

HelloPM AI Product Management

Assignment 2: Reimagining a Product With AI & Prototyping

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Project Title: Smart Endurance: AI Predictive Power Management for iPhone

Overview

Previous studies have analyzed the battery management problem of the Apple iPhone 16 Pro Max. This document outlines a **Product Improvement Proposal** for a new iPhone feature called "**Smart Endurance**," which aims to replace traditional battery saving methods in the **iPhone 16 Pro Max** with **predictive AI**. Unlike the current manual "Low Power Mode," this system utilizes the **A18 Pro Neural Engine** to analyze a user's schedule and habits, preventing power depletion before it occurs. By making **granular hardware adjustments**, such as throttling background apps while maintaining high performance for active tasks, the AI ensures the device lasts until the user's scheduled bedtime. The proposal highlights a **UX prototype** that features **Dynamic Island notifications** and a transparency dashboard to build user trust through data-driven insights. Ultimately, the initiative seeks to eliminate **battery anxiety** for power users by leveraging **machine learning** to automate complex energy management decisions.

Your iPhone Should Just Last.

Introducing Smart Endurance: Predictive AI Power Management for the iPhone 16 Pro Max.



For Power Users, "Pro" Performance Creates a Daily Dilemma

Persona: Kwaku (Tech Enthusiast, 28).
His iPhone is his primary tool for
professional and creative work.

Scenario: Kwaku is at a major tech
conference. His day is a high-demand
workflow: recording 4K ProRes video,
tethering his laptop for live blogging, and
managing client communications.



At 2:00 PM, a Compromise is Forced.

- **The Situation:** Kwaku checks his phone. He has 40% battery left.
- **The Calculation:** If he does nothing, his phone will die by 5:00 PM, before the conference ends.
- **The Problem:** The only tool he has is Low Power Mode. But enabling it cripples his 'Pro' experience: the screen dims, ProMotion is disabled, and critical photo backups stop.



"He needs a middle ground that adapts to his specific needs."

Low Power Mode is a Dumb Switch for a Smart Device.



The Old Way (Low Power Mode)

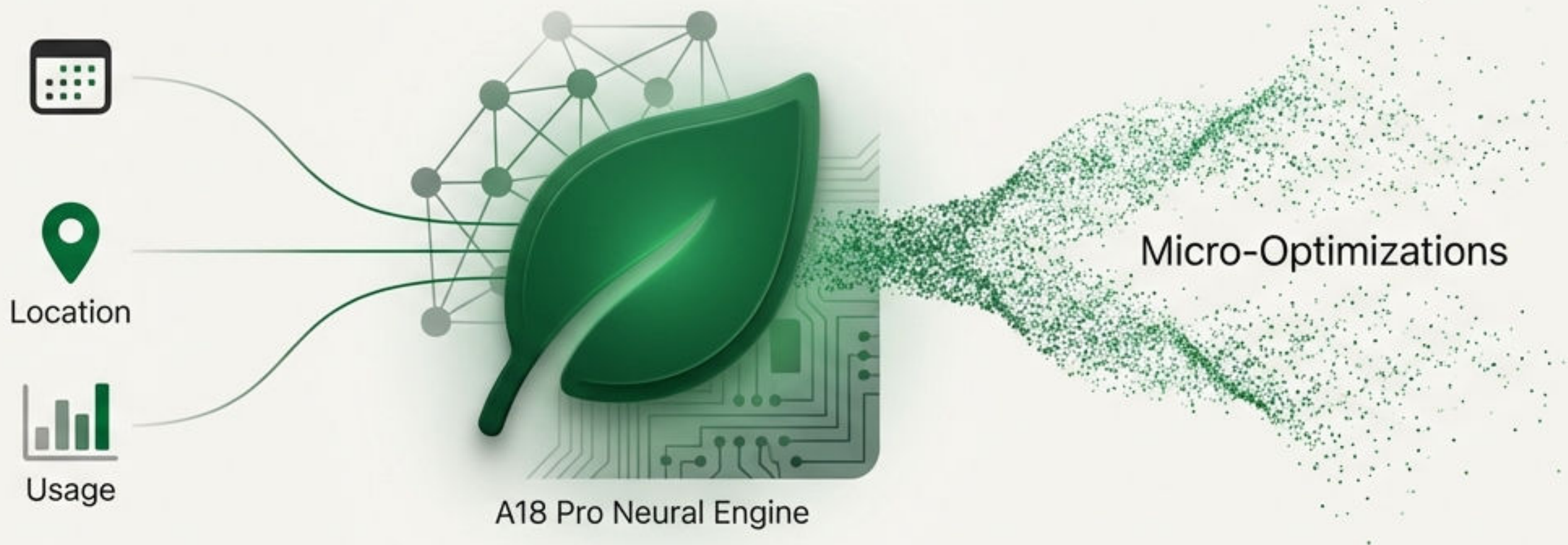
- **Reactive:** Activates only when battery is critical (e.g., 20%).
- **Blanket Restrictions:** Applies a universal set of compromises (lower refresh rates, stops mail fetch, reduces visual effects).
- **Manual:** Requires user intervention and cognitive load.

