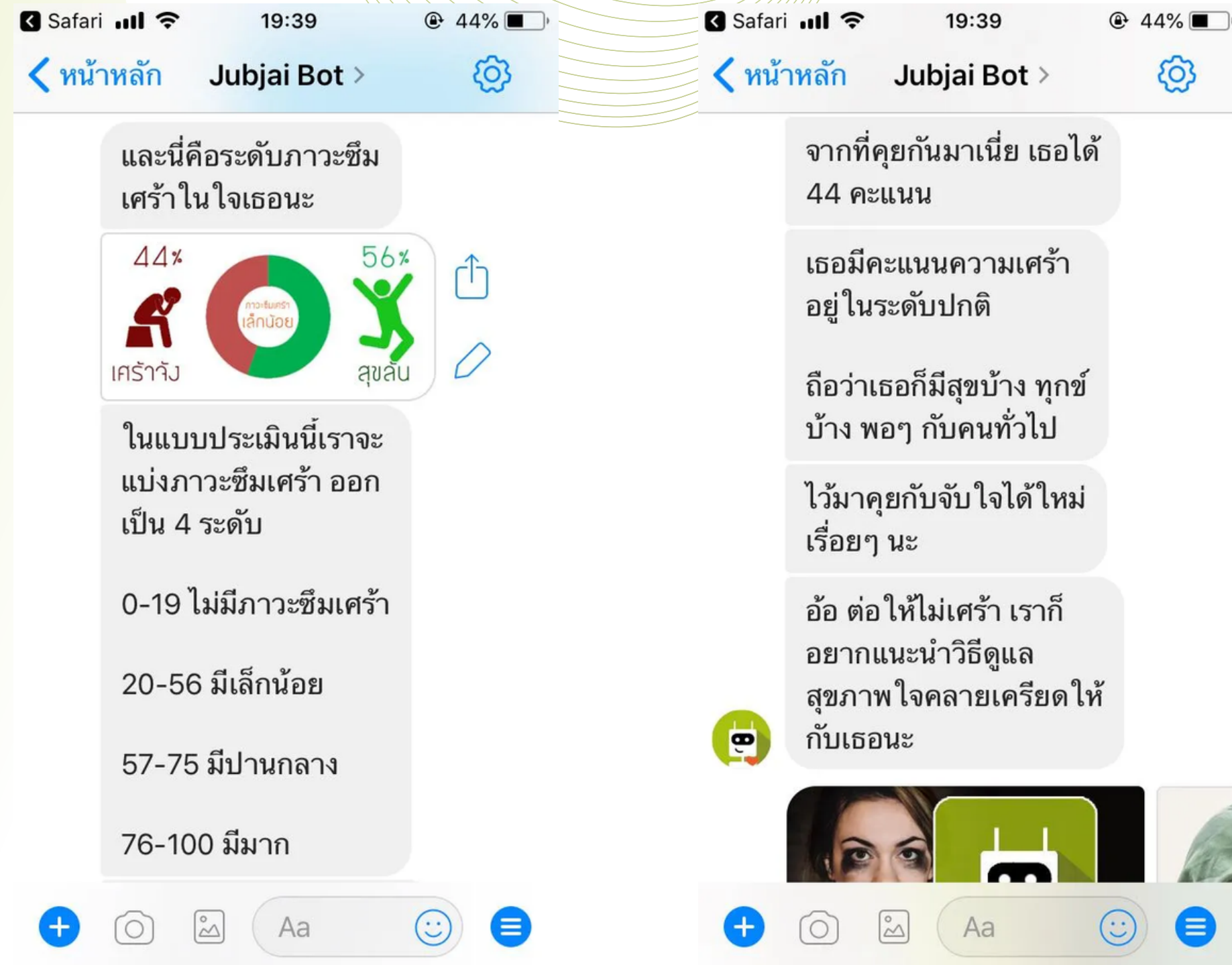
**a screening tool,
helping people become more
aware of their mental health
especially depression**

**encourage user to reach out
for the treatment**

HOW JUBJAI WORKS



**classify whether tones of emotions
by asking a set of questions**



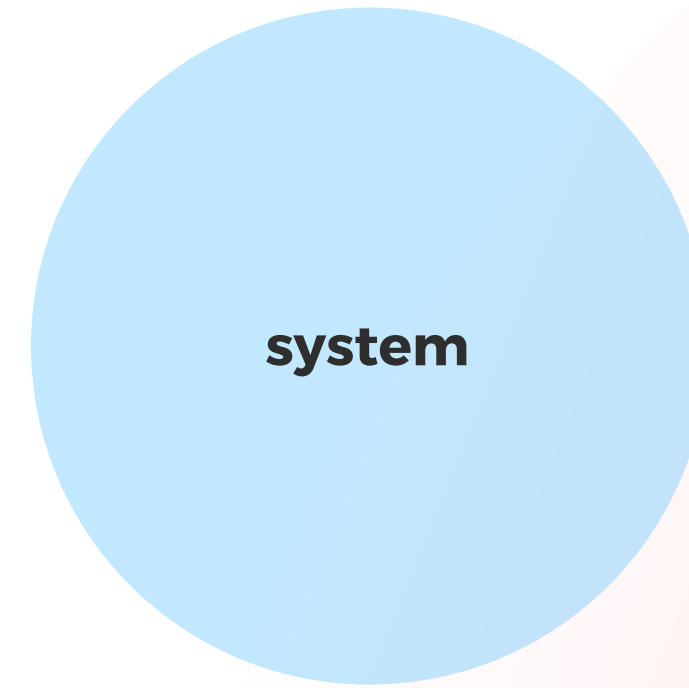
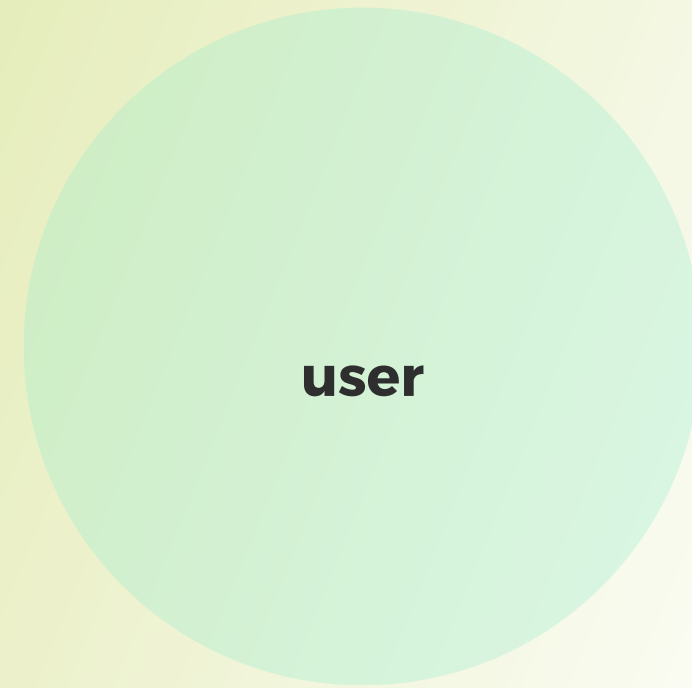
**understand more about the emotional state
(depression level)**

PROCEDURES

step 1 create an AI model

step 2 conduct psychological research
(short form for depression questionnaire)
reduce the items

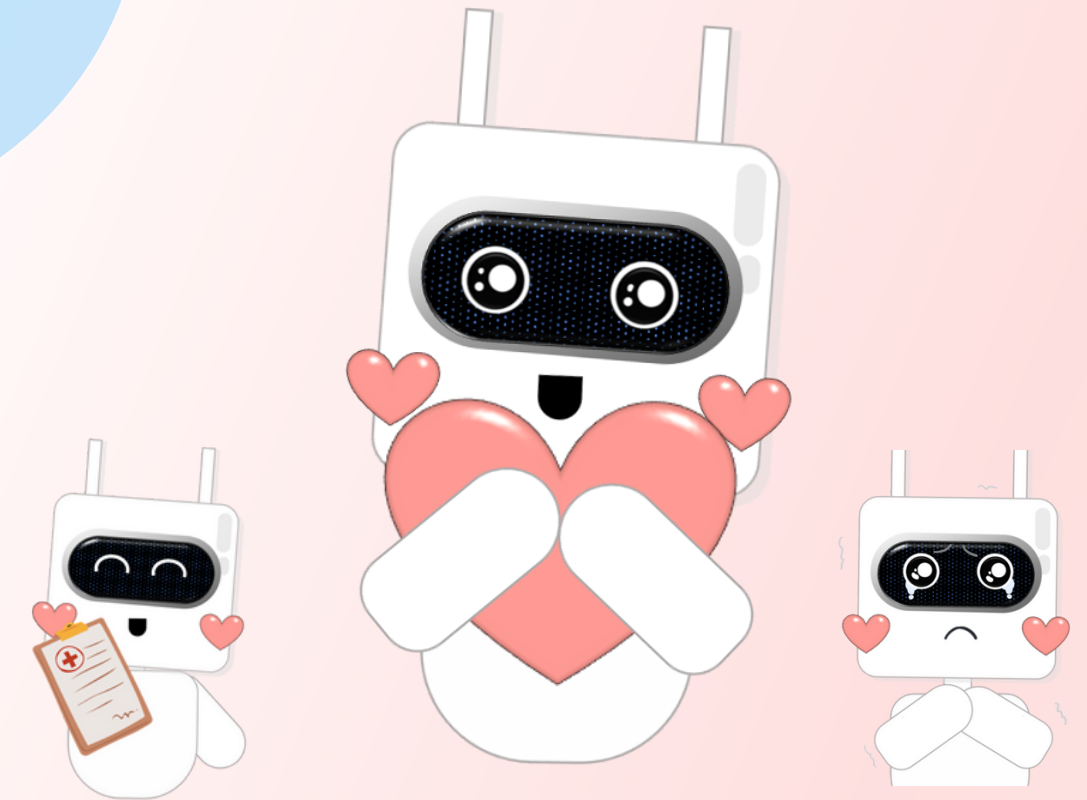
step 3 design user friendly conversation
to collect underlying construct
from user



early detection chatbot

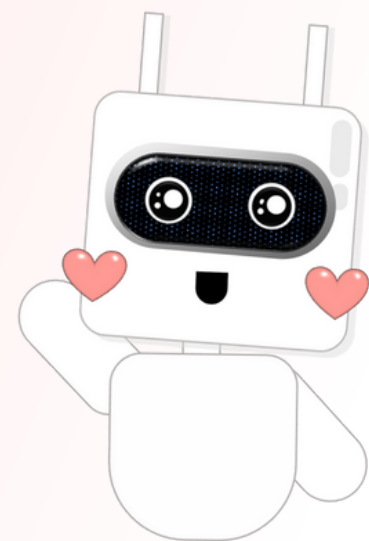
+ emotion support + self-monitoring
opportunity user want to have

