

DayFlow: Gamifying Personal Productivity & Energy

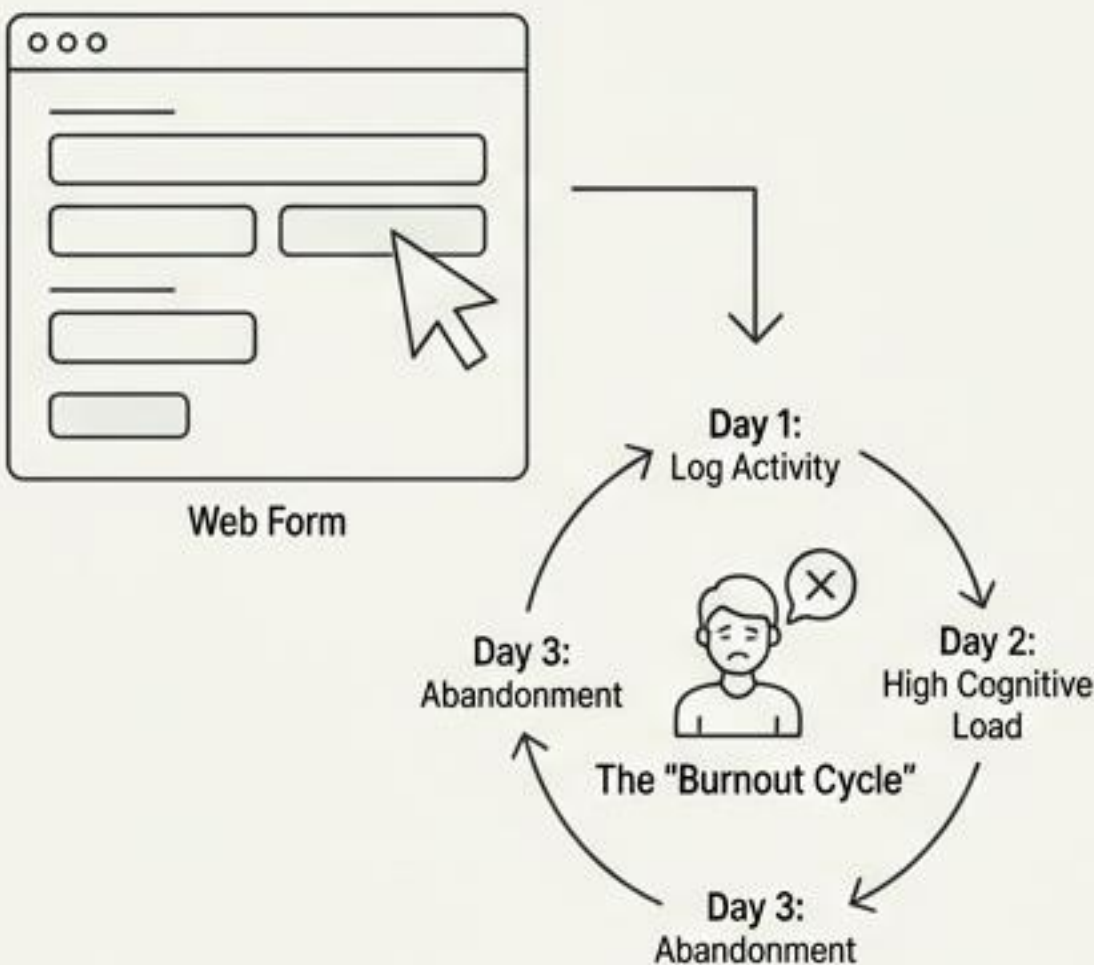
Transforming a high-friction 'write-only' log into an AI-powered energy optimization engine.

Role: Product Engineer (Full Stack & PM) | **Status:** Live (Version 2) | **Tagline:** From managing time to optimizing energy.

Executive Summary: Reducing User Friction to Unlock Behavioral Insights

The Challenge

Inter Semi-Bold



Traditional productivity tools function as "write-only" systems. Rigid input forms increase cognitive load, leading to user abandonment after 2-3 days (The "Burnout Cycle").