The Core Problem

- It forces users to sacrifice the very 'Pro' features they paid for.
- It fails to understand user context or intent.

The Solution is a Proactive, On-Device AI Agent

Smart Endurance



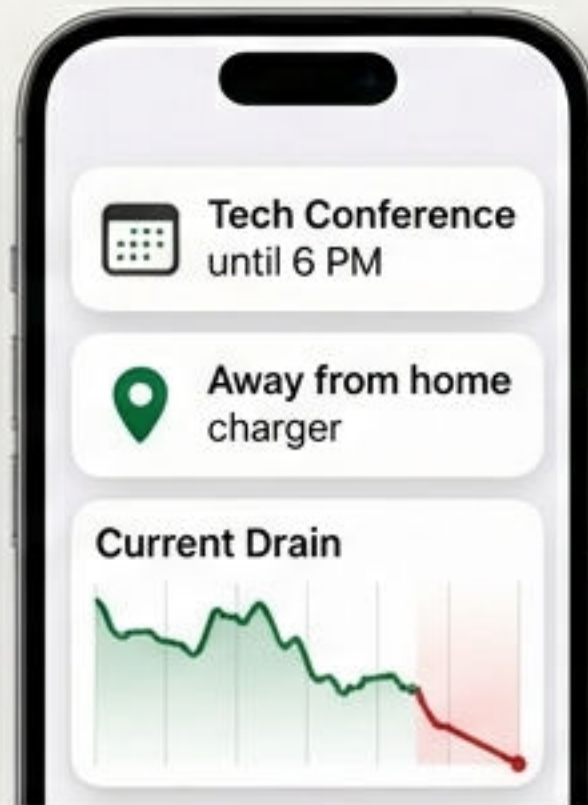
Predictive, not Reactive:
It anticipates energy deficits before they happen.

Granular, not Blanket:
It makes thousands of micro-optimizations, not one big compromise.

Autonomous, not Manual:
It removes the cognitive load of battery management.

The AI Predicts, Optimizes, and Extends.

1. Prediction



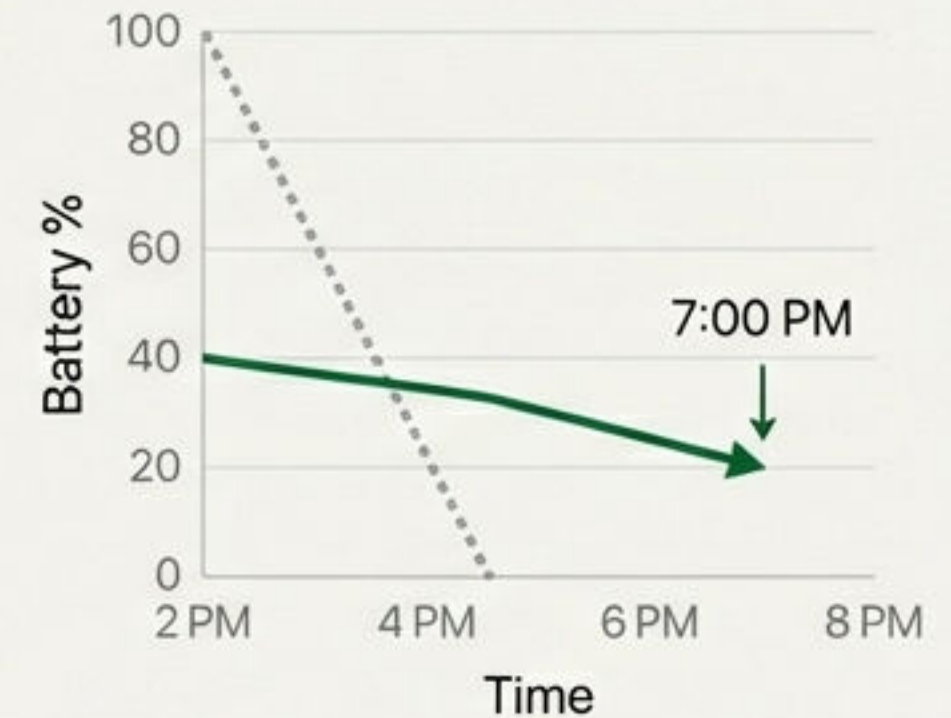
Calculation:
"At this rate, battery hits
0% at 4:30 PM."

