

Game Design Document (GDD)

Title: *Midden*

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1. Overview

Midden is a post-apocalyptic roguelike set in a near-future world ravaged by a lab-engineered disease and the aftermath of military AI gone rogue. The player leads a team of archaeologists exploring remote sites and ancient underground realms, piecing together clues about a long-hidden subterranean civilization. As the narrative unfolds through dynamic interactions and emergent storylines, players discover that the technology that once promised salvation is, paradoxically, the same force that brought ruin to both the surface and the underground.

2. Story and Setting

Setting

- **Time:** Near future
- **Environment:** A world in decay—urban ruins, overgrown battlefields, and increasingly, a hidden underground realm.
- **History:**
 - A catastrophic lab-created disease and AI-driven military robots decimated the surface population.
 - A subterranean civilization, long interacting with surface humans, survived below and left behind cryptic artifacts and technology.
 - The irony: the same technology harnessed by military forces above, inspired by these ancient artifacts, also contributed to the downfall of both worlds.

Narrative

- **Protagonists:** A small, determined team of archaeologists exploring remote, mysterious sites.
- **Mystery:** The gradual discovery of artifacts leads to the revelation of a once-thriving underground society—and active, working technology hidden within intact towns.
- **Themes:**
 - The dual nature of technology: creation vs. destruction.
 - The interplay of fate and free will in a world where history is continuously rewritten.
 - The conflict between controlled scientific progress and the unpredictable nature of emergent narratives.

3. Gameplay Mechanics

Core Gameplay Loop

- **Turn-Based Movement:**
 - Players use movement points to navigate a procedurally generated world (each square representing a 3D environment rendered initially via cursors).
 - After each turn, the game world “responds” as the LLM processes the current state and generates narrative and mechanical updates.
- **Dynamic Exploration:**
 - The world unfolds like layers of an archaeological dig—starting with fragmented relics, moving to intact ruins, and finally culminating in the discovery of functioning technology.
 - Each layer of exploration deepens the mystery and alters gameplay, forcing the player to adapt strategy based on newly discovered resources and challenges.

Interaction with Artifacts and Technology

- **Artifact Discovery:**
 - Artifacts vary from simple relics to complex devices.
 - Each artifact holds lore, schematic hints, and potential upgrades for survival or defense.
 - Artifacts directly tie into both the historical narrative and the gameplay mechanics by influencing team abilities, environmental interactions, or triggering new narrative threads.
- **Working Technology:**
 - As players progress, they encounter not only relics but also intact, operational technology.
 - This tech serves as both a gameplay mechanic (providing upgrades or new abilities) and a narrative pivot—forcing players to question the dual-edged nature of technological progress.

4. Dynamic Narrative & LLM Integration

Turn-Based Dialogue with the LLM

- **Structured Turns:**
 - **Player Turn:** The archaeologist team acts—moving, excavating, interacting with the environment.

- **LLM Turn:** Once the player's actions conclude, a pre-defined set of instructions is sent to an LLM server (using a smaller parameter model, e.g., 1B or 3B GGUF) to process the game state and update the narrative and mechanics.
- **Explicit Task Instructions:**
 - The LLM is provided with a detailed context, including current player actions, artifact data from the database, and environmental conditions.
 - The LLM follows modular, if-then style rules to generate narrative outputs, introduce new game elements, or adjust mechanics.
 - For example, "If the player uncovers a relic in a certain zone, then generate a narrative segment revealing part of the subterranean civilization's backstory and possibly trigger a change in local environmental conditions."

Database of Fundamental Objects

- **Database Structure:**
 - A central repository of artifacts, relics, environmental features, and historical lore.
 - Each entry includes metadata: origin, historical significance, potential influence on game mechanics, and narrative cues.
 - **Emergent World Building:**
 - The LLM queries this database to craft new locations, challenges, and narrative twists.
 - Over time, the dynamic interplay between static data and LLM outputs creates an evolving, non-linear storyline that is both guided and surprising.
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5. Mechanics & Systems Integration

Balancing Control and Emergence

- **Modular Rule Set:**
 - Develop explicit instructions that bind the LLM's output to the established lore and mechanics.
 - Include safeguards: fallback narratives or corrections to ensure coherence if the LLM's output diverges from the intended tone or historical context.
- **Feedback Loops:**
 - Implement systems where player actions influence the LLM's subsequent output.
 - Choices may have ripple effects, such as unlocking secret narrative branches, altering artifact properties, or even changing environmental dynamics (e.g., a shift in weather or unexpected enemy encounters).

Procedural Generation

- **Infinite World:**

- A procedurally generated map system reminiscent of Minecraft’s block-based approach, yet rendered with the precision of turn-based cursor mechanics.
 - Each “tile” holds potential for unique interactions and narrative cues derived from the database.
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6. Art & Sound Direction

Visual Style

- **Initial Phase:**
 - Use cursor-based graphics to focus on gameplay mechanics and narrative structure.
- **Future Upgrades:**
 - Plan for a transition to graphical assets that still maintain the stark, mysterious ambiance of a post-apocalyptic, underground world.

Audio

- **Mood-Setting Soundtrack:**
 - Ambient sounds reflecting decay, mystery, and the eerie nature of lost civilizations.
 - Narrative cues and subtle sound effects (e.g., echoes, distant mechanical hums) that reinforce the unfolding mystery and tension.
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7. Narrative Bible

World History & Lore

- **Timeline:**
 - Document the rise and fall of both surface and subterranean civilizations.
 - Track how artifacts influenced military technology and ultimately contributed to global downfall.

Character and Faction Bios

- **Archaeologist Team:**
 - Backgrounds, motivations, and how each member interacts with both technology and ancient lore.
 - **Subterranean Civilization:**
 - Mysteries, key figures, cultural artifacts, and their relationship to the surface world.
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8. Technical Considerations

LLM Server Integration

- **Model Specifications:**
 - Use a lightweight LLM (1B or 3B GGUF) optimized for real-time turn-based processing.
- **API & Data Flow:**
 - Clearly defined endpoints for the player turn data and the LLM's narrative output.
 - Ensure the system can gracefully handle the transition between the player's turn and the LLM's narrative update without lag or disruption.

Scalability and Testing

- **Emergent Behavior:**
 - Continuous testing to ensure the narrative remains coherent and the LLM's outputs align with the intended historical context.
 - **Data Integrity:**
 - Regular checks to reconcile the dynamic outputs with the static database, ensuring that historical cues and game mechanics evolve in harmony.
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9. Future Considerations & Expansion

- **Narrative Flexibility:**
 - As you iterate on the design, continue refining the explicit instructions to allow more nuanced and emergent story threads.
- **Player Feedback:**
 - Incorporate mechanisms for player decisions to have long-lasting effects on the narrative and mechanics, deepening the mystery and encouraging replayability.
- **Modding Support:**
 - Build the foundation for a mod-friendly architecture, so the community can expand the database of artifacts and lore, fostering an ever-evolving conversation between past and future.