

安安 AnAn

一个会主动找她的 Agent

The agent that reaches out first — before anyone asks it to.

Silence is an input.

A chatbot's input domain is {text}. AnAn's is {time, silence, state}.



LIVE NOW anan-iax1.onrender.com · the full story: yxiang-828.github.io/anan

Team SyntaxError · Yao Xiang · built by one human and a fleet of AI agents

独居不是问题，无人知晓才是

Living alone isn't the problem. Nobody knowing is.

88,400

户 · 10 年翻倍

seniors living alone — set to double within a decade

新加坡 65+ 独居老人

Singapore DOS / MOH, 2024

2×

抑郁症状风险

the risk of depressive symptoms

独居 vs 非独居老人

Duke-NUS CARE, 2018

S\$37k

人均被骗损失 · 全龄最高

highest average scam loss of any age group

60+ 诈骗受害者

SPF Annual Scams Brief, 2025



她一个人住。她出事的那个早晨，最先知道的人，本来可以不是没人。

She lives alone. On the morning something goes wrong, the first to know shouldn't have to be nobody. Today the safety net is a nightly phone call — a fall at 9 AM is discovered at 9 PM.

被动的工具，等不到主动的她

A reactive tool waits forever for a user who never opens it.

85.3%

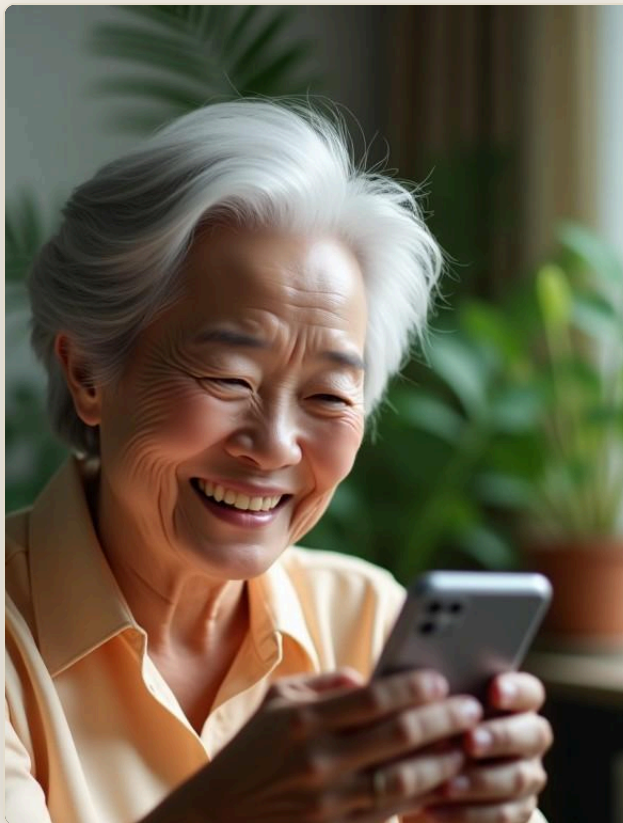
60+ 老人会上网
of seniors use the internet

34.7%

60+ 老人会网购
actually transact online

会上网 ≠ 会用。健康 App 的未读角标在她手机上堆成 99+。

Being online is not the same as opening the app. The health app's badge just climbs to 99+.



输入域的鸿沟 · THE INPUT-DOMAIN GAP

chatbot 聊天机器人: { text }

她不输入，它就不存在
if she never types, it never exists

安安 AnAn: { time, silence, state }

她的沉默，就是我们的输入
her silence is our input

So AnAn runs on a clock, not on a prompt. It wakes by itself, inspects the world, and decides whether anything is worth doing — most of the time correctly deciding that nothing is. Dormancy is a first-class behaviour, not a bug.

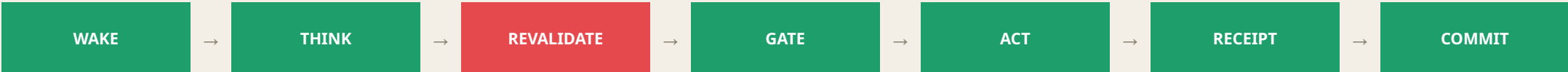
不是聊天框，是一个自主有机体

Not a chat box — an autonomous organism with organs.