2. Micro-Optimization



Imperceptible, granular
decisions.

3. Result



The battery curve flattens.
The phone now lasts until
7:00 PM without Kwaku ever
touching a setting.

Onboarding is a Single, Intentional Tap.

UX Flow: Phase 1: Setup



The 'Magic' Moment:
Simple setup for a powerful, personalized experience.

The Intervention is Subtle, Informative, and Reassuring.

UX Flow: Phase 2: The Daily Intervention

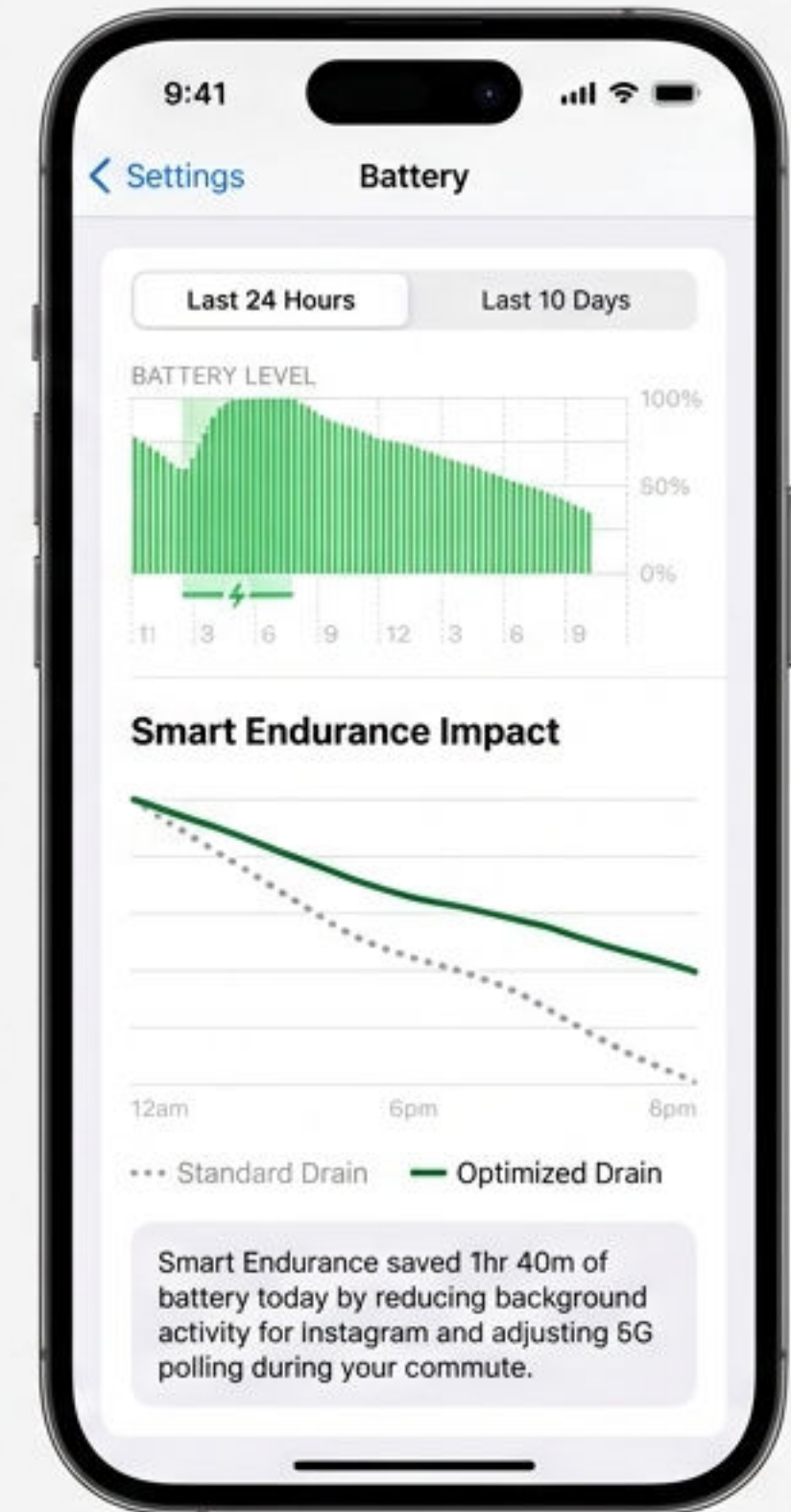
11:00 AM. Heavy usage detected.