The Solution

Inter Semi-Bold

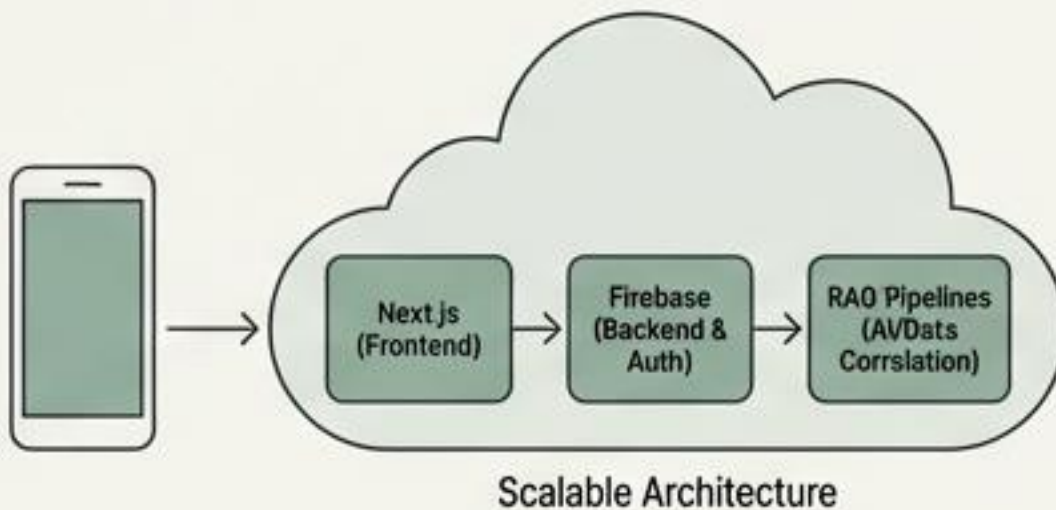


DayFlow V2 is a native mobile app replacing text entry with gamified swipe gestures and physics-based bubble inputs. It leverages Google Gemini to correlate activity data with mood and energy levels.