安安的内核器官来自一个 18 篇文献的自主性研究计划——每一条设计法则都由一次真实失败换来。The kernel's organs come from an 18-paper autonomy research programme; every law below was paid for by a real failure.



每个动作的七相位流水线，每相位一条回执，可回放 — seven phases per action, one receipt each, fully replayable



实测截屏：控制台的 skill 灯牌、状态机与决策线 · Real screenshot — the live skill rack, state machine and planner line. Everything below is an actual receipt row.

durable inbox · attention scheduler · prospective store · stale-decision revalidation · permission envelope · effect-scope receipts · practical-liveness watchdog

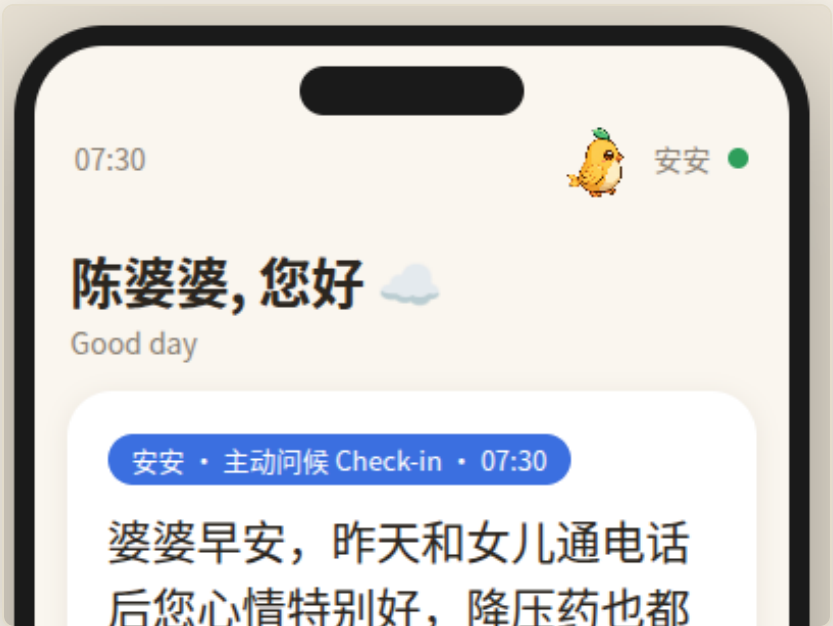
Hero Loop：为一个问题而生的状态机

One state machine, built to answer exactly one question.

“她没有回应，接下来会发生什么？” — “She hasn't answered. What happens next?”



