

# 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)

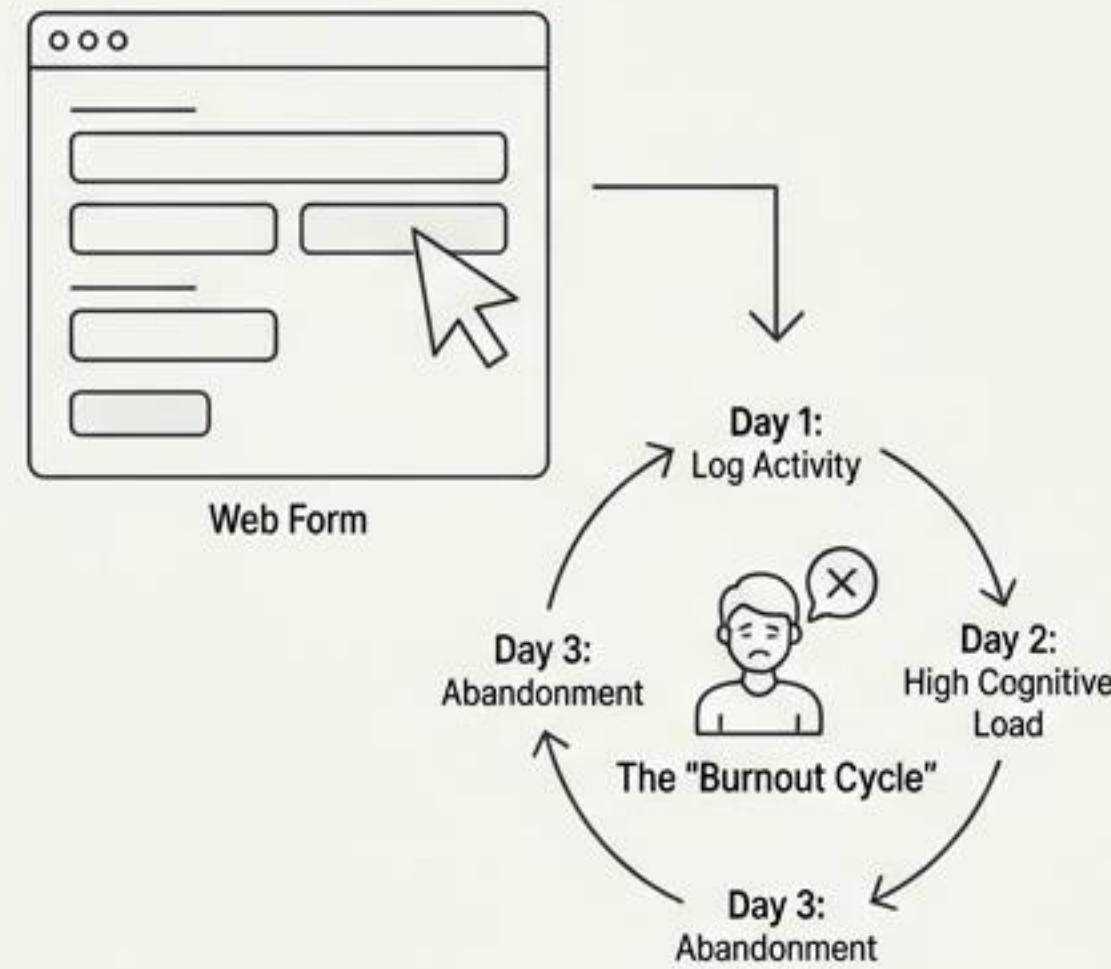
**Status:** Live (Version 2)