The Impact

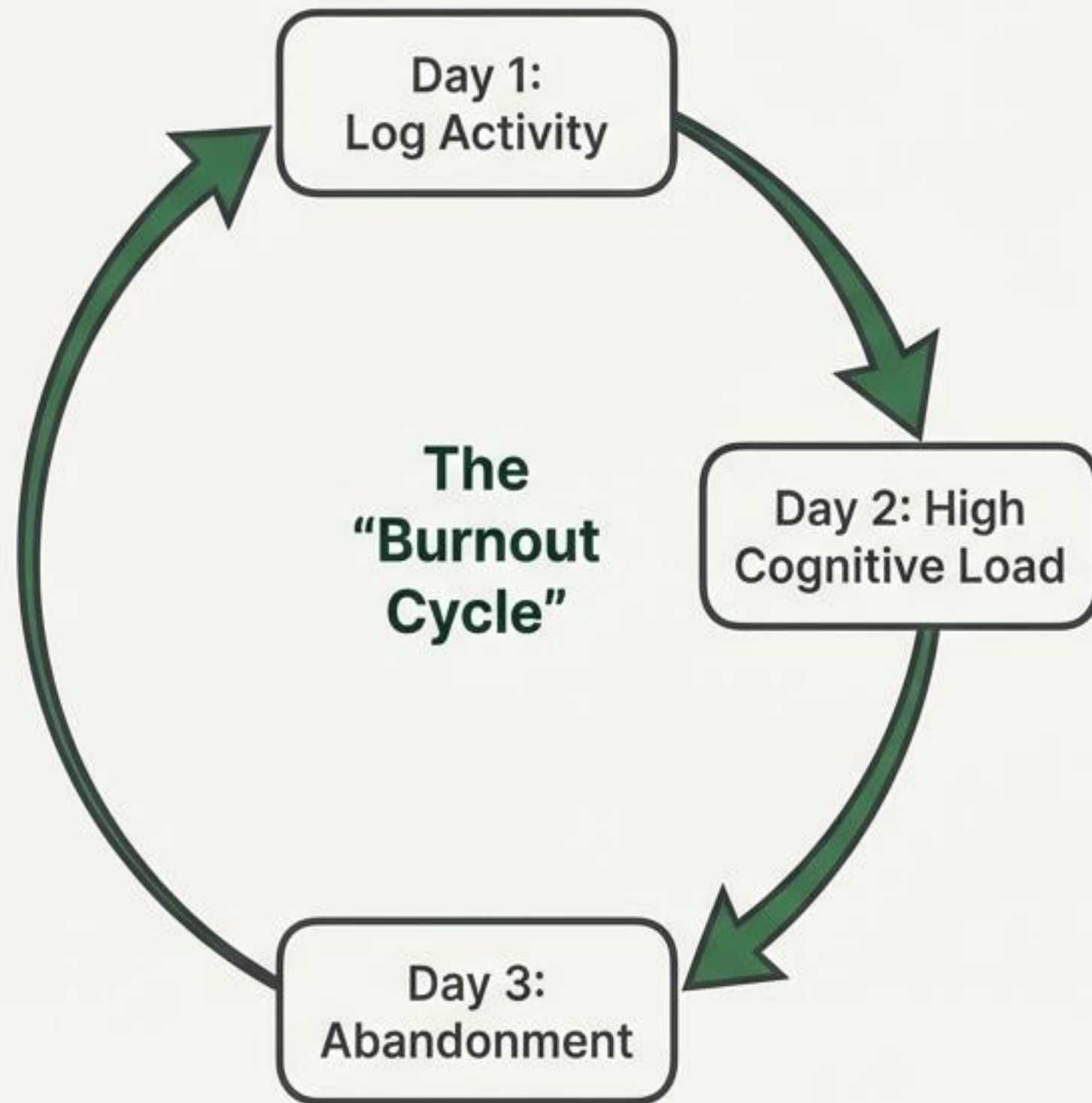
Inter Semi-Bold

9/10 ↑ ~~4/10~~
Friction Score (V2 vs V1)



Friction Score improved from 4/10 to 9/10. Value shifted from "logging time" to "optimizing energy." Successfully deployed scalable architecture using Next.js, Firebase, and RAG pipelines.

The 'Burnout Cycle': Why Traditional Tracking Fails



V1: The 'Write-Only' Trap

ID	Task ID	Project	Priority	Due Date	Assignee	Status
1	200001	Website Redesign	High	10/01/2023	John Doe	In Progress
2	200002	Research new web design trends	Medium	09/01/2023	Jane Smith	Completed
3	200003	Develop new features for user	High	09/01/2023	John Doe	In Progress
4	200004	Design new landing page for app	Medium	09/01/2023	Jane Smith	Completed
5	200005	Implement new user dashboard	High	09/01/2023	John Doe	In Progress
6	200006	Test new dashboard design	Medium	09/01/2023	Jane Smith	Completed
7	200007	Deploy new dashboard to production	High	09/01/2023	John Doe	In Progress
8	200008	Monitor dashboard performance	Medium	09/01/2023	Jane Smith	Completed
9	200009	Implement new analytics for site	High	09/01/2023	John Doe	In Progress
10	200010	Research new analytics tools	Medium	09/01/2023	Jane Smith	Completed
11	200011	Customize analytics tool	High	09/01/2023	John Doe	In Progress
12	200012	Integrate analytics tool with site	Medium	09/01/2023	Jane Smith	Completed
13	200013	Test analytics tool integration	High	09/01/2023	John Doe	In Progress
14	200014	Deploy analytics tool to production	Medium	09/01/2023	Jane Smith	Completed
15	200015	Monitor analytics tool performance	High	09/01/2023	John Doe	In Progress
16	200016	Implement new security measures	High	09/01/2023	Jane Smith	Completed
17	200017	Research new security tools	Medium	09/01/2023	John Doe	In Progress
18	200018	Customize security tool	High	09/01/2023	Jane Smith	Completed
19	200019	Integrate security tool with site	Medium	09/01/2023	John Doe	In Progress
20	200020	Test security tool integration	High	09/01/2023	Jane Smith	Completed
21	200021	Deploy security tool to production	Medium	09/01/2023	John Doe	In Progress
22	200022	Monitor security tool performance	High	09/01/2023	Jane Smith	Completed
23	200023	Implement new backup system	High	09/01/2023	John Doe	In Progress
24	200024	Research new backup solutions	Medium	09/01/2023	Jane Smith	Completed

- High Friction: Dropdowns and spreadsheets feel like a chore.
- Data Silos: Data sits in the app without providing feedback.
- Missing Context: "Knowing you worked 8 hours is useless if the system doesn't know you were exhausted and unfocused."