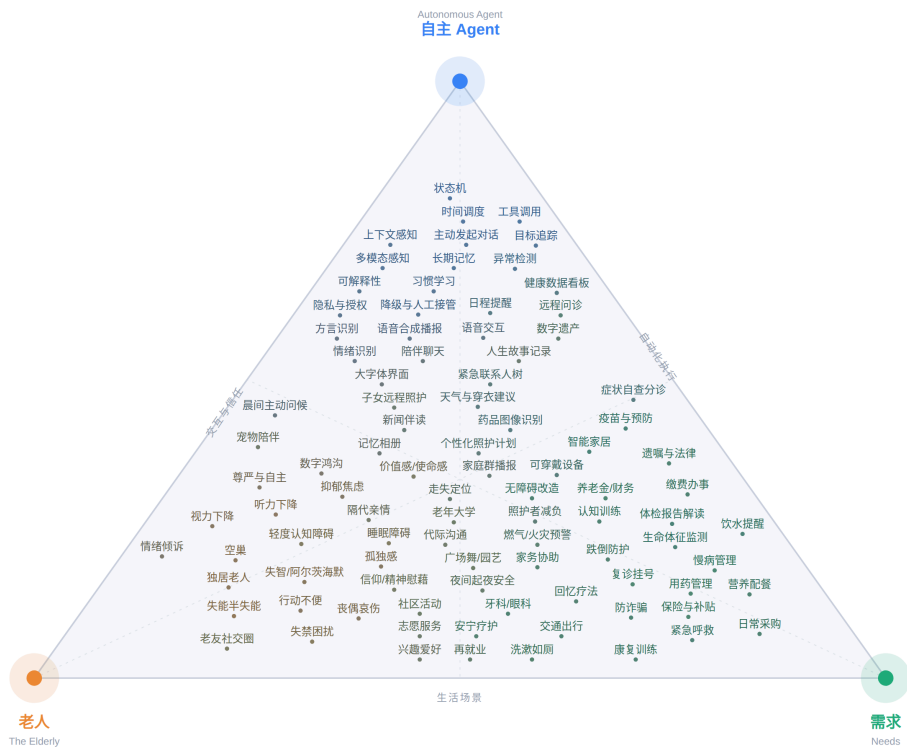
- 07:30 主动晨候 → 无回应 → 换渠道重试 → 仍无回应 → 沿联系人树升级（女儿 → 儿子 → 邻居，每一跳独立回执）→ 家属一键回电 → 闭环写入记忆
07:30 greeting → no answer → retry on a second channel → still nothing → walk the contact tree, each hop its own idempotent receipt → one tap closes the loop.
- 每次触碰都是心跳：任何一次点按都会消解沉默网；**她自己的触碰连 ESCALATED 都能直接消解**——她的存活性高于一切规则
Every touch is a heartbeat. Her own touch resolves even an ESCALATED loop — her liveness outranks every rule in the machine.
- 联系人树真的会走：家属超时未回 → 自动走下一位；树走空 → 更长窗口从头再走
The tree really walks, and escalation never loses a firing route — **practical liveness**, watched by a watchdog that counts firing routes rather than states.



07:30 真机截屏：安安先开口，双语卡片背后同时布防 60 分钟聆听窗。
Real device at 07:30 — AnAn speaks first; the 60-minute listening window arms silently behind the card.

93 个词的问题空间，无偏散布

A 93-word problem space, mapped before a line was written.



用法：在边界内圈选相等词群 → 打包为一个 Skill；Skill 族的覆盖度 = 产品的需求覆盖度

自主 Agent × 老人 × 需求 · 三极三元图

A ternary map: autonomous-agent capability $\times$ elder reality $\times$ unmet need. Position is semantic affinity; colour is the three-pole blend. Spread first, converge second.

