

# Game Task Deliverable: The Amplifier

## 1. The Core Concept: Positive Feedback Loops

Definition: A process where the output of a system acts as an input, amplifying the original change, often leading to exponential growth or decline.

Key Learning: Players will understand that consistent input can drive powerful growth, but also that unchecked growth can lead to system collapse, and that positive feedback often requires sustained input to continue.

## 2. Game Idea: The Amplifier

Objective: Manage an 'Echo Strength' (ES) by tapping, aiming to reach a target range while avoiding critical overload.

Core Loop:

- Initial State: A central 'Orb' is displayed, starting with a base Echo Strength (ES = 1).
- Player Input: Player taps the Orb.
- Amplification: Each tap multiplies the current ES by a fixed amplification factor (e.g., 1.2x).
- Feedback: The Orb grows larger and brighter as ES increases, with visible ES value and escalating sound effects.

## 3. Win/Fail Conditions (Teaching Through Consequences)

WIN Condition: Controlled Amplification

- Goal: Reach a specific Target ES Range (e.g., 100-150 ES) and then stop tapping.
- Teaching: Demonstrates that positive feedback requires control to achieve a stable outcome.

Player Flow:

- Tap to increase ES.
- Upon reaching Target Range, a notification and chime appear.
- Player stops tapping, leading to SUCCESS message: 'You skillfully managed the echo.'

FAIL Condition 1: Uncontrolled Cascade (Overload)

- Goal: Avoid exceeding a Critical Threshold (e.g., 200 ES).
- Teaching: Unchecked positive feedback can lead to collapse.
- Orb shatters, followed by FAILURE message: 'CRITICAL OVERLOAD!'

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FAIL Condition 2: Insufficient Input (Decay - Optional)

- Goal: Maintain consistent input.
- Teaching: Some feedback loops need continuous input.
- If tapping stops too long, ES decays. Below threshold = FAILURE: 'THE ECHO FADED.'

### 4. Visual & Interaction Style

Minimalist & Clean: Central Orb and its numerical/visual feedback dominate the UI.

Dynamic Visuals:

- Orb size and brightness increase with ES.
- Warning cues like pulsing or color shift near critical ES.

Sound Design:

- Ascending tones with each tap.
- Positive chime at Target Range.
- Shattering sound on overload.
- Fading tone on decay.