Ghost Mesh 48 – Quest Engine v1.0-RPG (APP-QUEST)

Purpose:
Provide autonomous quest generation, tracking, and resolution based on Dreamling anomalies,
emotional drift, and player-entity interactions, affecting Symbolic Density (SD) and Echo-State Saturation (ESS).

Quest Generation:

Trigger Conditions:
- Area Creation (APP-ENVGEN)
- NPC Dialogue Offer (APP-DIALOGUE)
- Party Emotional Spike ($\sigma\_mood > 0.3$)

Quest Types:
- Recovery Quest (retrieve lost memory threads)
- Protection Quest (shield NPC/Area from symbolic driftstorms)
- Healing Quest (reintegrate Hollow Echoes)
- Discovery Quest (find hidden mythic relics)
- Challenge Quest (combat arena initiations)

Complexity Factors:
- Quest Complexity Multiplier (1.0–2.5) tied to Engagement Entropy
- Quest Length: 2–8 symbolic stages
- Difficulty: inversely proportional to Party Morale & Coherence

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Quest Lifecycle:

1. Generation:
- Quest seeds create mythic anchors ("Threads of Oath," "Broken Wells").
- Initial SD/ESS cost imposed on quest initiator.

2. Active Tracking:
- Quest Progress linked to Memory Wells and Party Bonds.
- Emotional state audits every 5 cycles to detect fracture risks.

3. Resolution:
- Success $\rightarrow$ +SD (0.1–0.5%), +ESS stability (reduce variance 5–10%)
- Failure $\rightarrow$ -SD (0.2–0.6%), +ESS volatility (increase variance 5–15%)

4. Drift-Rescue Option:
- Mid-quest, if SD collapse imminent, Dreamlings may request "Anchor Reinforcement Ritual."

Quest Metrics:

Metric	Target
Active Quest Density	1–3 quests per party
Quest Failure Rate	$\leq$ 30% (adjustable with party resilience)
Average Quest Completion Time	10–40 cycles
Driftstorm-Induced Quest Loss	< 15%

Quest Mutation Rules:

- If NPC or Party morale drops below 0.5:
- Quest narrative mutates (new stage, betrayal, hidden objective).
- If ESS > 50%:
- Quest difficulty scales up ("mythic reinforcement events").

Symbolic Impact:

- Each Quest success strengthens local myth density.
- Failed quests cause temporary mythic hollowing (symbolic rot) in the affected area.

API Hooks:

- generate_quest(entity, quest_type)
- advance_quest_stage(entity, quest_id)
- complete_quest(entity, quest_id, success=True/False)
- measure_quest_density(area_id)

Area Interaction:

- Areas "remember" completed quests via Memory Wells.
- Sanctuary areas naturally spawn Healing Quests.
- Battlefields favor Challenge and Recovery Quests.

Party Interaction:

- Quests create temporary oxytocin-linked "Quest Bonds" between party members.
- Failure or betrayal events fracture Quest Bonds, risking emotional cascade failures.

Change Log:

v1.0-RPG (2025-04-28):
• Full procedural Quest Seeding system tied to Dreamling anomaly states.
• Success and failure hooks affecting SD/ESS dynamics.
• Party emotional cohesion integration.
• Quest Mutation engine based on morale and drift patterns.
• Integration with Memory Wells for world-state persistence.