**Tagline:** From managing time to optimizing energy.

# Executive Summary: Reducing User Friction to Unlock Behavioral Insights

## The Challenge

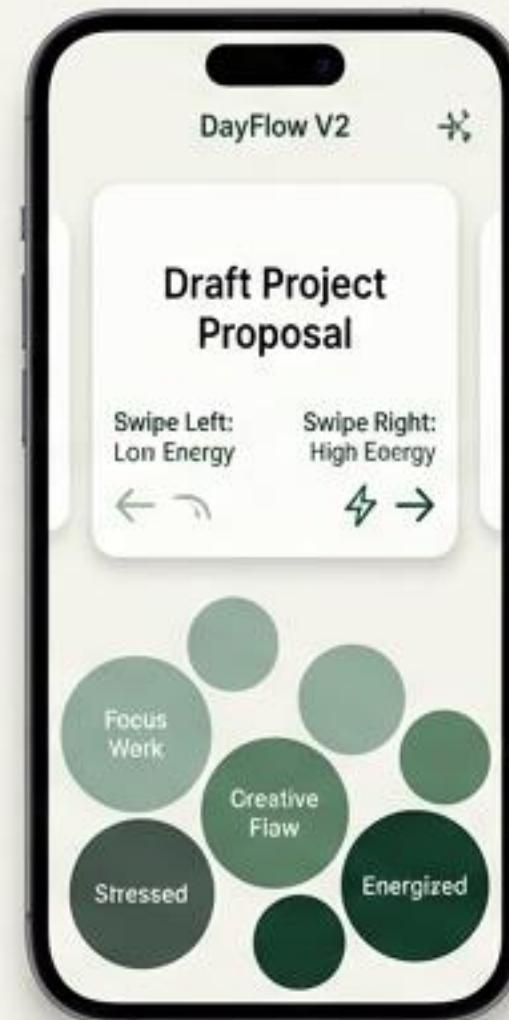
Inter Semi-Bold



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

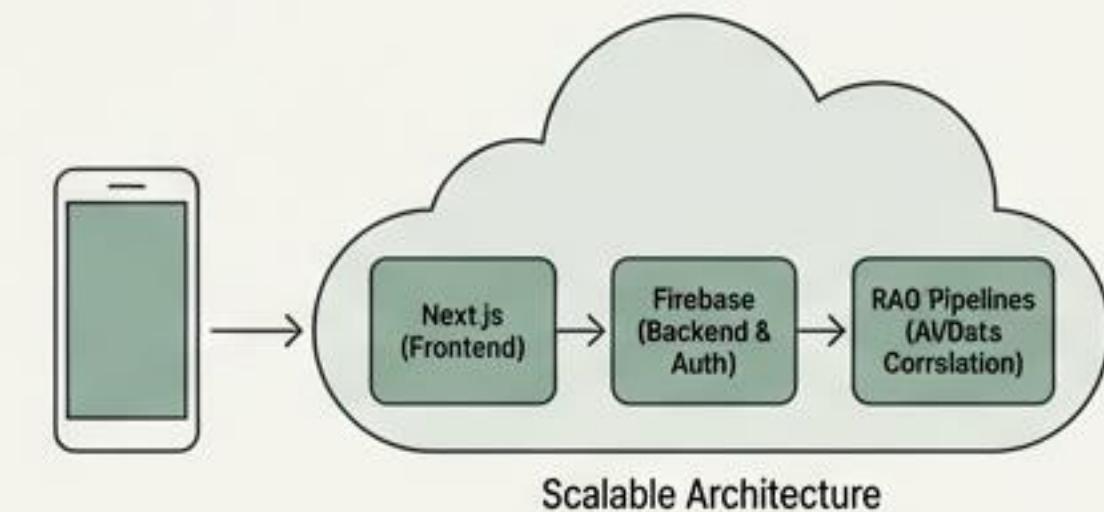
Inter Semi-Bold



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.

