

# Pluggy: Comprehensive Business Proposal

Ryan Deng, Yihan Zhang, Mercy Lawal, Bowen Liao, Amy Rivera Franco

*The University of North Carolina at Chapel Hill*

The World's First 30W Gamified Charger for Digital Detox.

## 1. Executive Summary

**Ctrl+Alt+Offline** is not just an app; it is a hardware-enabled ecosystem designed to redefine the bedtime ritual for Gen Z. Addressing the epidemic of "revenge bedtime procrastination," we combine **physical constraints** (a charger that stops charging if you use your phone) with **psychological rewards** (a blind-box style "Charging Oracle" and collectible skins).

We enter the market with a "**Trojan Horse**" strategy: selling a high-spec 30W GaN charger at an aggressive price point (\$19.90), and generating long-term profit through a high-margin "**Skin Economy**" and gamified app ecosystem.

## 2. Problem & Insight

- **The Problem:** College students suffer from severe sleep deprivation due to late-night phone usage. Existing solutions fail because software blockers (Screen Time) are easily ignored, and physical lockers (Yondr) are too inconvenient for daily dormitory use.
- **The Insight:**
  1. **The Necessity Principle:** Students *must* charge their phones every night. By controlling the charger, we create a barrier that is harder to ignore than a software popup.
  2. **True Needs:** Excessive phone use is often a "False Substitute" for unmet needs like socialization or relaxation. Punitive measures alone fail; we must offer emotional or social compensation.
  3. **Loss Aversion:** Students are more motivated by the fear of losing progress (or a bet) than by the promise of a generic reward.

### 3. The Solution: Hardware + Software Ecosystem

#### A. Hardware: The "Trojan Horse"

We embed a behavioral intervention chip into a daily necessity.

- **Specs: 30W GaN (Gallium Nitride) Fast Charger.** Compact size, capable of charging iPhones, iPads, and MacBook Airs.
- **Pricing Strategy: \$19.90 - \$24.90.**
  - *Competitive Edge:* Significantly cheaper than the official Apple 30W Charger (\$39) and smaller in size. Even without the detox features, it is a high-value accessory.
- **Smart Control:** Built-in Bluetooth/Wi-Fi handshake module and a power relay.
  - *Mechanism:* When the App detects a violation, the hardware **physically cuts the power**.

#### B. Software: The "Charging Oracle" Ritual

Adapting the *Offline Oracle* framework, we turn the charging process into a digital "incubation" ritual.

- **1. The Trigger (Bedtime):**
  - User plugs in the phone. The App recognizes the "Smart Handshake" and enters **"Incubation Mode"**.
  - **Grace Period:** A 3-minute countdown to reply to final texts before the lock engages.
- **2. The Challenge (Sleep):**
  - The phone screen displays a glowing, incubating "Digital Egg."
  - If the user unlocks the phone for >30 seconds during sleep hours, the **charger cuts power**, and the "egg" cracks (incubation fails).
- **3. The Reward (Wake Up):**
  - Upon unplugging in the morning, the "egg" hatches.
  - **The Daily Fortune:** Instead of a paper slip, the user receives a digital card with a specific action prompt (e.g., "Today's Mission: Eat breakfast with a stranger").
  - **Loot Drop:** The fortune comes with **Sleep Coins** or rare **Skin Shards**.

#### C. Innovation

Hardware Innovation: The "Trojan Horse" Strategy

- **Beyond Utility:** We transformed a "dumb" utility (the charger) into an intelligent behavioral referee.
- **Zero Friction Entry:** Unlike phone lockboxes (Yondr) which require extra effort, our solution is built into a daily necessity. Students *must* charge their phones; we just added a rule to it.
- **Physical Enforcement:** We rely on **physics, not willpower**. By physically cutting the power via the relay, we create a tangible barrier ("The Click") that software blockers simply cannot replicate.

#### 2. Social Innovation: Weaponized Accountability

- **From Solitary to Multiplayer:** Current apps (Forest, Screen Time) are single-player experiences. We introduce **Social Betting (The Bet)**.
- **Loss Aversion:** We leverage the psychology that "losing a coffee to a friend" is a stronger motivator than "gaining a virtual badge".
- **Proof of Sleep:** The hardware acts as the trusted "Oracle," verifying the bet result automatically, eliminating the need for manual screenshots or honesty.

### 3. Economic Innovation: The "Phygital" Loop

- **Dream Incubation:** We turned "sleeping" into "grinding for loot." The longer you sleep, the better your reward (Skins/Coins).
- **O2O Skin Economy:** We are the first to link digital achievements directly to physical hardware customization (NFC Skins). This creates a retention loop: Sleep well -> Get Skins -> Show off Hardware -> Sleep better.

## 4. Design & Aesthetics: The "Skin Economy"

We treat the charger as a collectible "designer toy" (like Pop Mart) to drive desire and retention.

### Limited Edition Collections

- **The Masterpiece Series:** Designs featuring Van Gogh's *Starry Night* or Monet's *Water Lilies*. Slogan: *"Sleep like a masterpiece."*
- **School Pride Series:** UNC "Carolina Blue" edition. Slogan: *"Power Your Tar Heel Spirit."*
- **Cyber-Transparent Edition:** A clear casing revealing the internal chips and relay, targeting tech enthusiasts.