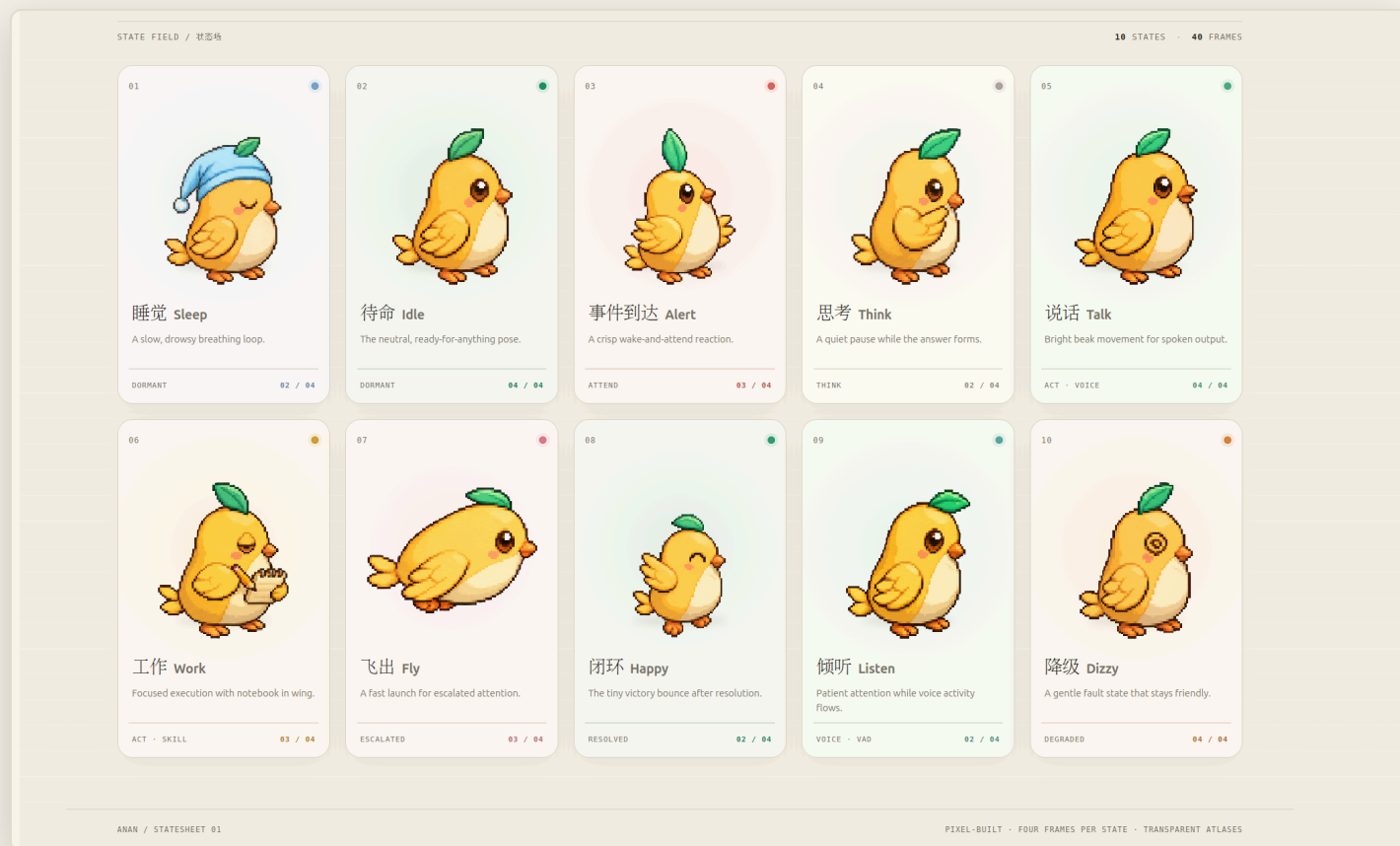
- 加权收敛矩阵：影响力 / 自主性可见度 / 可行性 / 演示戏剧性
Converged on a weighted matrix — impact, visibility of autonomy, feasibility, demo drama.
- 刻意不做：跌倒检测（需硬件）· 药品 OCR（30 组都会做）· 认知小游戏（scope 爆炸）
Deliberately not built: fall-detection hardware, pill OCR, cognitive mini-games.
- 设计从词汇开始，不从代码开始：说不出名字的行为，就不实现
Design began with vocabulary, not code. If a behaviour couldn't be named inside the polygon, it wasn't built.

评委看到的是一个被探索过的面，不是拍脑袋的点。

You're looking at an explored surface, not a lucky guess.

看不见的自主不可信——所以内核长了脸

Invisible autonomy is untrustworthy. So the kernel grew a face.



10 STATES · 40 FRAMES — 由第二个 AI agent 绘制的像素状态场，附每帧时序与锚点规范。
A pixel state-field drawn by a second AI agent, shipped with per-frame timings and anchor specs.

10 个像素状态 ↔ 内核状态一一对应

Ten pixel states map one-to-one onto kernel states.

dormant 睡觉 · think 歪头 · 升级时飞出婆婆的手机、落进女儿的手机

It sleeps when the system is dormant, tilts its head while the model thinks, and on escalation it flies out of grandma's phone toward her daughter's.

评委不用读日志，看鸟就知道系统在干什么

Nobody needs to read a log to see what the agent is doing — the bird performs every receipt as it lands.