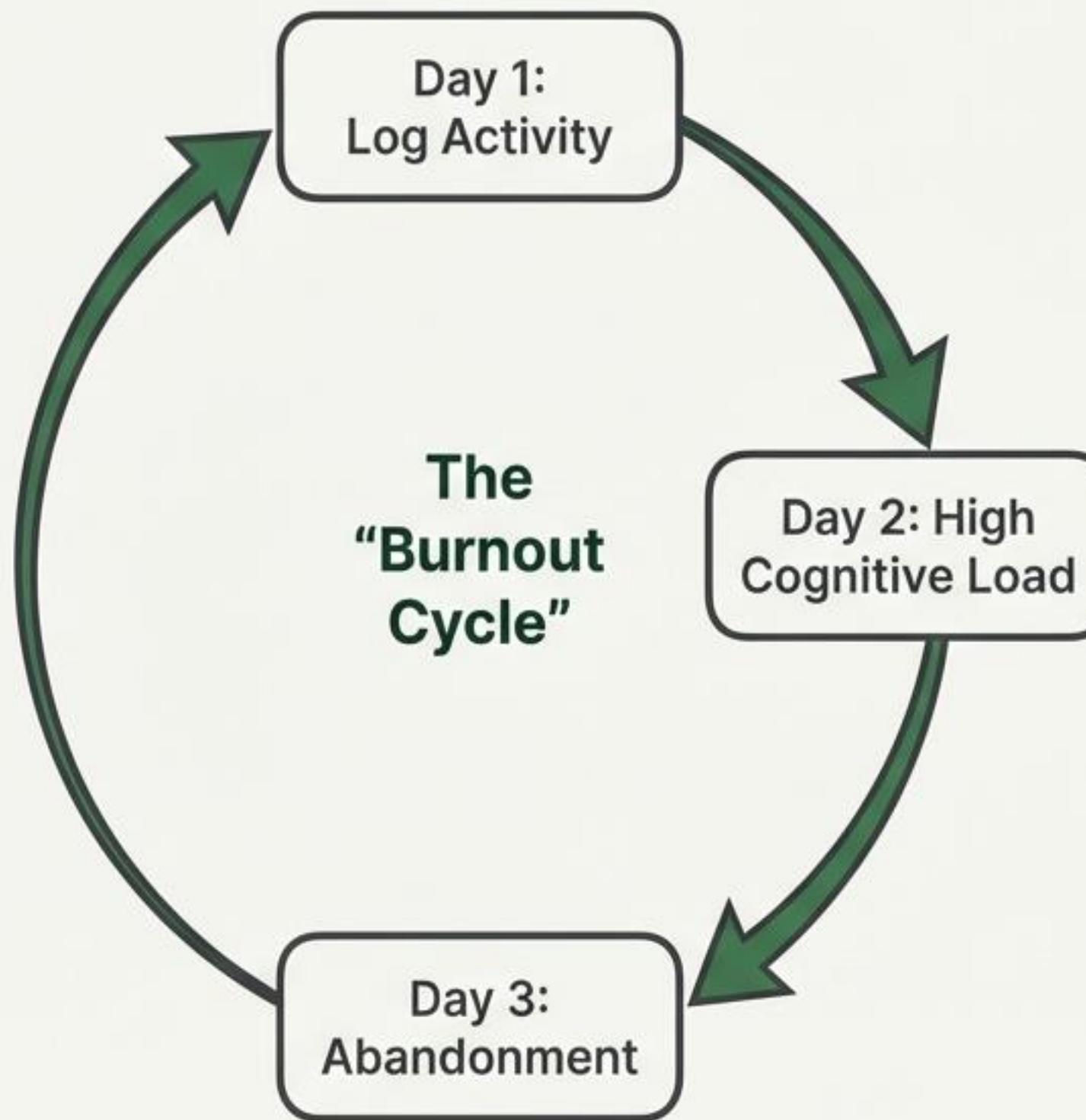
## The Impact

Inter Semi-Bold



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

A screenshot of a 'Tasklist Manager' application interface. The window title is 'Tasklist Manager - Airtable'. The table has columns: ID, Task ID, Project, Priority, Start Date, End Date, Duration, Notes, and Status. The data consists of 36 rows of task entries, each with a unique ID and various project names like 'Burnout Hackathon', 'Burnout & Burnout Hackathon', etc. The 'Status' column shows various states such as 'Completed', 'In Progress', 'Planned', etc.

ID	Task ID	Project	Priority	Start Date	End Date	Duration	Notes	Status
1	2000001	Burnout Hackathon	High	-	2023-09-23	00:00:00:000	Completed	Success
2	2000002	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
3	2000003	Burnout & Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
4	2000004	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
5	2000005	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
6	2000006	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
7	2000007	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
8	2000008	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
9	2000009	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
10	2000010	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
11	2000011	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
12	2000012	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
13	2000013	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
14	2000014	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
15	2000015	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
16	2000016	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
17	2000017	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
18	2000018	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
19	2000019	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
20	2000020	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
21	2000021	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
22	2000022	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
23	2000023	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
24	2000024	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
25	2000025	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
26	2000026	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
27	2000027	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
28	2000028	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
29	2000029	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
30	2000030	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
31	2000031	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
32	2000032	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
33	2000033	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
34	2000034	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
35	2000035	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success
36	2000036	Burnout Hackathon	Medium	-	2023-09-23	00:00:00:000	Completed	Success