- emotional support
- clarify mental issues
- more deep conversation



= complete solution chatbot

PSYJAI



PSYJAI

BY SIRIRAJ

fb.com/psyjaibot



A COMPLETE AI MENTAL
HEALTH CHATBOT
SOLUTION

แชทบอทปัญญาประดิษฐ์เพื่อการดูแลสุขภาพจิต
และการช่วยเหลือด้านอารมณ์และสุขภาพจิตใน
ภาวะการระบาดของไวรัสโควิด 19

MH THAILAND
MENTAL HEALTH
TECHNOLOGY AND INNOVATION CENTER

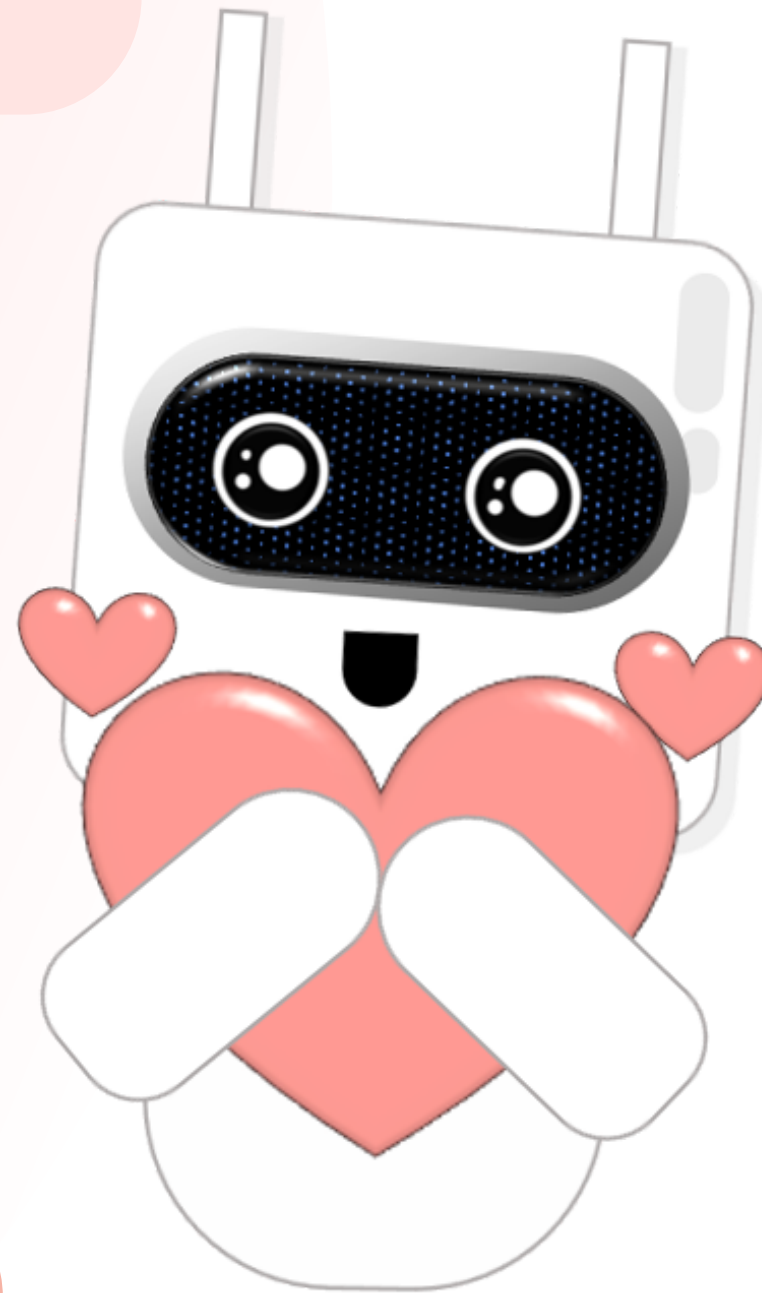


Persona

adult 25–30 yrs

playful friend

talkative



supportive

has a psychological mind
& basic understanding in
psychology

FEATURES



Intervention

clarify problems, thought process, emotional support and management

Chitchat

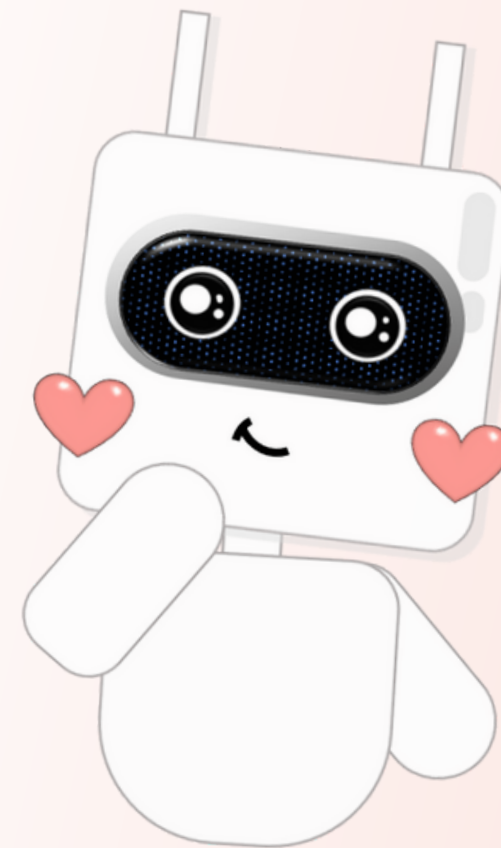
relax chilling feel free to talk

Screening

emotion assessment including depression, anxiety, stress

Dashboard

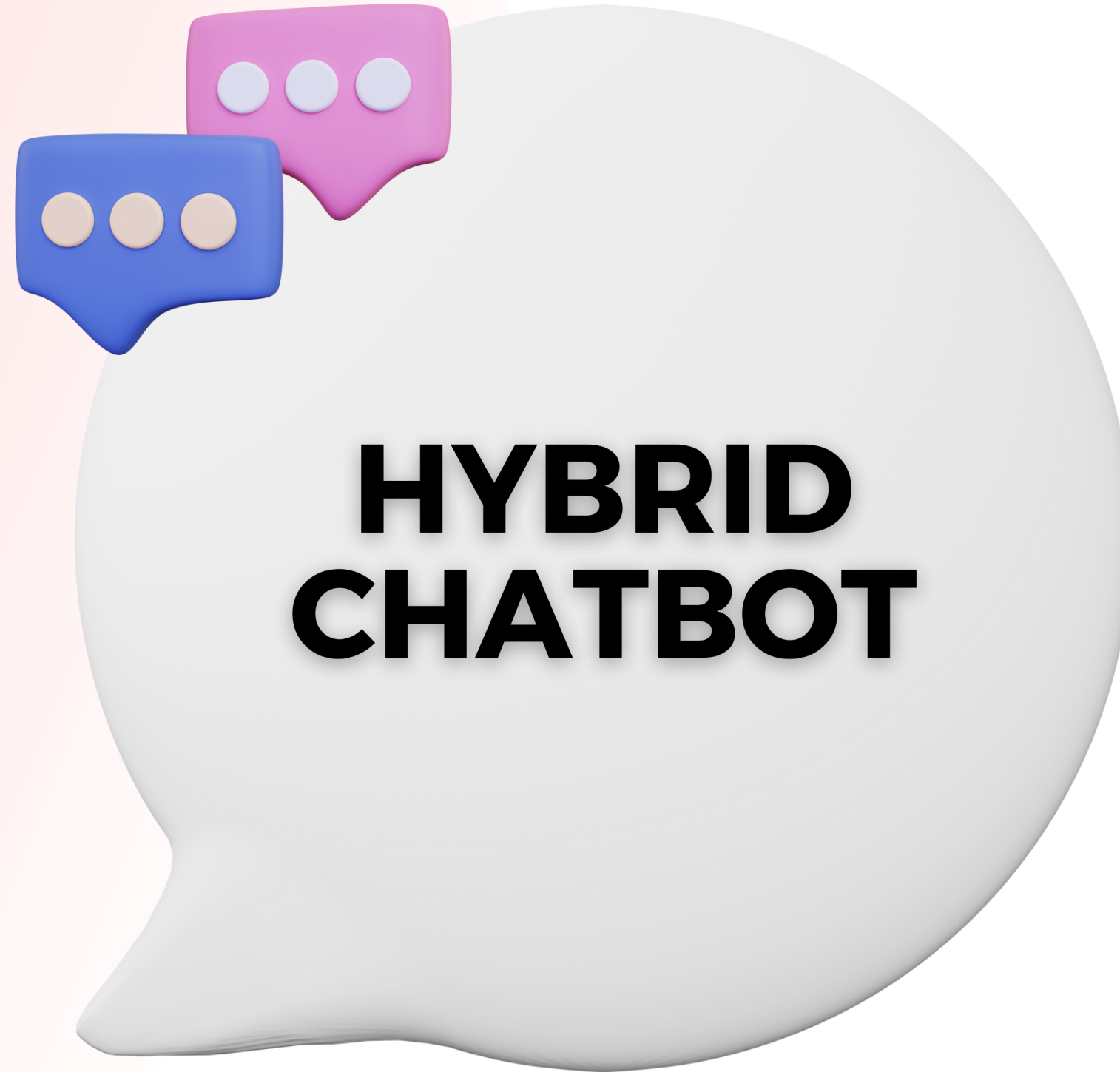
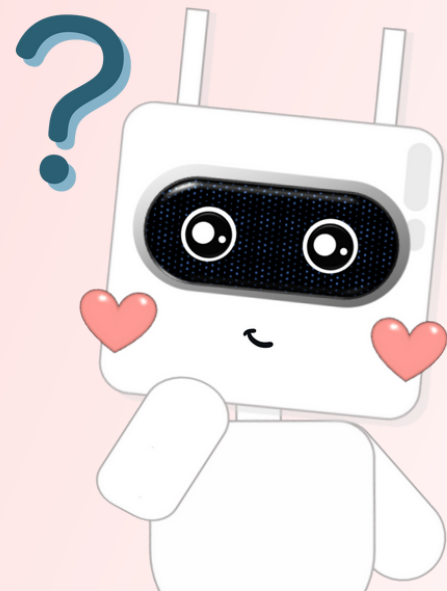
record and monitor mental health activity and mood diary