User Persona: The “Exhausted Achiever”

**Role:**

SCM Consultant
→ AI PM

Age:

24–35

Goal:

Optimize study
time

Pain Points

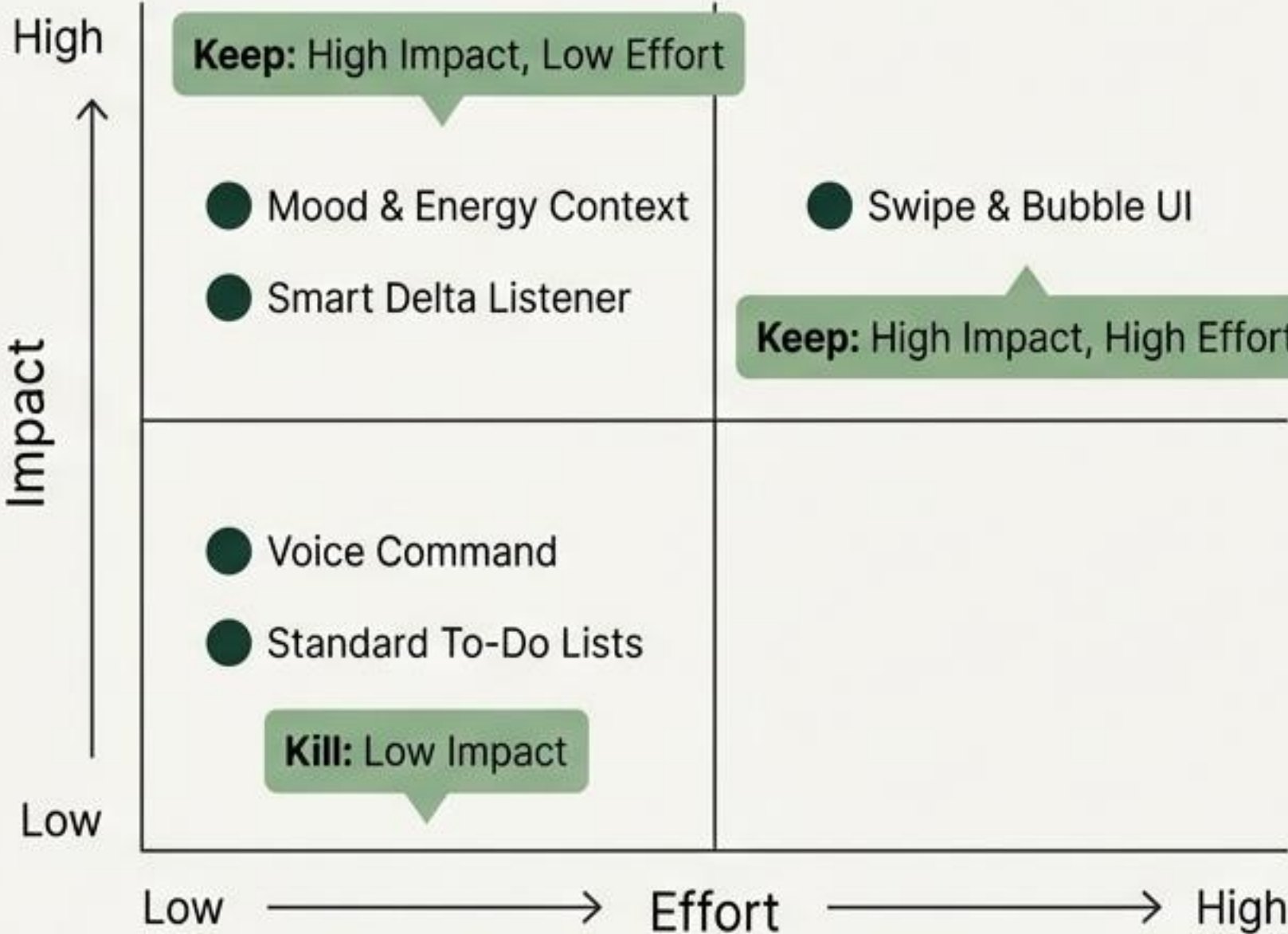
- Ends the day exhausted but feels unproductive.
- Uses lists but abandons them when overwhelmed.
- “I have data, but no insights into my energy patterns.”