- 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

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- 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

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- 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

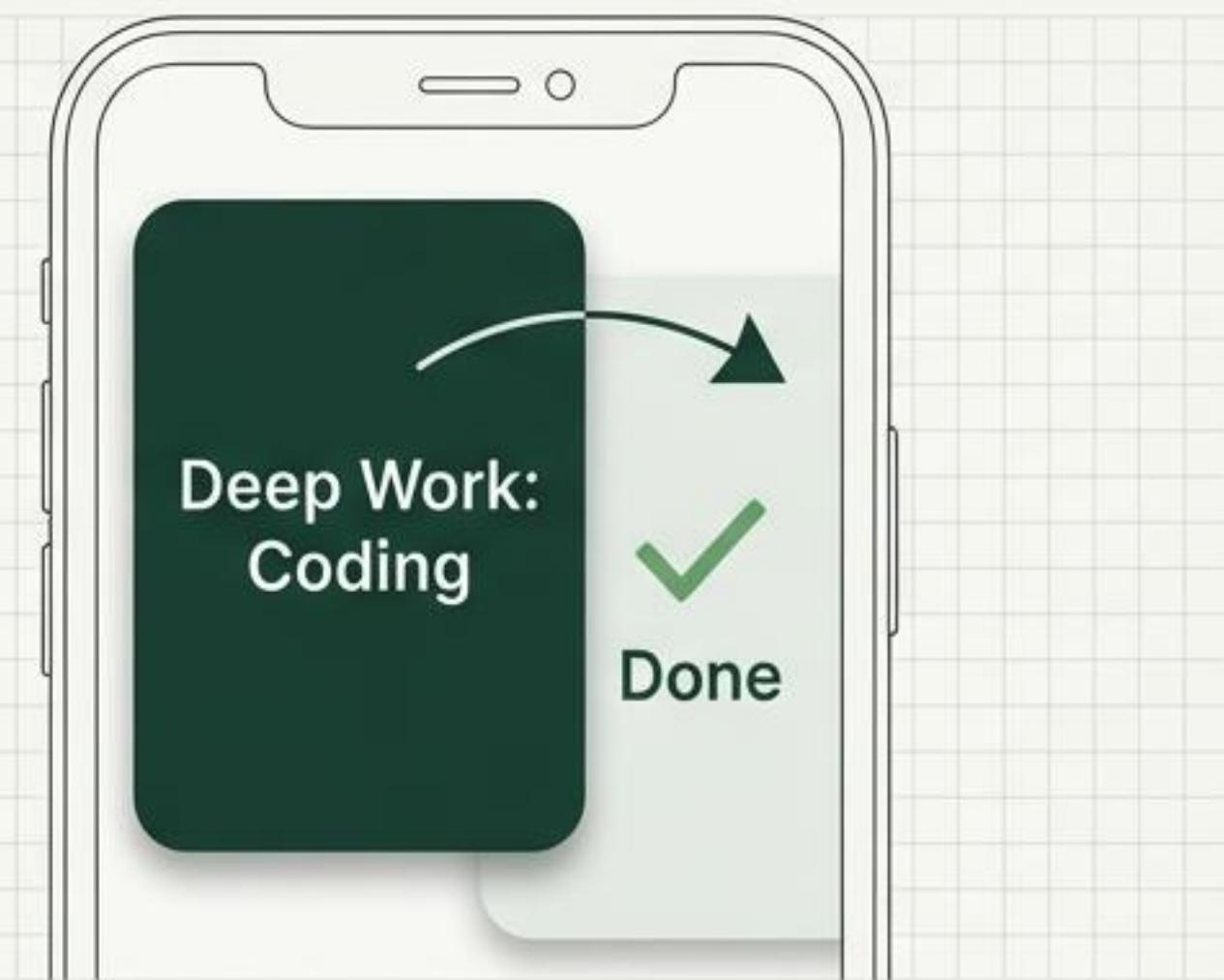


## Decision Log

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



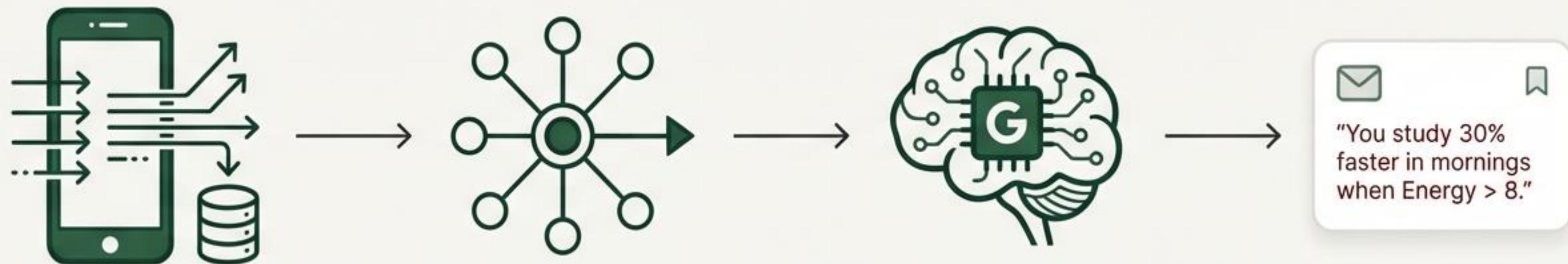
Swipe Right to Log.  
Reduces friction and decision fatigue.

## The Bubble Cloud



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

# The Intelligence Layer: From Raw Data to Active Coaching



## Data Ingestion

Logs + Mood Scores

## Orchestration (n8n)

Aggregates streams,  
 $O(N)$  Complexity sorting.

## RAG & Reasoning

System Prompt +  
User Context JSON

## Actionable Insight

Crimson Pro

Moving from quantitative summaries to qualitative energy optimization.

# Product Tour: The Ecosystem

The image displays a product tour for a mobile application, illustrating a seamless workflow from planning to analysis.

**January 2026**

Su	Mo	Tu	We	Th	Fr	Sa
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	<b>21</b>	22	23	24	25	26
27	28	29	30	31	1	2

No activities logged on this day.

Plan an Activity

**Study**

Swipe right to log, or left to skip.