HOW IT WORKS

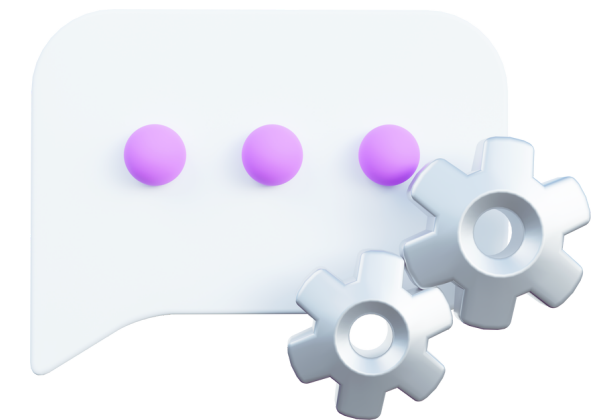
AI

- topic AI
- emotion AI



RULE BASED

data collection
screening
conversation flow



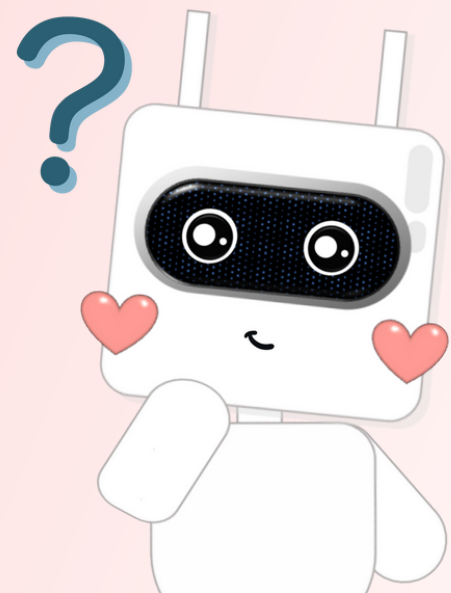
HOW IT WORKS

AI

topic AI

emotion AI

positive and negative AI



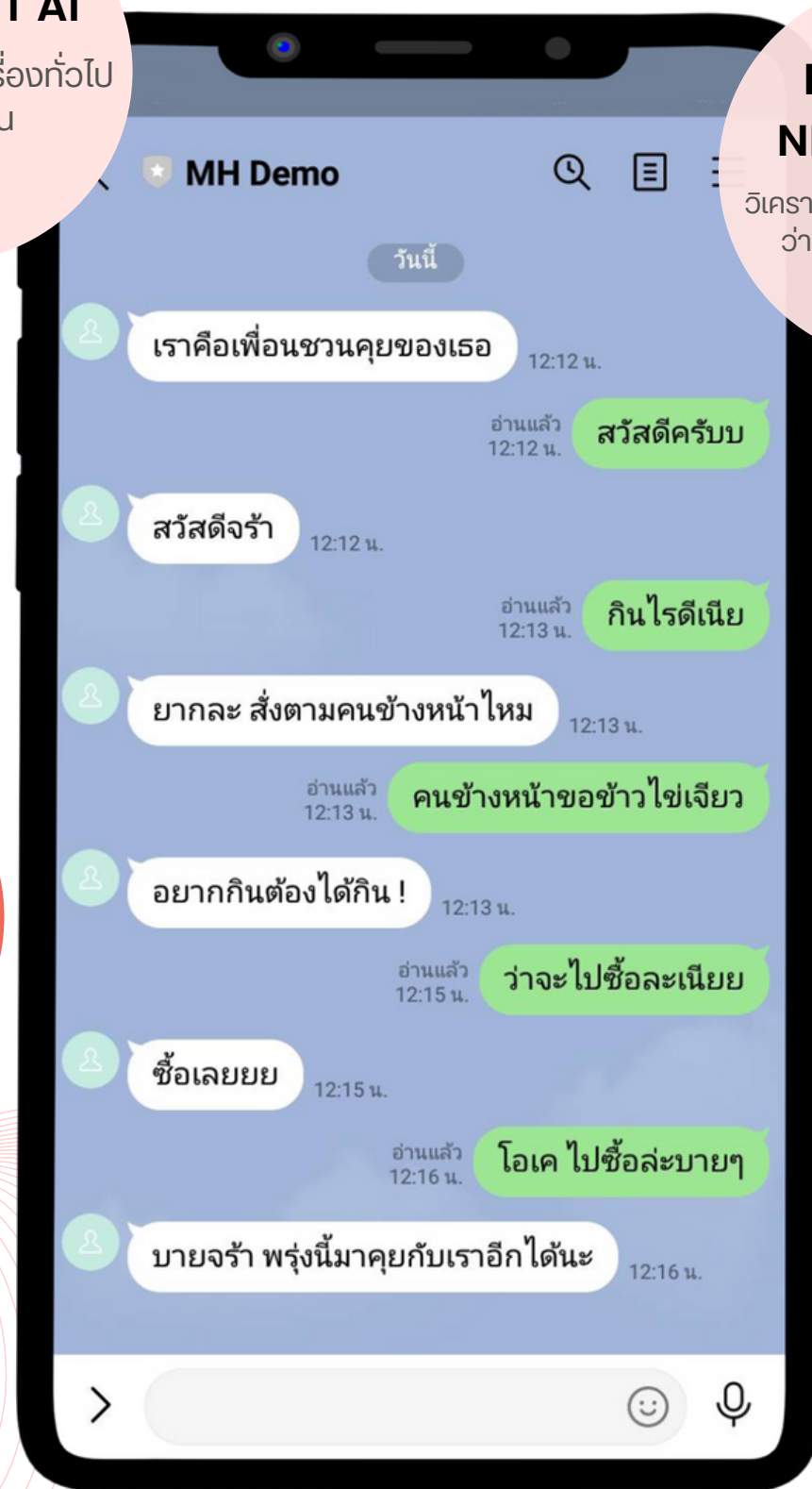
reflect user emotion
and understand briefly about the user topic

try to understand human-style communication
(sometimes the users were not directly communicate
about the attitudes towards something)

