

# ELEMENTAL PLANETS

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MMI505 PROJECT FINAL PHASE

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# THE IDEA

- "An adventure RPG where players explore four elemental planets to restore balance."
- Inspired by Avatar: The Last Airbender.
- Key Features:
  - Elemental bending.
  - Exploration, combat, and puzzle-solving.

# PHASE II PROGRESS AND RESULTS

- Features added:
  - Adaptive AI.
  - Procedural level generation.
  - Earth scene tutorial level is completed.
- Challenges overcome:
  - Balancing difficulty.
  - Integrating procedural generation.

# STAGES

## **Concept stage**

- Storytelling and narrative is decided
- Main level design layout is decided.
- Main characters are designed
- Core mechanics are designed

# STAGES

## **Elaboration stage**

- Enemy AI is developed.
- Main character skills are developed.
- Basic UI is designed
- Different planet levels and bosses are developed.
- Narrative is added to the game through NPCs.
- Items and inventory management is added.
- Boss fight mechanics and animations are added.

# STAGES

## **Tuning stage .**

- Boss models have changed and animation are added.
- Skill effects are added.
- Main menu UI is added.



# CHALLENGES

- Adaptive Combat: Players face enemies with adaptive AI, requiring them to adjust strategies as enemies grow smarter and more aggressive within the encounter.
- Skill Management: Limited cooldowns for elemental skills force players to make strategic decisions about when and how to use their abilities during combat.
- Resource Scarcity: Players will have to manage health, quest items, and environmental interactions efficiently to progress, especially in puzzle quests.

# PROJECT COMPLETION: GOALS AND ACHIEVEMENTS

- **Phase I Goals:**
  - Story and elemental themes.
- **Phase II Goals: ( Completion was %60)**
  - Initial Earth realm with placeholder assets.
  - Procedural generation and AI.
- **Final Phase Goals: ( Completion is %90)**
  - Fire, Water, Air realms.
  - Boss fights
  - Teleportation logic
- What is missing:
  - Procedural generation constraints.
  - AI tuning challenges.
  - Consumables and skill tree



# FINAL OUTCOMES AND RESULTS

- Completed:
  - Four elemental planets with quests, bosses, and teleportation.
  - Engaging narrative and NPC interactions.
- **Completion Percentage: 90%.**

# LIMITATIONS AND FUTURE WORK

- **Limitations:**
  - Adaptive AI optimization.
  - Procedural generation for thematic consistency.
  - The animations and models.
- **Future Work:**
  - Expand story content (e.g., post-game challenges).
  - Refine AI and puzzle complexity.

# DEMO VIDEO

- <https://youtu.be/z1sDBA0OQ6g>

# REFERENCES AND RESOURCES

- **Unity Packages:**
  - **AI Navigation** – Version 1.1.5
  - **Burst** – Version 1.8.12
  - **Cinemachine** – Version 2.9.7
  - **Core RP Library** – Version 14.0.10
  - **Input System** – Version 1.7.0
  - **Post Processing** – Version 3.4.0
  - **ProBuilder** – Version 5.2.3
  - **Recorder** – Version 4.0.3
- **Assets from Unity Asset Store:**
  - **3D Game Kit Lite**
  - **3D Modern Menu UI**
  - **Adventure Character**
  - **Ancient Ruins and Plants**
  - **Ancient Ruins in the Desert – Part 1**
  - **Dragon PBR**
  - **Dragon Statue**
- **Free Rocks**
- **Giant Monster Model – Golem**
- **Insectoid Crab Monster: Lurker of the Shores**
- **POLYGON – Sampler Pack**
- **Skybox Series Free**
- **Starter Assets – Third Person**
- **Stone Lantern Pack**