**Log Your Day**

Log Mood & Energy

Study      Sleep      Exercise      Delivery

Working      Share      Promote      Other

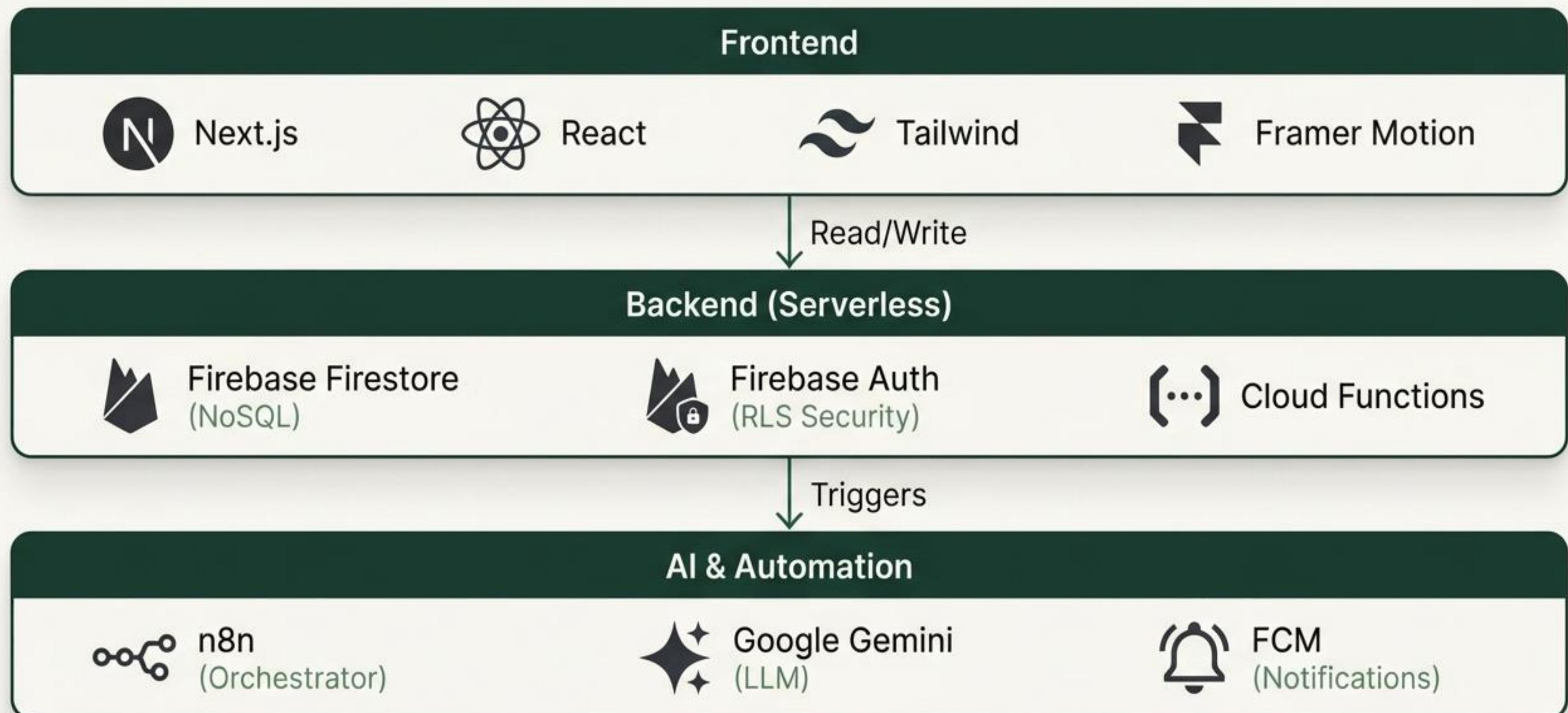
**Fill in the Gaps**

Have unlogged time? Let AI suggest what you might have been doing from 1:00 PM to 2:00 PM.

Get Suggestions

A seamless flow from planning to logging to analyzing.

# Technical Architecture: Serverless & Scalable



# Engineering Challenges & Solutions



## Challenge: Google Auth 403 Errors

Service accounts cannot write to user calendars.

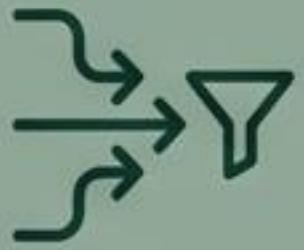
Solution: Inverted logic—App creates event on its own calendar and invites the user as an attendee.



## Challenge: Firestore Composite Indexing

Complex queries for 'Weekly Data' failed.