### O2O (Online-to-Offline) Sync

- **NFC Integration:** The physical charger shells contain NFC tags. Tapping the phone to the charger automatically unlocks the matching **Virtual Theme** in the App.
- **Acquisition Model:**
  - *Cash Purchase:* \$9.99 for a physical skin + virtual theme.
  - *Habit Grind:* Purchase for \$2.99 + **1,000 Sleep Coins**. This forces users to maintain healthy sleep habits to access the "cool" designs at a discount.

## 5. Core Mechanics: Rules & Betting

### Social Betting 2.0 (Peer-to-Peer)

Focusing on small groups rather than large guilds to maximize accountability.

- **The Wager:**

- User A challenges User B: "Sleep by 11:00 PM. Stake: One Coffee."
- The App records this as an **IOU (I Owe You)** to avoid gambling regulations.
- **The Verdict:**
  - **Winner:** Receives the IOU badge and gains **Skin Shards**.
  - **Loser:**
    1. **Physical Consequence:** Phone stops charging immediately upon violation.
    2. **Social Consequence:** The App posts to the "Friend Feed": *"Ryan lost the bet. He owes Amy a Starbucks."*
    3. **Redemption (True Needs):** To clear the negative record, the loser must complete a "True Need" task (e.g., "Leave the phone in the dorm and take a 10-minute walk").

### **Emergency Override (The Panic Button)**

- Users get **2 Emergency Overrides** per month.
- *Action:* Long-press a button on the lock screen to restore power.
- *Cost:* The user keeps their phone battery, but the "Streak" is broken, and no loot drops are earned for that night.

## **6. Go-to-Market Strategy**

**Slogan:** *"Charge Your Sleep. Or Don't Charge at All."*

### **Phase 1: Guerrilla Launch (The "Dead Battery" Challenge)**

- **Location:** UNC Davis Library / The Pit.
- **The Stunt:** Set up a charging station. Participants must have <10% battery.
- **The Rules:** Plug in. If you touch your phone for 20 minutes, the charger cuts power instantly.
- **Goal:** Visually demonstrate the "High Stakes" nature of the product.

### **Phase 2: Viral Loop**

- **The Wall of Shame:** A feed in the App showing "Failed Incubations" and "IOU Debts." Encourage users to share these onto Instagram Stories/TikTok.
- **Morning Unboxing:** Encouraging users to share their "Daily Fortune" and "Skin Pulls" (Gacha results) on social media.

## **7. Operations & Roadmap**

### **Supply Chain Strategy**

- **MVP (Minimum Viable Product):**
  - Instead of manufacturing a full charger, we first produce the **"Smart Dongle"**.

- *Form Factor:* A USB-C Male-to-Female adapter containing the ESP32 chip and relay.
- *Cost:* <\$5 per unit.
- *Benefit:* Compatible with any existing charger; validates the software logic with minimal risk.
- **Full Product:**
  - Pivot to the custom 30W GaN Charger once the user base is established.

## 8. Business Model: The "Trojan Horse" Ecosystem

### 1. Value Proposition

- **To Students:** Access to a high-performance 30W fast charger at a price lower than market competitors (\$19.90 vs. Apple's \$39), while gaining a gamified, ritualistic "Sleep Game" experience and social currency.
- **To Universities/Parents:** A non-coercive, voluntary digital wellness intervention that effectively improves student sleep quality and academic performance.

### 2. Revenue Streams

We have designed a three-tiered revenue structure, progressing from "User Acquisition" to "User Retention" and finally to "Value Extraction."

#### A. Hardware Sales (Acquisition Layer) - *Low Margin*

- **Product:** Ctrl+Alt+Offline 30W GaN Smart Charger (or "Smart Dongle" for the MVP phase).
- **Pricing Strategy:** \$19.90 - \$24.90.
  - *Strategic Logic:* This is aggressive pricing, aimed at undercutting competitors like Anker or the official Apple charger. We view hardware as our Customer Acquisition Cost (CAC). We are willing to accept near-zero profit margins to successfully occupy the user's bedside socket.
- **Channels:** Kickstarter, Campus Pop-up Stores, Amazon.

#### B. Skin & Pop-Toy Economy (Profit Layer) - *High Margin*

This is our core profit driver, transforming the "Fortune Slip Reward" concept into purchasing power.

- **Physical Limited Skins:**
  - **Product:** Charger replacement shells or magnetic skins with embedded NFC chips.
  - **Pricing:** \$9.99 - \$14.99 / unit.
  - **Collections:** Van Gogh Masterpiece Series, UNC Alumni Series, Cyber-Transparent Series.
  - **Interaction:** Tapping the skin via NFC instantly syncs the App's UI theme to match.
- **Digital Gacha (Blind Box):**

- **Mechanism:** The morning "Egg Incubation" has a chance to drop common shards. Users can pay for micro-transactions like "**Incubation Boosters**" or "**Lucky Charms**" to increase the drop rate of rare skin shards.
- **Pricing:** \$0.99 - \$4.99 (Micro-transactions).

### C. Services & Privileges (Retention Layer) - *Recurring Revenue*

- **"Panic Button" (Regret Pill):**
  - *Pain Point:* Users urgently need power at 2 AM but don't want to lose their Streak or the bet.
  - *Pricing:* 2 Free passes/month, then **\$1.99 / use**.
- **Battle Pass (Season Pass):**
  - *Product:* A seasonal subscription similar to gaming passes.
  - *Benefits:* Unlocks advanced sleep analytics, exclusive avatar frames, and 2x Coin earnings.
  - *Pricing:* **\$4.99 / month** or **\$19.99 / semester**.