HOW IT WORKS

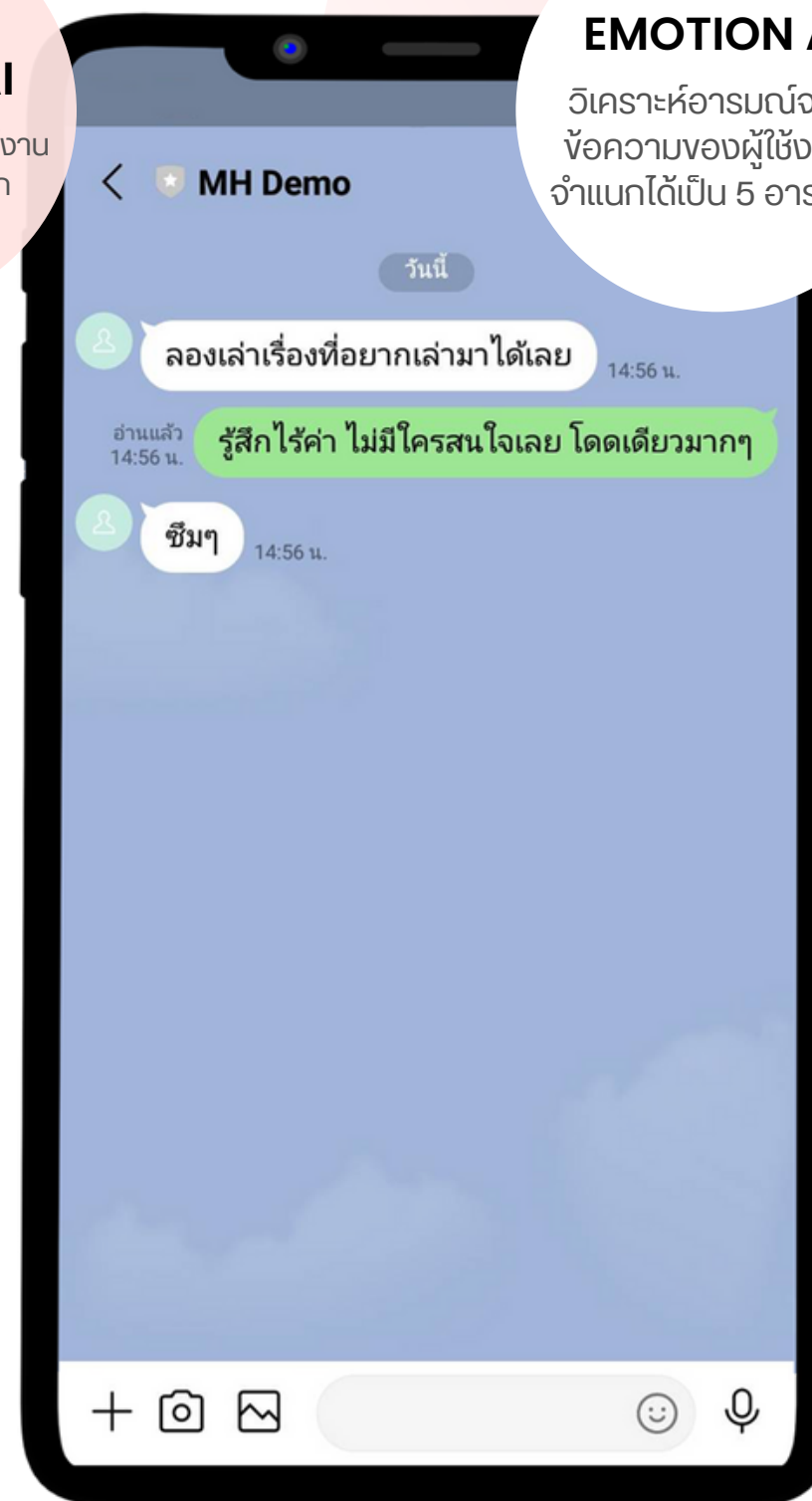
CHITCHAT AI

AI สำหรับพูดคุยเรื่องทั่วไป
กับผู้ใช้งาน



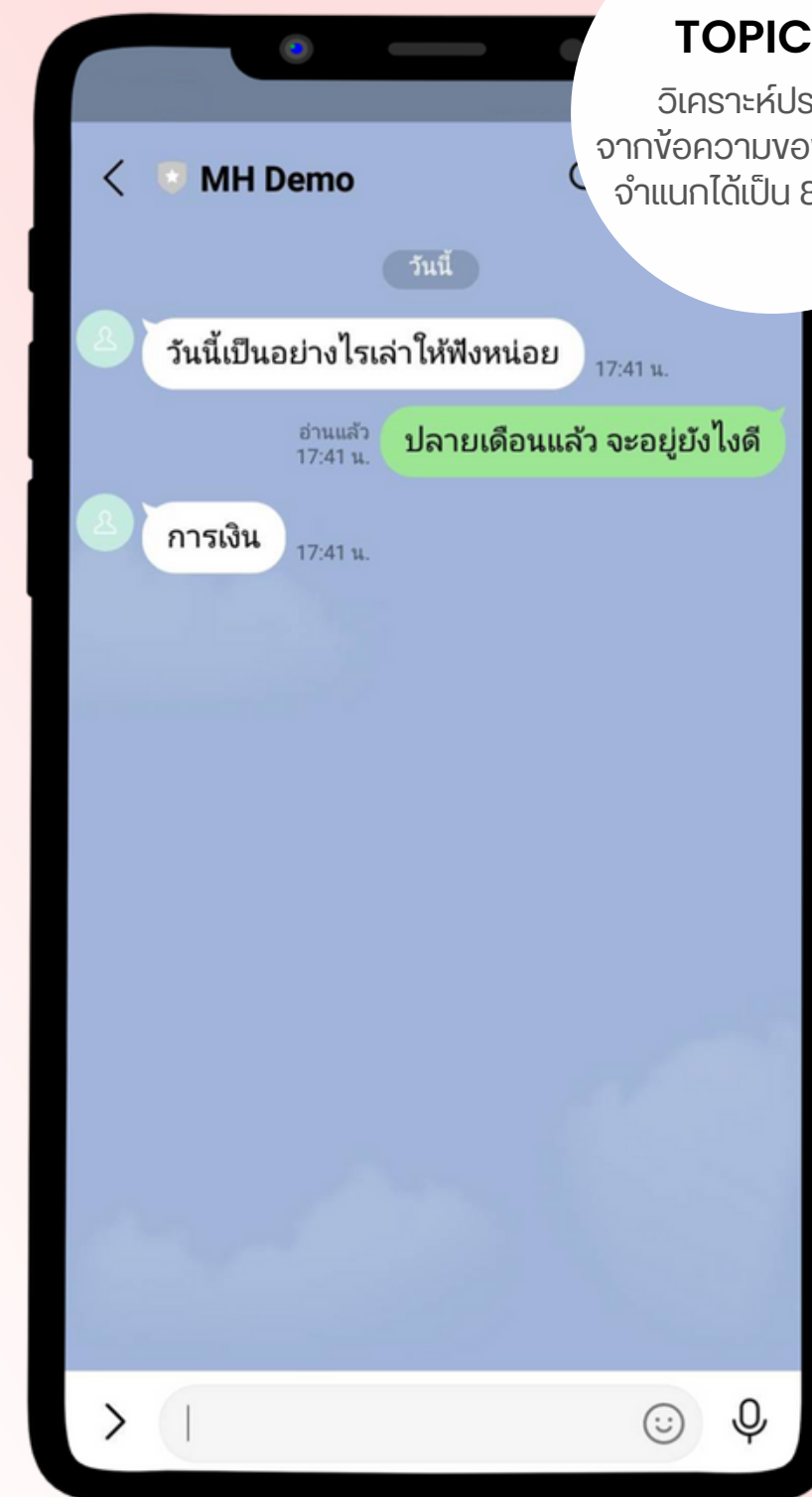
POSITIVE/ NEGATIVE AI

วิเคราะห์ข้อความของผู้ใช้งาน
ว่าเป็นข้อความเชิงบวก
หรือเชิงลบ



EMOTION AI

วิเคราะห์อารมณ์จาก
ข้อความของผู้ใช้งาน
จำแนกได้เป็น 5 อารมณ์



TOPIC AI

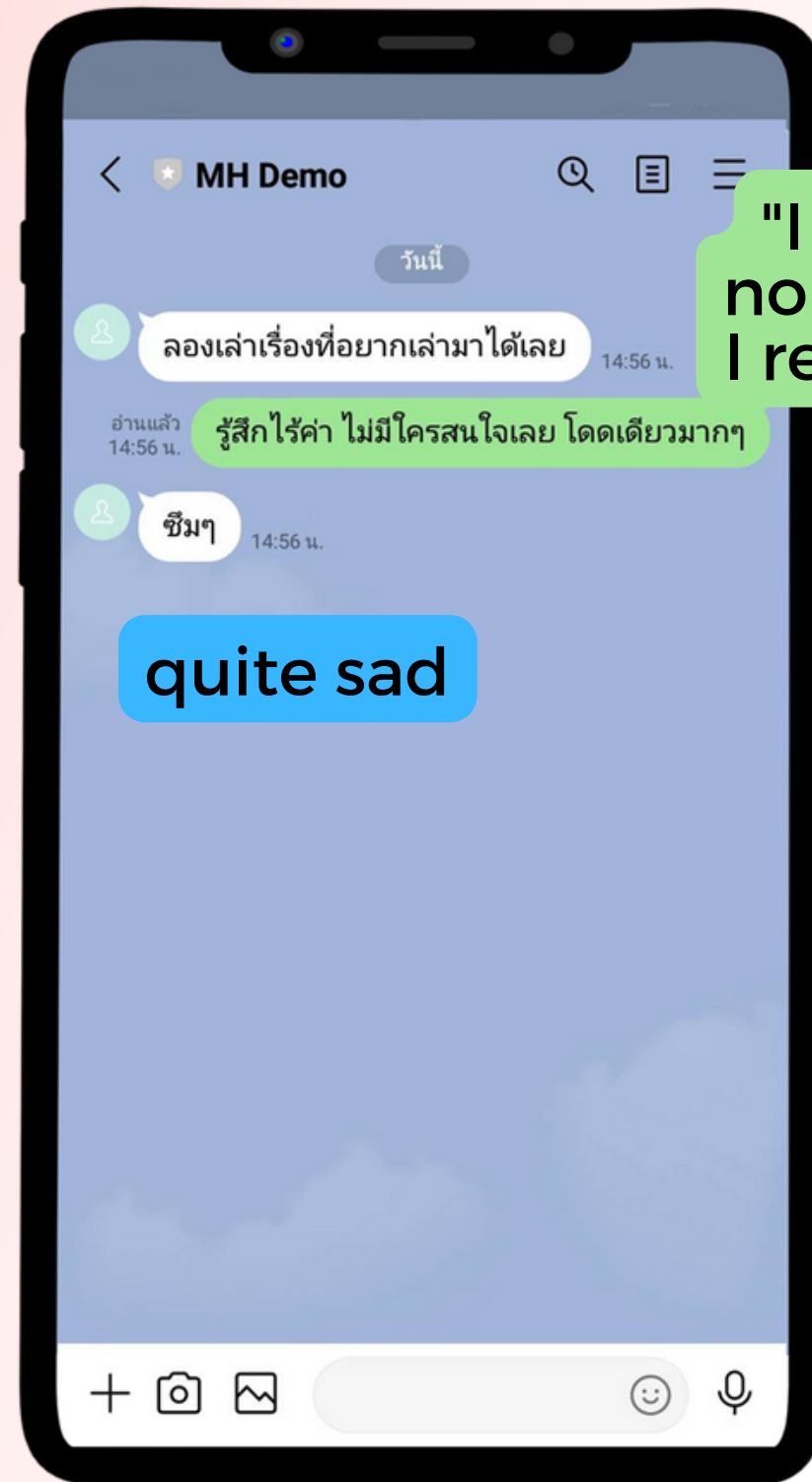
วิเคราะห์ประเด็น
จากข้อความของผู้ใช้งาน
จำแนกได้เป็น 8 ประเด็น