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

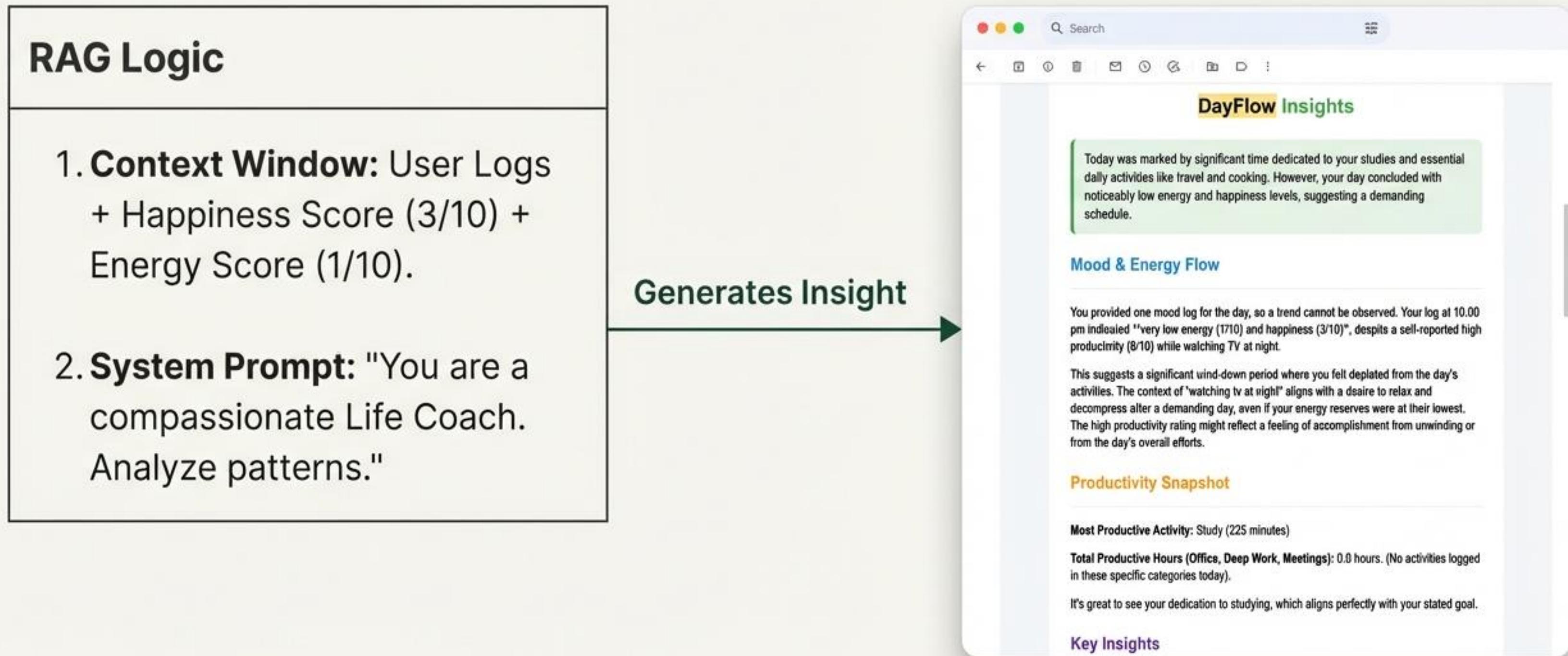


## Challenge: N+1 Data Aggregation

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



# Impact & Success Metrics

Friction Score Reduction

**9/10<sup>✓</sup>**

V2 (Native App)

~~4/10<sup>✗</sup>~~

V1 (MVP)

Value Shift

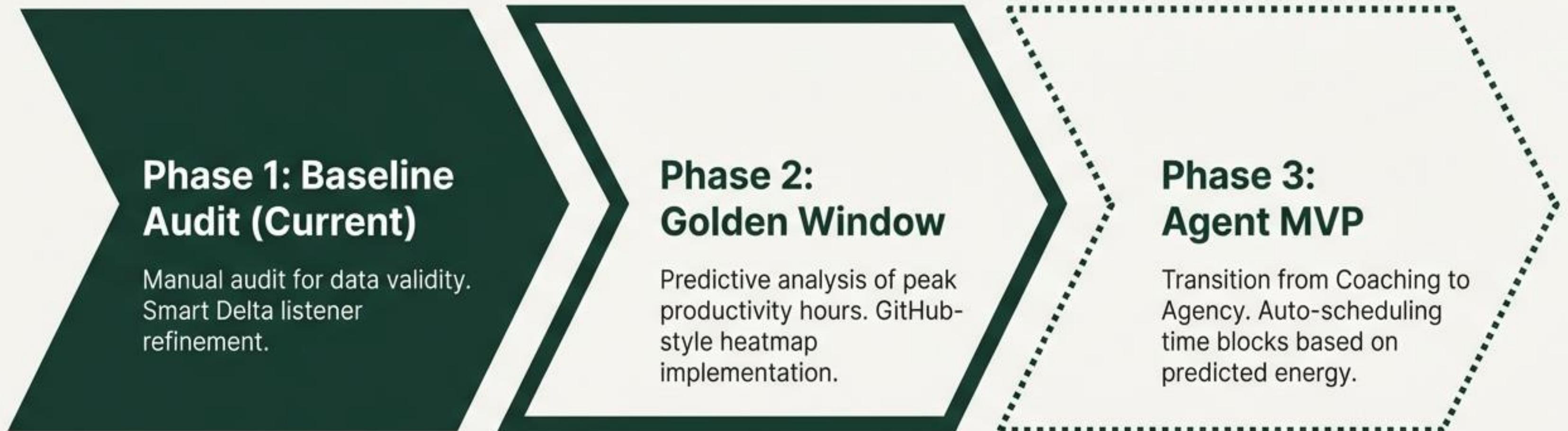
Old:  
Logging  
Time



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.