对抗性评审闸 · ADVERSARIAL REVIEW GATE

像素包由 codex 绘制——它还对抗性 **block** 了我们的渲染器，附可复现缺陷报告（帧位 133.333%、每帧时序）。修复跟在报告后面。

The mascot agent formally blocked the builder's sprite renderer with a reproducible defect report. The fix followed the report — multi-agent construction with a real gate in between.

9 个 Skill，同一条流水线，全部过闸

Nine skills, one pipeline, every one of them gated.

Skill	触发 Trigger	实际发生什么 · what actually happens
greet_checkin	cron 07:30	合成双语晨候；发出即布防确认窗 · bilingual greeting; arms the ack window
companion_chat	老人语音（路由）	基于事实作答；每次交流都是心跳 · grounded reply; each exchange is a heartbeat
relay_family	老人语音（路由）	她的话原样送达家属 · her words carried across, receipt-confirmed
med_reminder	cron 08:00 / 20:00	[我吃了] = 心跳；布防全天沉默网 · “taken” is a heartbeat; arms the all-day net
escalate_tree	SILENCE_2 / 走树超时	Telegram 警报卡，幂等按钮闭环 · alert card; idempotent buttons close the loop
family_bulletin	cron 20:05	当日报摘：用药 / 情绪 / 洞察 / 健康 · the evening digest, bilingual
care_insight	cron 21:00	每日提炼一条洞察 · memory that compounds — Day 7 knows her better than Day 1
safe_range	地理围栏事件	走失警报 + 实时地图 + 回圈报平安 · geofence alert, live map, automatic all-clear
health_scan	CV 评分事件	鼓励式回读；异常立刻通知监护人 · elder reflection, guardian fanout on anomaly

REGISTRY LAW · 实测 MEASURED

97% 选对率

仅 8% token 成本

目录只载 name + 一行能力；全契约随 skill 携带。
The registry carries only a name and one capability line — full contracts travel with the skill. 97% correct selection at 8% of the token cost.

组合律 · WORDS COME FROM THE MODEL

skill 组装意图与事实；模型写每一个字。没有罐头台词；降级模式渲染带标签的数据。

Skills assemble intent and facts; the model writes every word.
Degraded mode renders labelled data instead of faking a sentence.

刻意不做 · deliberately absent

跌倒检测硬件 · 医疗建议 · 代打 995

No hardware fall claims, no medical advice, no emergency calls on the agent's own authority.

克隆的不是声音，是在场

We don't clone a voice. We clone presence.

- 家属先选语言，再读一段 10 秒固定文本 → 该语言的参考声纹
Language first, then one fixed 10-second script. That (clip, script) pair becomes the reference voiceprint for that language.
- 声纹永不跨语言复用；热加载生效；试听即证
A print is never reused across languages. Hot-reloaded, and auditionable on the spot.
- 双层语音：本地 qwen3-TTS 克隆 · 云端 ElevenLabs 三键粘性轮换，每次轮换留回执
Two tiers — local qwen3-TTS cloning, or hosted ElevenLabs with a sticky three-key rotation. Every rotation leaves a receipt.
- 降级阶梯的终点是**诚实的静默**——沉默好过跑调的中文
The last rung of the ladder is honest silence. Silence beats mangled Mandarin.

“她听到的不是 AI。是女儿。”

“What she hears isn't an AI. It's her daughter.”

用您的声音陪伴 TA

Give AnAn your voice — 10 seconds, once

第一步 · 选语言 Step 1 · Language FIRST

这个声音只会说录音时用的语言，绝不跨语言。 This voice will ONLY ever speak the language you record in.

中文

English

第二步 · 朗读 Step 2 · Read this aloud

婆婆早安，今天天气很好。记得饭后吃降压药，我一直陪着您，别担心。

 按住录音 Hold to record

录音只保存在这台电脑上，只用于关怀语音，家属随时可删除或换回默认声。 Consent-first, family-only, local-only.



左：/family 真实录音页——语言优先、固定脚本、同意声明就写在页面上。

Left: the real /family recording page — language first, fixed script, consent stated in place.

五端齐活，一个心智

Five surfaces, one mind — and the app runs inside the console.