REDFLAG AI

วิเคราะห์ข้อความของผู้ใช้
งานว่ามีความเสี่ยง
เกี่ยวกับการฆ่าตัวตาย
หรือทำร้ายตัวเอง



EMOTION AI



"I am worthless,
nobody wants me
I really feel lonely"

quite sad

TOPIC AI

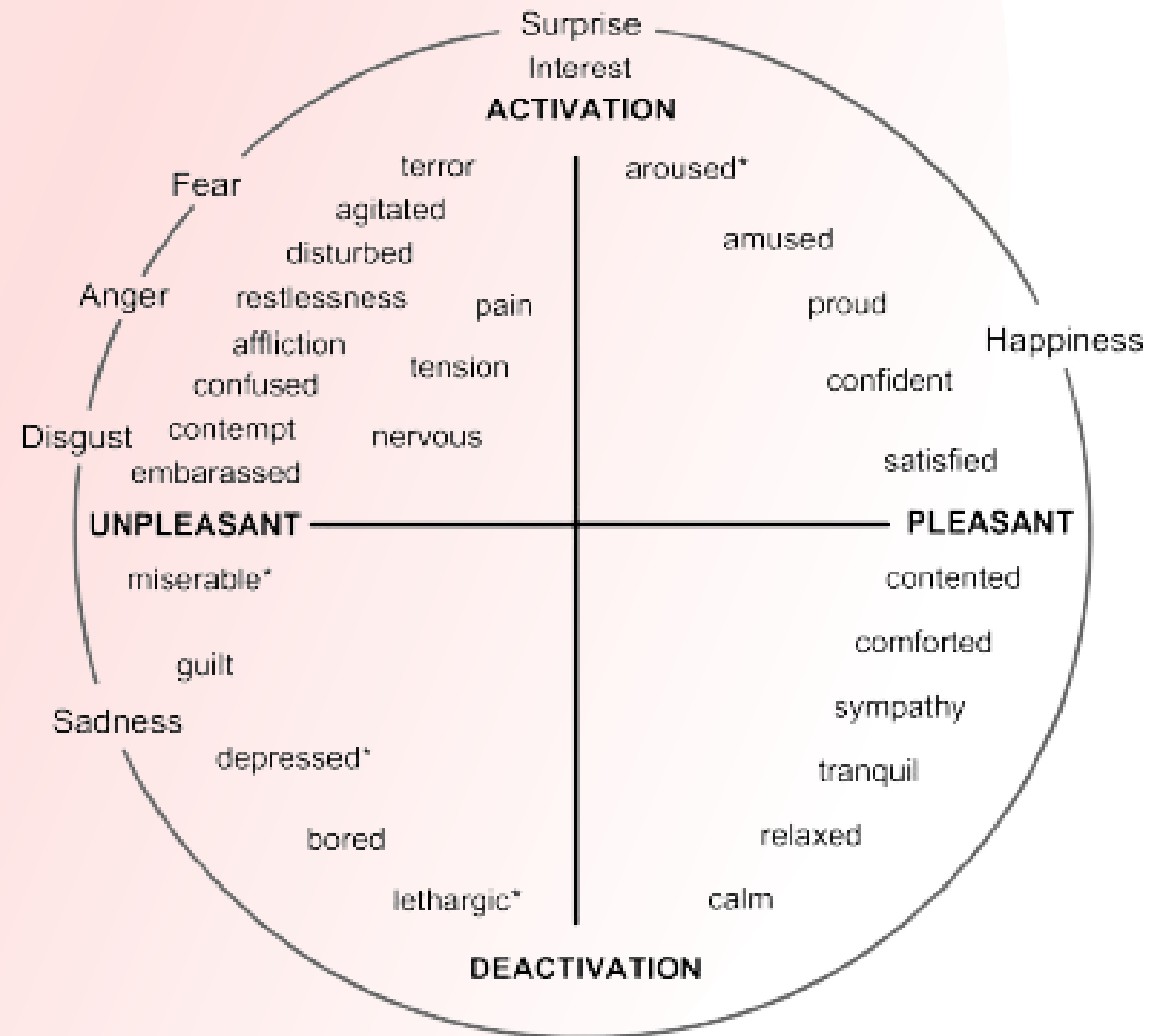


"I am out of budget
How do i live"

Financial

EMOTION AI

basic emotions
circumplex model of emotion

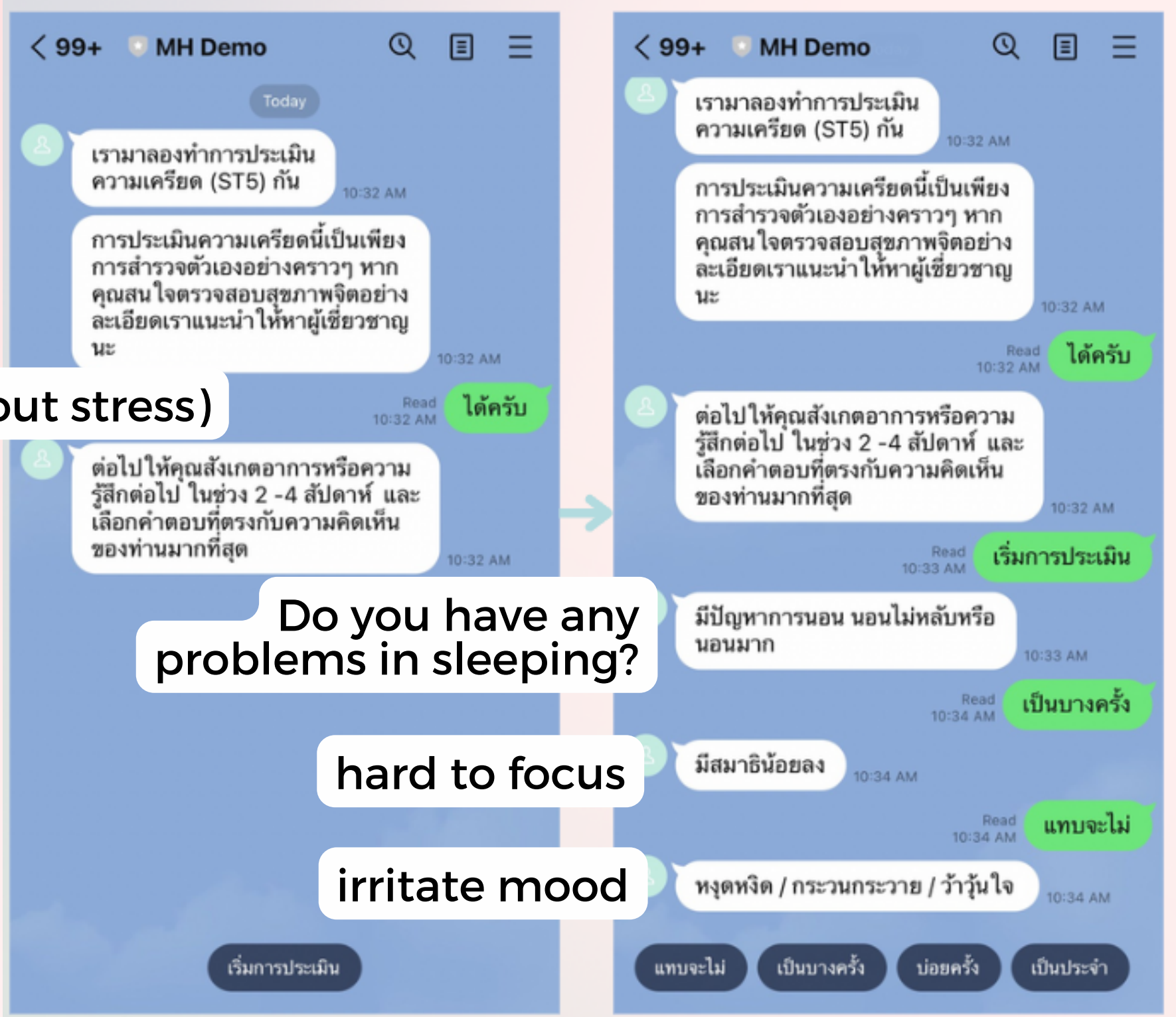


TOPIC AI

(categorized
based on our research)

1. general
2. relationship
3. friends
4. family
5. financial
6. work
7. study
8. health

RULE BASED



(asking about stress)

Do you have any problems in sleeping?