Goals

- Identify “time leaks”.
- Find the “Golden Window” for high-focus study.
- Reduce cognitive load of logging.

Strategic Pivot: Prioritizing ‘Delight’ Over ‘Utility’

Feature Prioritization Matrix

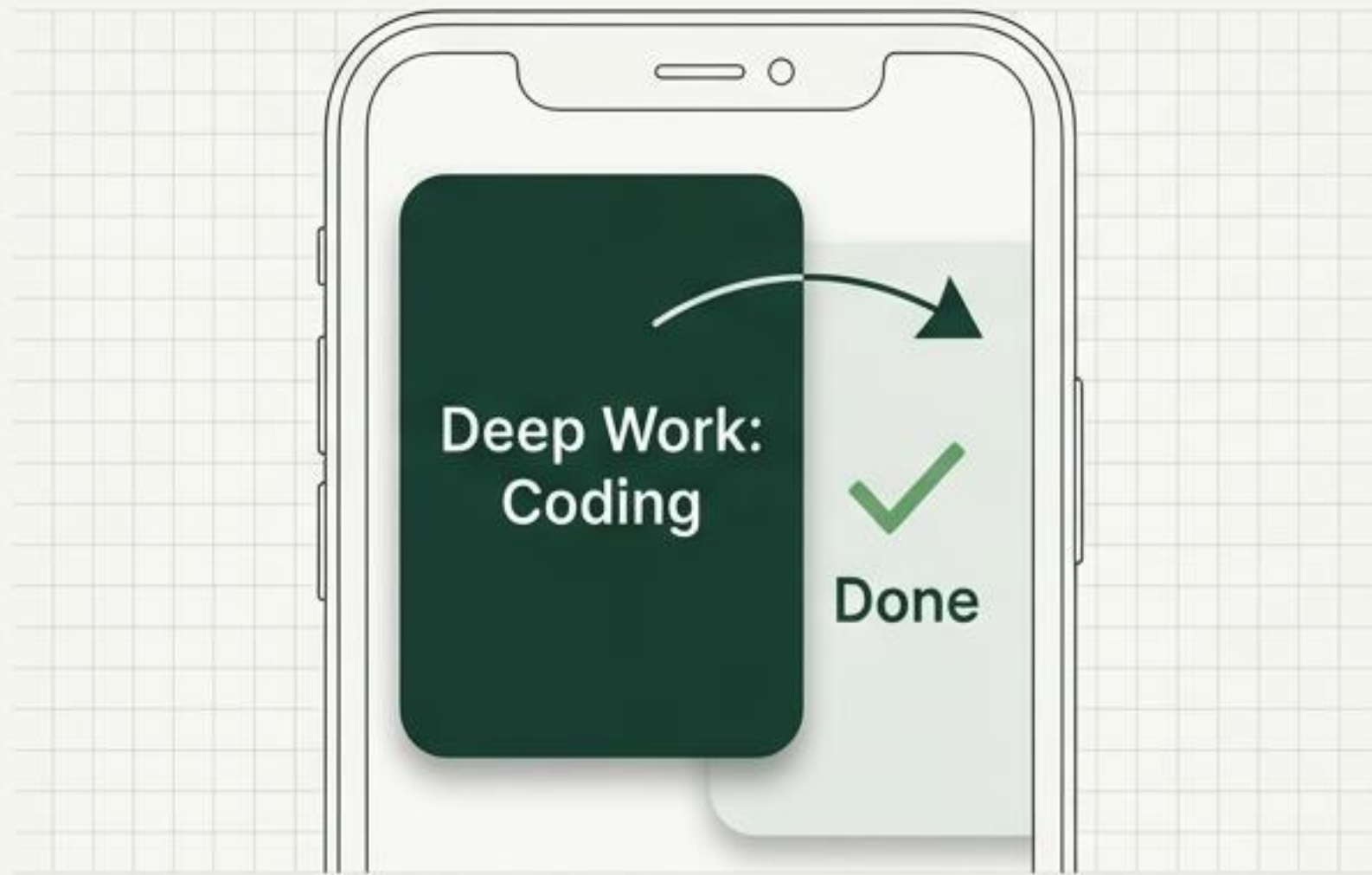


Decision Log

Selected	Rationale
Swipe & Bubble UI	Maximizes delight, leverages spatial memory.
Mood Tracking	Objective time data needs subjective energy context.
Voice Command	Low signal. Deprioritized to perfect the “Silent Interaction” loop first.