/elder 乐龄端

5 屏 2 操作 · 无输入框 · 透明日志把回执讲成人话
Five screens, two gestures, no text box. The log speaks receipts in plain language.

/health-lab

心率 rPPG · 活动度姿态 · 微笑对称 (FAST 面瘫筛查)
Camera CV runs entirely on-device; only the score ever leaves the browser.

/family 家属端

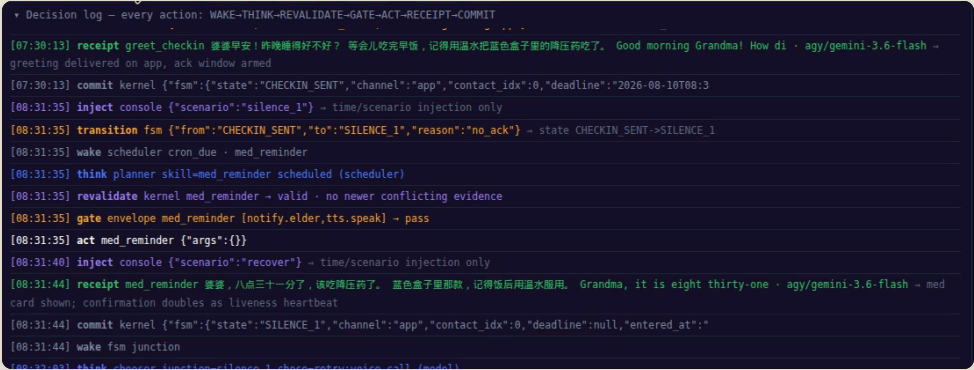
联系人 / 声纹录制 / 实时地图；陌生 Telegram 用户自动收到自己的 ID
Contacts, voice, live map. Unknown senders are auto-replied their own chat ID.

/ 控制台 · the console

解剖台而非 UI；老人端以真实 iframe 嵌在里面
An operating theatre, not a UI — the elder app is embedded live, so cause and effect sit on one screen.

Telegram

是适配器不是产品：警报 / 播报 / 走失卡 / 健康异常
An adapter, not a product — the family installs nothing at all.



上：控制台全景，老人端真实嵌入。下：同一屏的七相位决策日志。
Top: the console with the elder app embedded live. Bottom: the seven-phase decision log from the same screen.

我们最骄傲的时刻，是一个没有发生的决定

The moment we're proudest of is a decision that never happened.

REVALIDATE · 实测回放 · REPLAYED FROM RECEIPTS

verdict: STALE – candidate cancelled, no external action

升级决策生成后、执行前，一条赛跑的心跳到达——候选作废。误报不会骚扰家人。

A heartbeat raced the decision between creation and execution. The candidate was cancelled before anything external happened — the family was never falsely alarmed.

```
[08:31:35] revalidate kernel med_reminder → valid · no newer conflicting evidence
[08:31:35] gate envelope med_reminder [notify.elder,tts.speak] → pass
[08:31:35] act med_reminder {"args":{}}
[08:31:40] inject console {"scenario":"recover"} → time/scenario injection only
[08:31:44] receipt med_reminder 婆婆，八点三十一分了，该吃降压药了。蓝色盒子里那款，记得饭后用温水服用。 Grandma, it is eight thirty-one · agy/gemini-3.6-flash → med card shown; confirmation doubles as liveness heartbeat
[08:31:44] commit kernel {"fsm":{"state":"SILENCE_1","channel":"app","contact_idx":0,"deadline":null,"entered_at":}}
[08:31:44] wake fsm junction
[08:32:03] think chooser junction=silence_1 chose=retry:voice_call (model)
[08:32:03] revalidate kernel silence_1 → STALE · heartbeat arrived after candidate creation → candidate cancelled → no external action
[08:32:03] wake elder_app heartbeat
[08:32:03] transition fsm {"from":"SILENCE_1","to":"ENGAGED","reason":"heartbeat:scenario_tap"} → state SILENCE_1->ENGAGED
```

真实日志截屏，最后几行即 STALE 判定与取消 · the real log — the last lines are the STALE verdict and the cancellation.