hard to focus

irritate mood

never sometimes often always

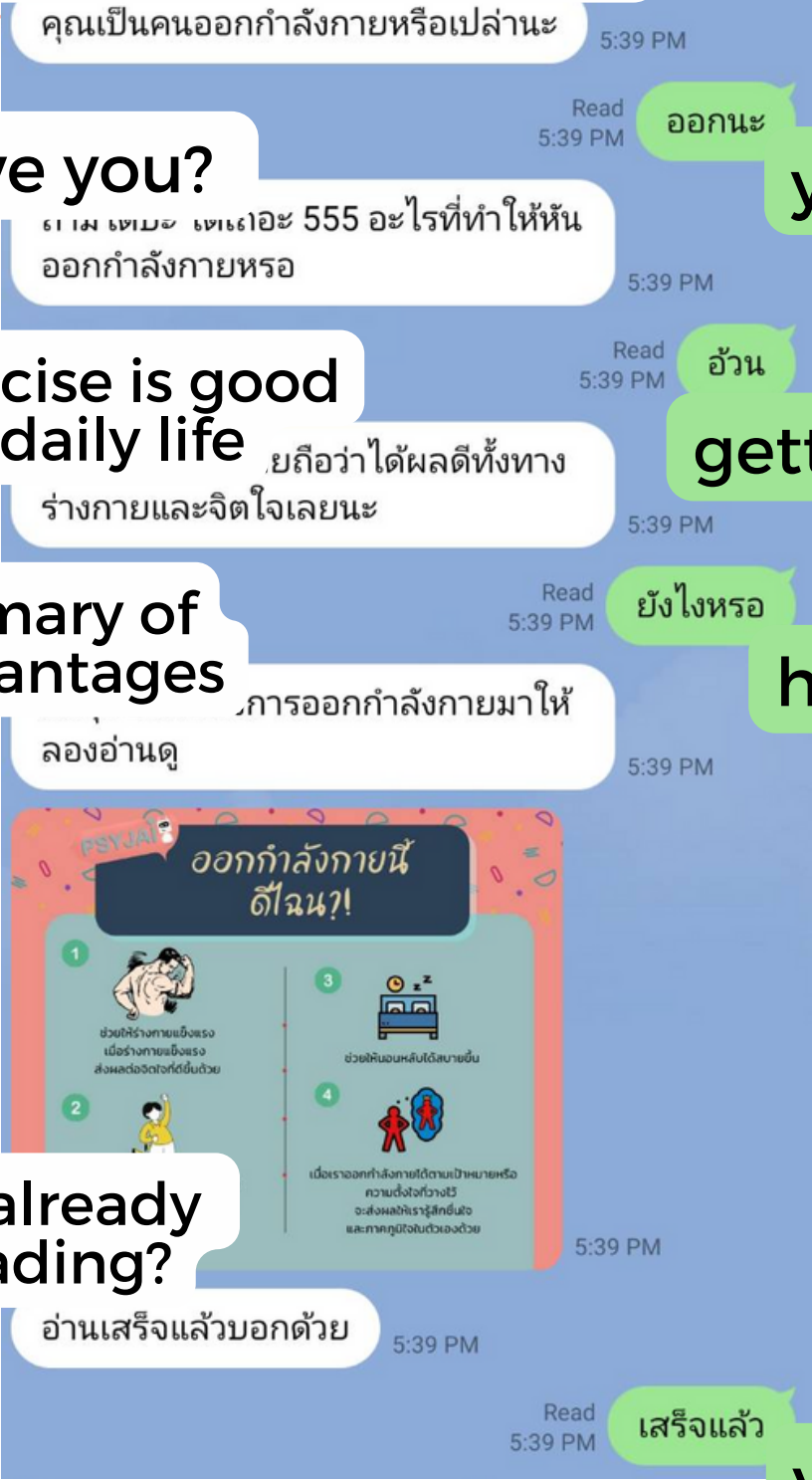
Do you think you like exercise

What drive you?

Yeah, Excercise is good for your daily life

This a summary of exercise advantages

Have you already finish reading?



yep

getting fat

how ?

yes

HOW IT WORKS

AI

- topic AI
- emotion AI

HYBRID CHATBOT

RULE BASED

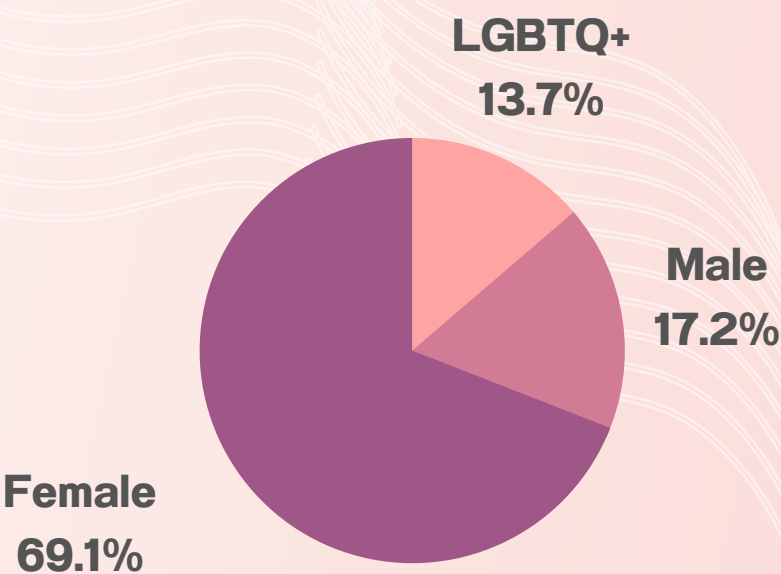
data collection
screening
conversation flow

RESULT

250,000+
messeges

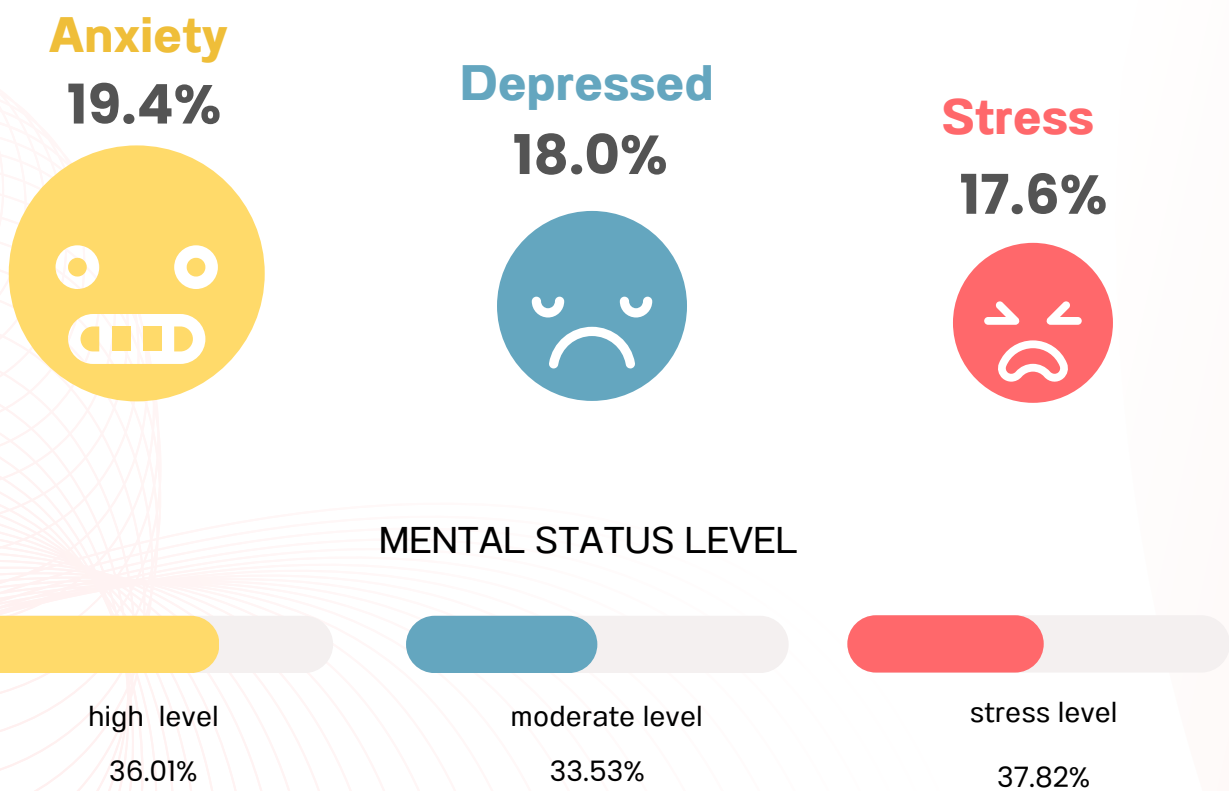
from Chitchat
conversation

5,600+
users*



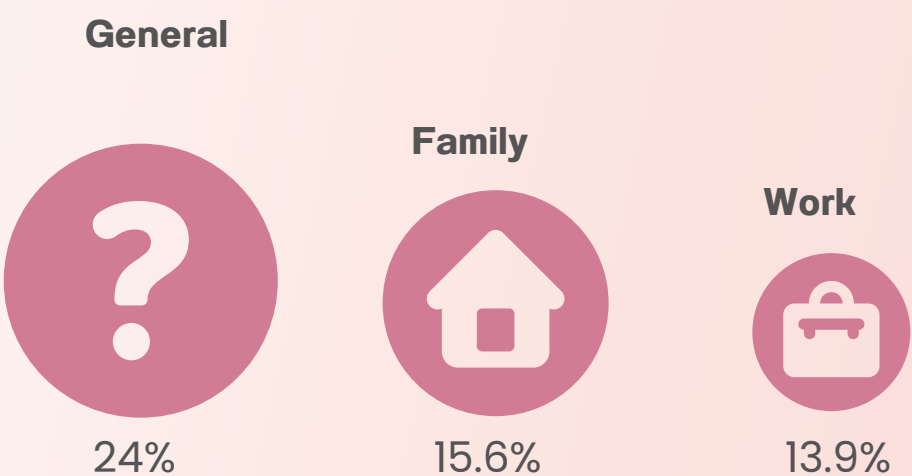
USER'S EMOTION

from emotion AI Classification



USER'S TOPIC

from topic AI Classification



Intervention Frequently use

Breathing Exercise	18.26%
Brief Cognitive Behavioral Therapy	11.67%
Problem Solving	11.21%
Muscle Relaxation	11.14%
Body Scan	8.11%