Solution UX: Gamifying Inputs with Gestures and Physics

Tinder-Style Logging



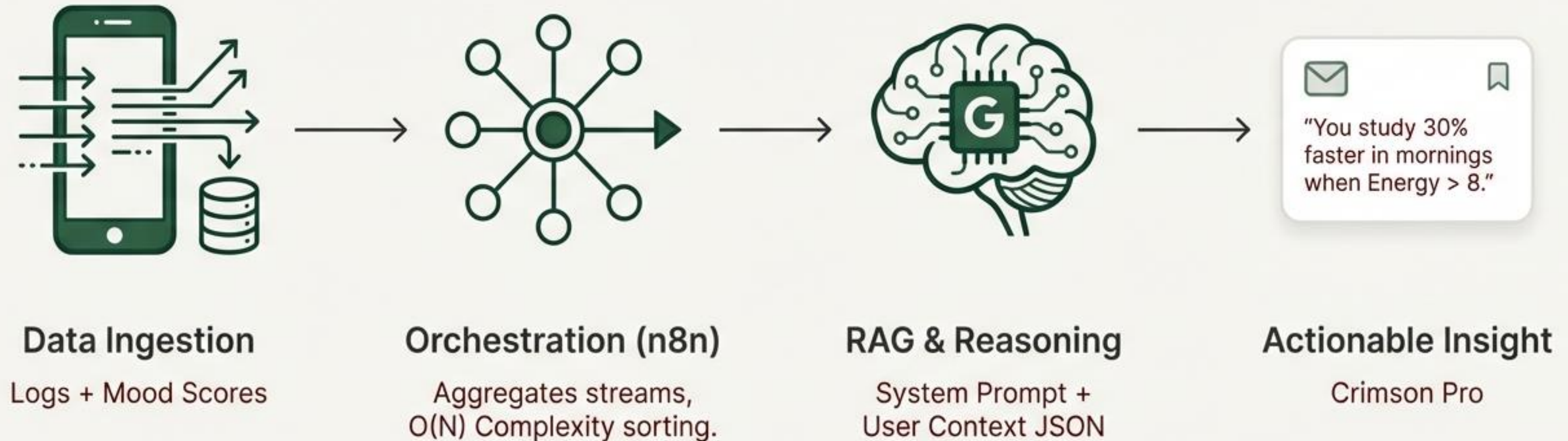
Swipe Right to Log.
Reduces friction and decision fatigue.