自主档 · AUTONOMOUS

tts.speak · notify.elder
notify.family · memory.write

批准档 · FAMILY-APPROVAL

联系邻居 / 改日程
Telegram 按钮就是批准闸

永不档 · NEVER

call.995 · medical.advice
finance.any — 大声拒绝

安全从不依赖模型 · SAFETY NEVER DEPENDS ON THE MODEL

地理围栏 / 健康阈值 / 升级时序全是朴素代码。拿走 LLM，安全网照样开火。

Geofence, health thresholds and escalation timing are plain deterministic code. Take the LLM away and the safety net still fires.

模型的自由在闸内：每个路口给出选项信封与确定性下限，模型的选择与下限一并入账。

At each junction the model gets an options envelope and a deterministic floor. Both its choice and that floor are written into the receipt — so the model picks words and bounded options, never whether someone gets help.

```
AUTONOMOUS PLANNING & TOOL INVOCATION – EVERY SKILL CALL RECEIPTED; THE ELDER NEVER SEES THIS
planner @08:32:03: silence_1 → retry:voice_call (model)
◉ greet_checkin ×1 ◉ companion_chat ×0 ◉ relay_family ×0 ◉ safe_range ×0 ◉ health_scan ×0 ◉ med_remi
◉ family_bulletin ×0 ◉ care_insight ×0
IDLE CHECKIN_SENT ENGAGED SILENCE_1 SILENCE_2 ESCALATED RESOLVED
▼ Decision log – every action: WAKE-THINK-REVALIDATE-GATE-ACT-RECEIPT-COMMIT
[07:30:13] receipt greet_checkin 婆婆早安！昨晚睡得好不好？等会儿吃完早饭，记得用温水把蓝色盒子里的降压药吃了。 Good morn
greeting delivered on app, ack window armed
[07:30:13] commit kernel {"fsm":{"state":"CHECKIN_SENT","channel":"app","contact_idx":0,"deadline":"2026-08-1
[08:31:35] inject console {"scenario":"silence_1"} → time/scenario injection only
[08:31:35] transition fsm {"from":"CHECKIN_SENT","to":"SILENCE_1","reason":"no_ack"} → state CHECKIN_SENT->SI
```

同一次运行的 skill 灯牌与状态机 · the same run's skill rack and state machine.

一个人，一支 agent 舰队，中间是评审闸

One human, a fleet of agents, and review gates in between.

- 1

自主性研究计划 · the autonomy research programme

18 篇文献 · 内核器官与认识论 — 18 papers behind the kernel's organs
- 2

生产级 agent 实测法则 · measured laws from production agents

skill 菜单上下文律 · 调度失败律 — context and scheduling-failure laws, measured rather than assumed
- 3

两次黑客松整体移植 · two hackathons transplanted whole

KampungKaki 地图 · Synapxe 三页 CV — the map and the camera-CV pages, ported verbatim
- 4

多智能体建造 · multi-agent construction

规划 × 像素吉祥物 × 对抗性代码评审——评审闸真的挡下过一次合并

技艺、法则与探针台账在 agent 之间以文件流转，不是靠感觉。每一次探针——包括失败——都留档。

Skills, doctrine and probe ledgers moved between agents as files, not vibes. Every probe is archived, failures included — because a document someone wrote is not evidence; a receipt is.

AnAn's TTS lanes, their original /api/score wired into the agent loop; elder cards link Quick vs Full	
3c681fb	23:02 single-source config.default.json (kills local-vs-cloud config drift; fixes hosted map), boot capability receipt in trace + /healthz, independently scroll
0be84c7	22:57 iframe permission delegation (camera/mic/geolocation/autoplay) – embedded elder app can now actually prompt; diagnostic error copy
46e5852	22:57 live_tracking deployment flag: demo runs on scenario injections; real phones opt in – desktop GPS no longer fights the acts
a39c2b0	22:56 demo as theatre: story intro card (one day with 陈婆婆) + scene-setting line opening every act, EN/中 both
e2c051d	22:52 final upgrade: wander-safety geofence (KampungKaki map – MapLibre+OneMap, elder map with take-me-home + family live map) and on-device CV health checks (rate, normalized face-symmetry FAST screen, sit-and-stand pose FSM) wired through health_scan/safe_range skills with guardian fanout
e098e5d	22:35 mascot renderer fixed per codex review: background-position 133.333% (valid frame stops, no transparency flash), per-frame timings x4 (alert 320ms/f, hap all .bird instances