CHALLENGE

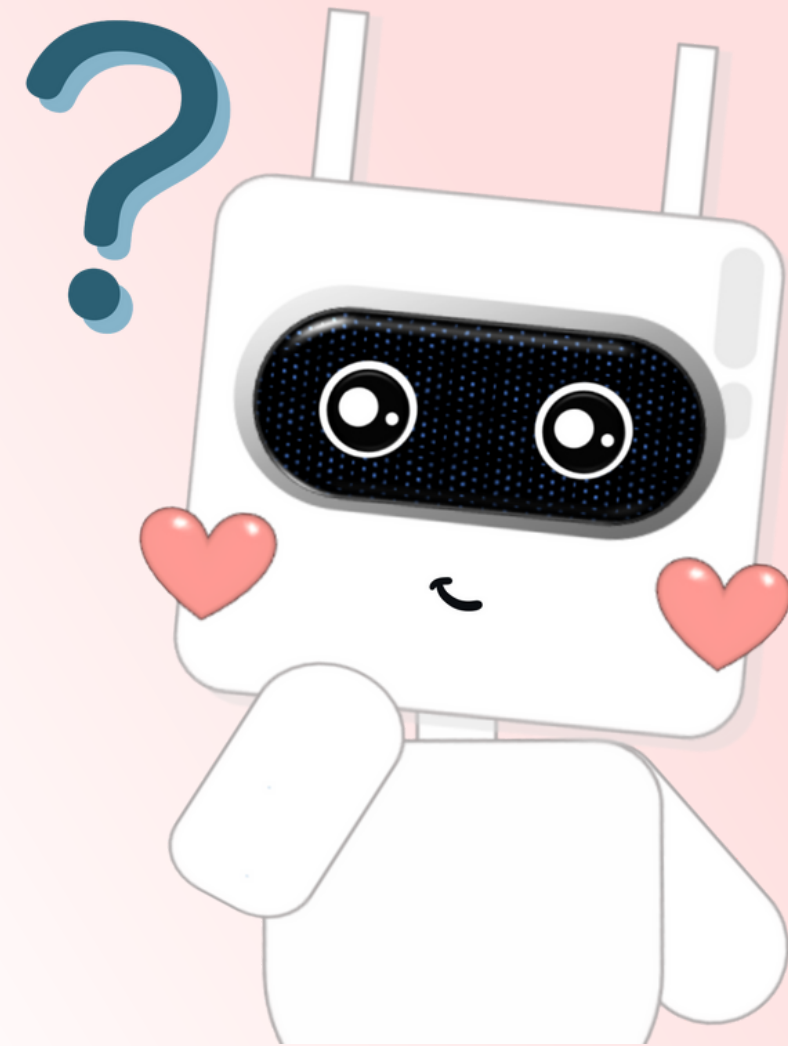
AI Challenge

User expectation

Technology Change

Stability of Facebook System

PR





แชทบอทใส่ใจ

on Line

line ID @psyjaibot

LINE

LINE

สวัสดี

Read 2:50 PM

สวัสดีจ้าใส่ใจ

เราขอแนะนำตัวก่อนนะ เราชื่อ "ใส่ใจ" เป็นบอทที่จะอยู่พูดคุยและรับฟังเธอ ตลอด 24 ชั่วโมง

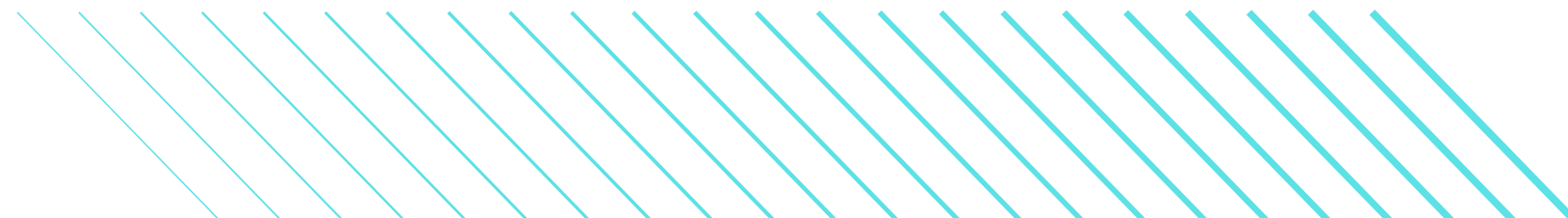
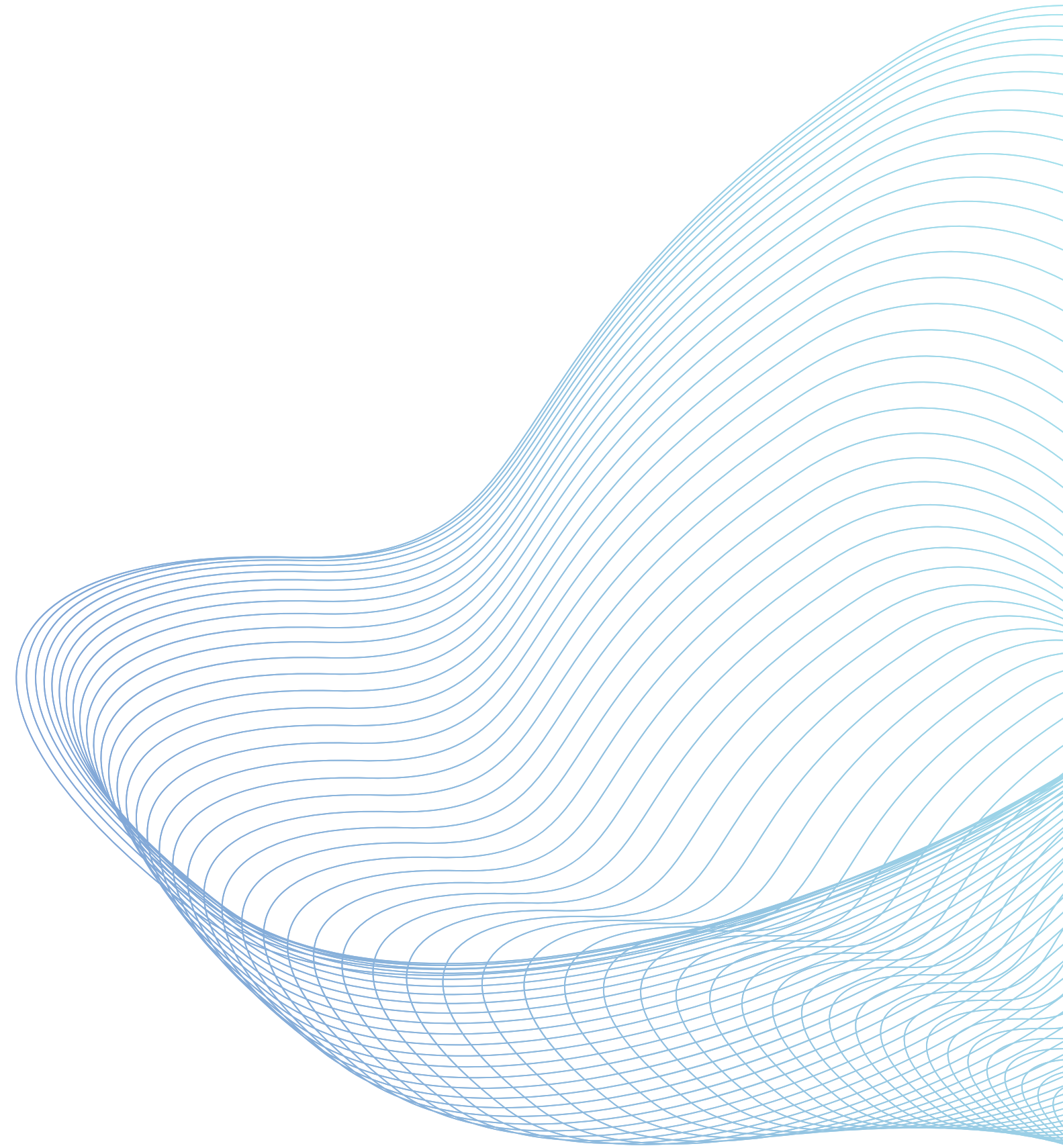
เราถูกสร้างขึ้นจากแนวคิดทางจิตวิทยา เพื่อมาดูแลสุขภาพใจของเธอในสถานการณ์โควิดนี้