The Bubble Cloud



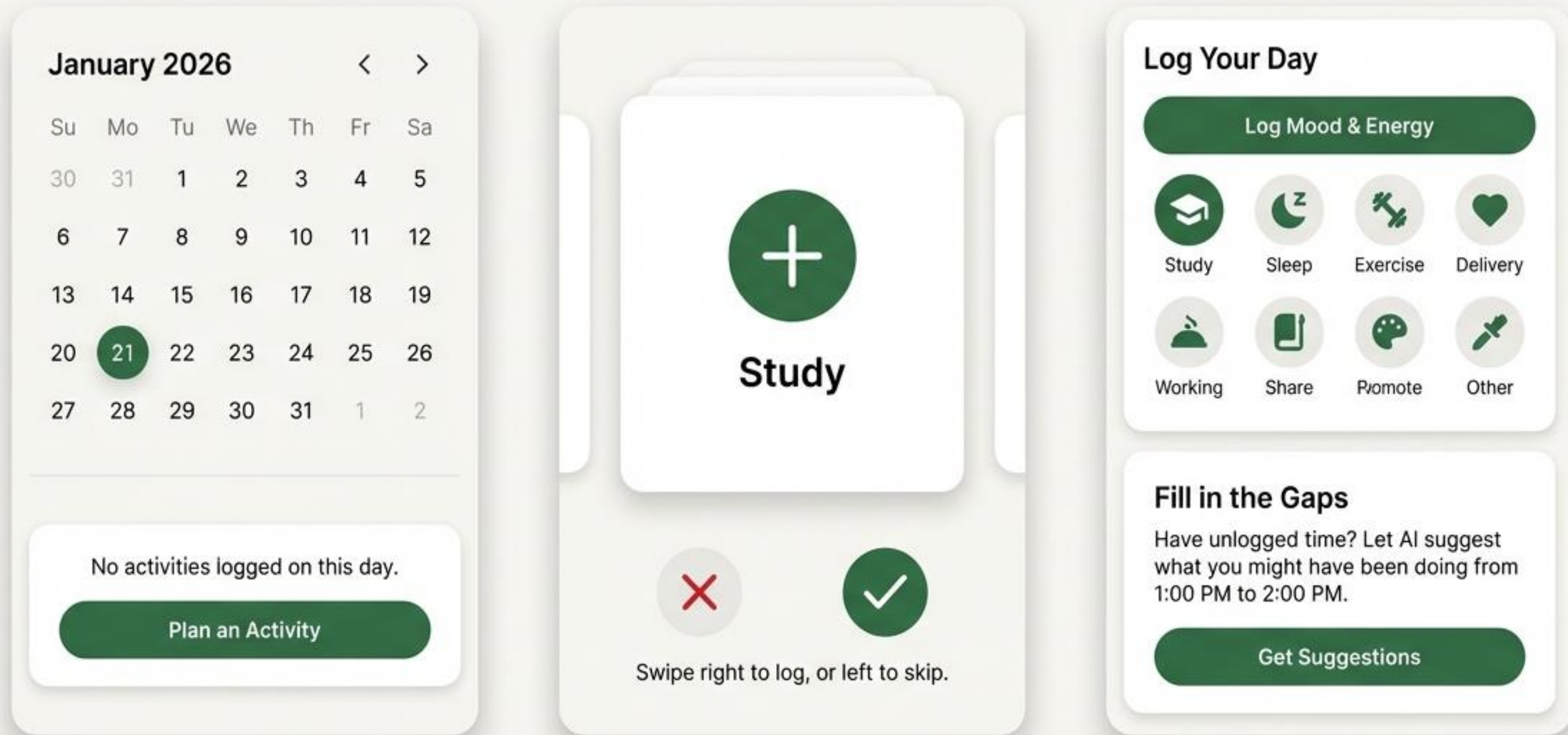
Physics-based Bubbles. Size = Duration.
Uses spatial memory instead of text lists.

The Intelligence Layer: From Raw Data to Active Coaching



Moving from quantitative summaries to qualitative energy optimization.

Product Tour: The Ecosystem



A seamless flow from planning to logging to analyzing.

Technical Architecture: Serverless & Scalable

Frontend



Next.js



React



Tailwind



Framer Motion

Read/Write

Backend (Serverless)



Firebase Firestore
(NoSQL)



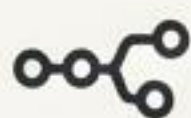
Firebase Auth
(RLS Security)



Cloud Functions

Triggers

AI & Automation



n8n
(Orchestrator)



Google Gemini
(LLM)



FCM
(Notifications)

Engineering Challenges & Solutions



Challenge: Google Auth 403 Errors

Service accounts cannot write to user calendars.

Solution: Inverted logic—App creates event on its own calendar and invites the user as an attendee.



Challenge: Firestore Composite Indexing

Complex queries for 'Weekly Data' failed.

Solution: Manually built composite indexes for `userId` + `activityDate` to enable complex filtering.



Challenge: N+1 Data Aggregation

Merging disparate streams in n8n caused latency.