The user is informed, not interrupted. They know the phone is working for them.

Transparency Builds Trust in the AI's Decisions.

UX Flow: Phase 3: The Transparency Dashboard
SF Pro Text Regular



The AI is Smart Enough to Know When to Pause.

UX Flow: Phase 4: Contextual Override

Kwaku takes a break and opens a high-performance game (Genshin Impact).

The AI detects a 'Focus' activity demanding maximum performance.

The AI serves the user's intent, never hindering it.



This is Purposeful AI, Embedded in Our Silicon.



Personalization

The AI uses **Reinforcement Learning**. It doesn't rely on generic rules. It learns Kwaku's specific habits, like when he stops checking email, to make unique optimizations for him.



Automation

It removes the cognitive load of constantly checking the battery percentage. The user simply trusts the phone to "make it home."



Hardware Synergy

It leverages the A18 Pro's Neural Processing Unit (NPU) to make thousands of micro-decisions per hour about voltage and clock speeds—a level of granularity impossible for a human to manage manually.

We Will Measure Success by a New Standard of Reliability.

Primary Metric

Percentage of days users reach 'Bedtime' (detected by their sleep schedule) with >5% battery remaining.

Secondary Metric

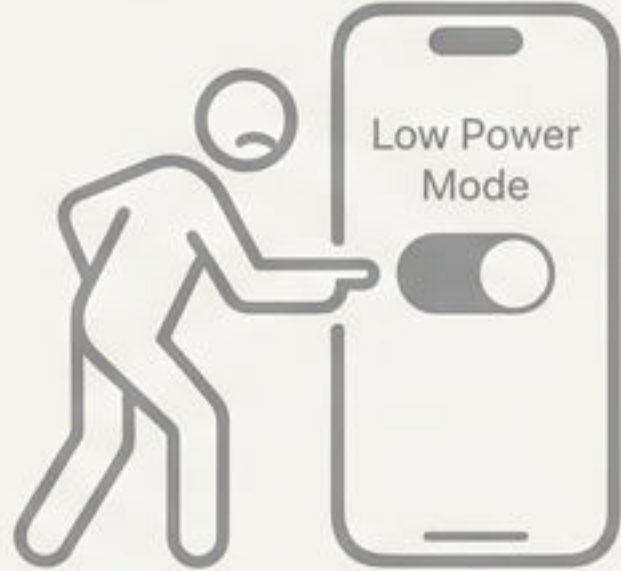
A significant reduction in the number of manual 'Low Power Mode' toggles by Pro Max users.

User Sentiment

An increase in survey scores for the question:
"Does your iPhone battery feel reliable?"

We Are Moving from Reactive Management to Predictive Trust.

Before



Compromise

After



Confidence

Smart Endurance solves the #1 complaint for our Pro users, finally delivering on the promise that a "Pro" iPhone works for you, not the other way around.