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22:33	one-key /reset (wipe state, FSM IDLE, realtime clock) + ANAN_RUNTIME dev isolation so test probes never pollute the live trace
22:31	family page: field system (min-width:0, single column on narrow), praise config + prewarmed reward TTS, insight surfaced on planline, telegram
22:24	reward beat on med confirmation: particle burst, happy bird, spoken bilingual praise (reduced-motion safe)
22:22	skill usage front and center: live skill rack with invocation glow + counters, planner decision line, act cards name their skills
22:21	bird caption copy; console sprite re-render on load
22:20	bird everywhere: header + bird-as-talk-button; per-state frame pacing (fly .4s, sleep 1.3s); guided-tour act cards with design rationale per s
22:15	codex mascot pack live: 10 sprite atlases in console + elder talk screen (listen/talk/happy states), pixel-crisp, reduced-motion safe
22:12	relay_family skill + model skill-routing on elder speech (no more empty promises); f{lyly contact setup UI + hot-reload; bot auto-replies unk
22:04	capability honesty on hosted /family: cloning disabled with plain statement (needs local qwen GPU); ElevenLabs audition stays live
22:04	voice audition: exact editable line played in any test voice (qwen pack + clone locally, ElevenLabs roster hosted)
22:00	brain hardening: 3-rung lane (agy – nemotron-ultra – nemotron-super), empty-reasoning-answer = failure, 3000 token budget
21:59	voice-record page linked from elder Family tab and console hero – no more URL-only features
21:55	family voice page v2: live waveform meter, timer, silent-mic warning, staged progress, explicit done/error states, replay + re-record
21:45	family voice-record page: language-first script read – qwen clone per language, hot-reload, instant sample playback; scribe ASR verified hosted
21:42	hosted ears: ElevenLabs scribe_v1 ASR lane with sticky key rotation (local keeps Whisper)
21:38	ElevenLabs 3-key pool: sticky rotation on failure, no priority; rotation logged as receipts
21:28	two-tier voice doctrine wired: qwen3-TTS = phone app, ElevenLabs (Sarah/Matilda/Bill) = hosted demo; voice.speak setting zh/en/both
21:21	cloud voice honesty: no-GPU hosts speak the English line via browser voice instead of muting/garbling Chinese
21:20	console i18n: English-first with full EN/中 toggle
21:17	hero-first console: product centered, labeled roles, numbered steps with expected outputs, collapsible internals; server-side Whisper ASR (hol
21:05	unified console: elder phone embedded live – one website, one link

真实提交史截屏——每条信息记录的是决定与理由，不是“fix stuff”。

The real commit wall: every message records a decision and the reason for it.

40% 评分项的证据不在这一页的字里，在整个仓库的提交史里。

The evidence for the 40% “use of AI tools” criterion isn't in these words — it's in the repository's history.

THE CLOSE · 收尾

88,400 位独居老人。从“每晚一通电话才知道”，到“沉默 60 分钟内有人到场”。

88,400 seniors living alone. From “a nightly phone call to find out” to “someone acts within 60 minutes of silence.”

与新加坡国家计划 Age Well SG 同名同频 · named for, and aligned with, the national programme.

LIVE DEMO

anan-iax1.onrender.com

the agent, running right now

THE STORY

yxiang-828.github.io/anan

how it was built, scroll by scroll

SOURCE

github.com/Yxiang-828/anan

kernel · skills · receipts

DEMO VIDEO

[AnAn-DemoVideo](#)

the whole loop, end to end

Silence is an input.

她的沉默会被听见——在她需要之前，而不是之后。

Her silence gets heard — before she needs it to be, not after.