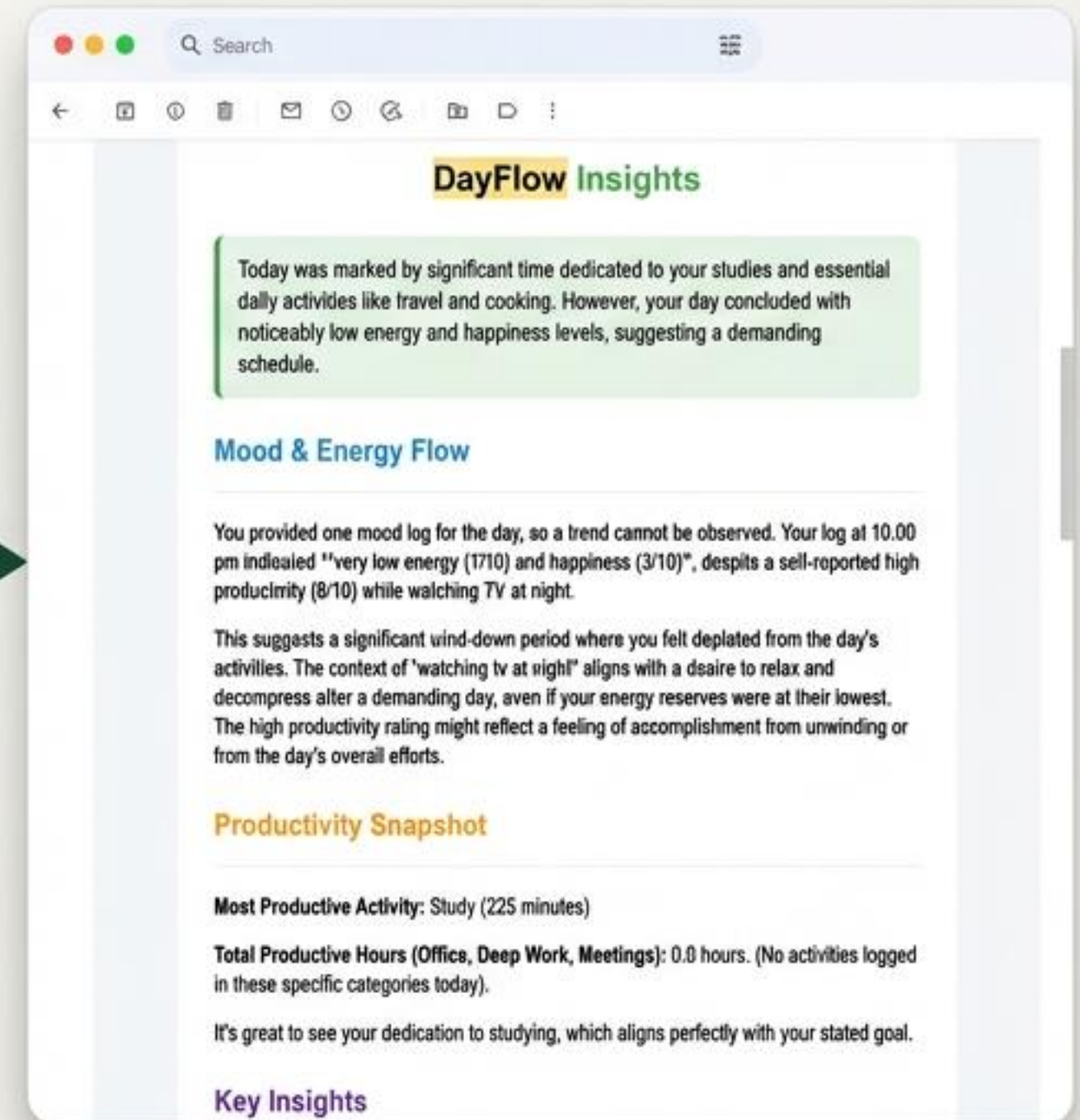
Solution: Custom JavaScript $O(N)$ algorithm to map and sort data in a single pass before AI injection.

Architecture Deep Dive: The RAG Pipeline

RAG Logic

1. **Context Window:** User Logs + Happiness Score (3/10) + Energy Score (1/10).
2. **System Prompt:** "You are a compassionate Life Coach. Analyze patterns."

Generates Insight



Impact & Success Metrics

Friction Score Reduction

9/10[✓]

V2 (Native App)

~~4/10[✗]~~

V1 (MVP)

Value Shift

Old:
Logging
Time



New:
Optimizing
Energy

- **Retention:** Users moved from passive tracking to active optimization.
- **Engagement:** Surpassed the 3-day drop-off point common in V1.

Roadmap: Toward Autonomous Scheduling



Key Takeaways & Competencies

Product Management

- Validated hypothesis via MVP.
- Pivoted based on friction scores.
- Prioritized features using Impact/Effort matrix.

Full-Stack Engineering

- Built secure, scalable app with Next.js & Firebase.
- Handled complex Auth, DB Indexing, and RLS security.

AI & Design

- Implemented RAG architecture for context-aware coaching.
- Designed 'Delight-first' physics-based UI.