แต่เราไม่ได้จะมาแทนที่นักจิตวิทยา หรือจิตแพทย์หรอกนะ

เริ่มต้นแชทกับใส่ใจ

เมนู

-ONGOING PROJECT-



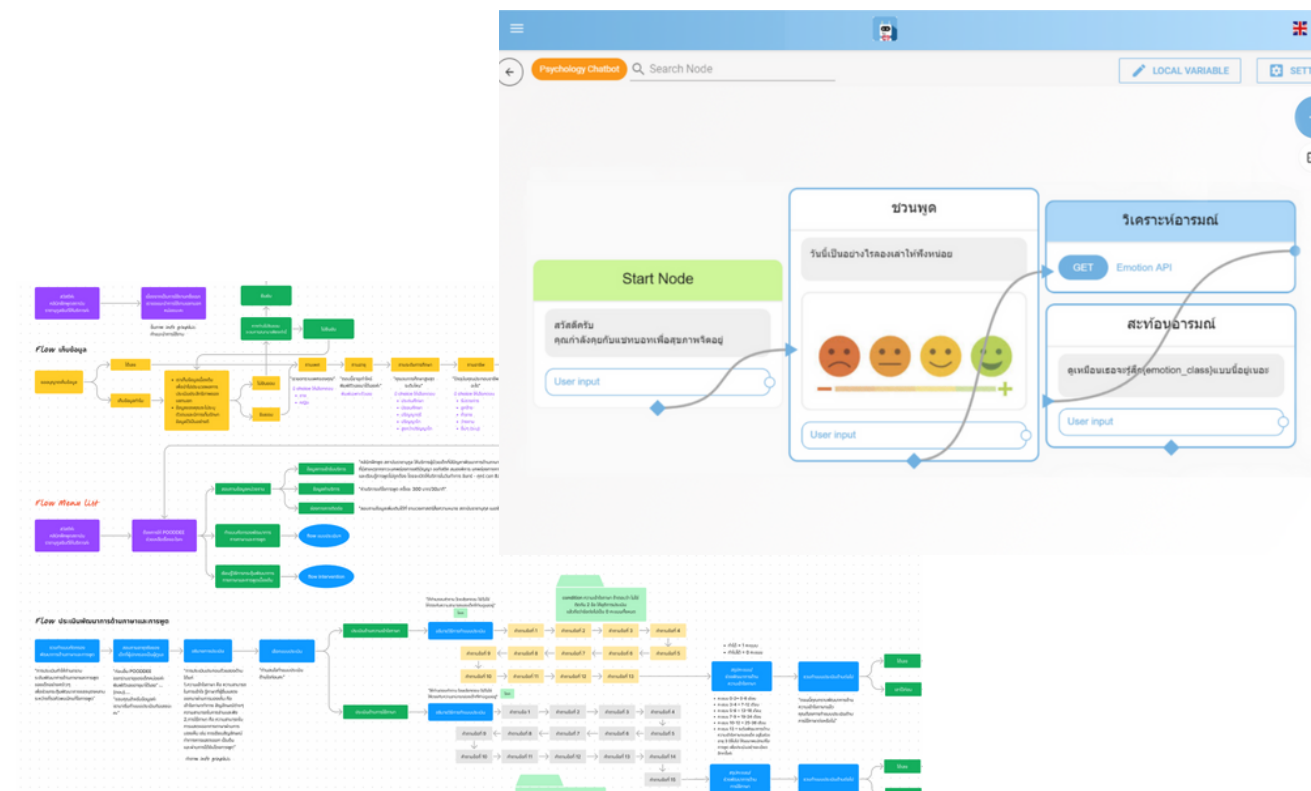
AI-PSYCHOLOGICAL INTERVENTION PLATFORM



2022 - 2023

FOR MENTAL HEALTH UNIT IN THAILAND

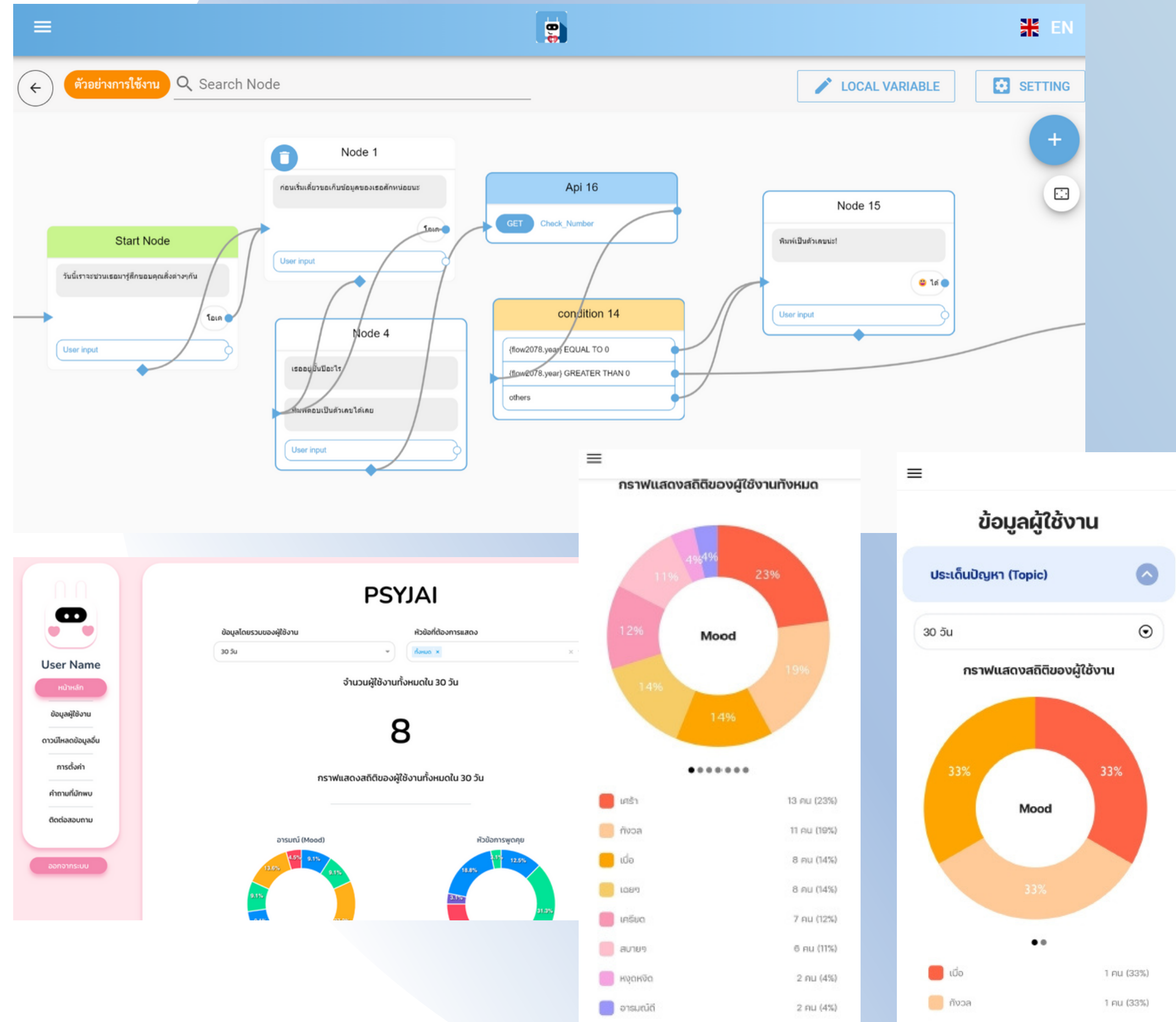
- TRAINING AND WORKSHOP
- PRODUCT CONSULT
- 20+ MENTAL HEALTH UNIT



Health Systems Research Institute (HSRI) Grant

AI-Psychological Intervention Platform [pic]

1. no programming or coding skills required
2. ready-to-use mental health AI
3. execute the information from user dashboard
4. over 100 conversation flow for mental health are provided



AI-CARE

2021 - 2023

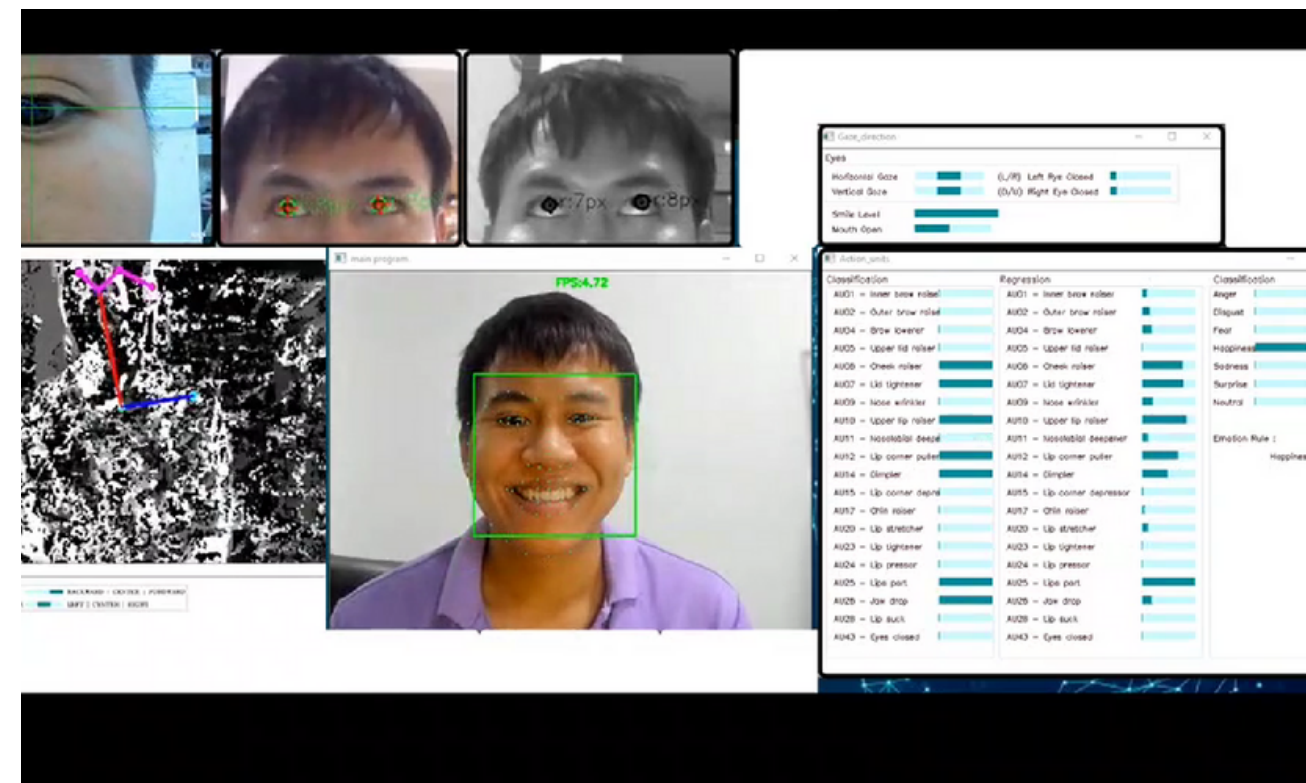
VIRTUAL AI MENTAL HEALTH SUPPORTER



Mahidol University
Faculty of Engineering



มหาวิทยาลัยมหิดล
คณะแพทยศาสตร์
ศิริราชพยาบาล



- CREATE MENTAL HEALTH AI (NON VERBAL EXPRESSION) DATABASE

- AVATAR RESPONSE DEVELOPMENT
- PILOT STUDY



BROADCASTING AND TELECOMMUNICATIONS RESEARCH
AND DEVELOPMENT FUND FOR PUBLIC INTEREST GRANT

"WHEN IN DOUBT DONT FORGET TO CHECK OUT MENTAL HEALTH CHATBOT"

(Atiphat, 2023)

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mh.techdiscovery@gmail.com

Facebook: Psyjaibot