

CannonWar——Final Project Plan

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Game Overview

- **Name:** CannonWar
- **Genre:** Tower Defense
- **Backstory:**

Players take on the role of a commander defending a steampunk-inspired atomic continent under invasion. Using strategic planning and tactical execution, they must fend off atomic monsters and protect the core of advanced technology.

Core Gameplay

Difficulty Levels:

- **Easy Mode:** Players start with ample gold and can rely on basic towers to effectively defend against a limited number of standard enemies.
- **Hard Mode:** With less initial gold, players must strategically construct a diversified tower system to fend off larger waves of more complex enemies.
- **Hell Mode:** Resources are extremely scarce, requiring precise planning of every coin. Players must unlock and deploy an intricate tower system to counter massive and highly diverse enemy waves.

Tower Defense Mechanics:

- Place various towers to block enemies from reaching the endpoint.
- Different towers offer unique abilities, including single-target attacks, area-of-effect damage, slowing effects, and magical effects (e.g., stun, reflection, or damage over time).
- Earn resources by defeating enemies, which can be used to upgrade or construct new towers, unlocking more powerful defenses.
- Successfully defending each wave rewards players with additional gold.

Resource Management:

- Earn gold by defeating enemies or through economic towers, then use it to upgrade or construct towers.

Strategy and Real-Time Action:

- Adapt tower placement and types based on enemy characteristics while managing resources effectively.

Victory/Defeat Conditions:

- **Victory:** Successfully prevent all enemies from reaching the core zone.
 - **Defeat:** Allowing more than the maximum permitted number of enemies to breach the defenses.
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Detailed Design

Tower Design:

- **Durability:** Towers can sustain damage from enemy attacks but remain operational.
- **Repairs:** Use Repair Towers to restore damaged towers.
- **Permanent Damage:** If a tower's durability reaches zero, it is permanently destroyed and cannot be repaired.

Tower Type	Characteristics	Functionality
Single-Target Tower	High damage, low attack speed	Deals lethal damage to individual enemies.
Area-Effect Tower	Moderate attack speed, AoE damage	Targets and damages multiple enemies simultaneously.
Slowing Tower	No direct damage, slows enemies	Provides additional attack time for other towers.
Magic Tower	Special effects	Includes stun, reflection, and damage over time.
Repair Tower	Repairs damaged towers	Restores towers that are not completely destroyed.

Enemy Design

Enemy Type	Characteristics
Standard Enemy	Basic health, no special abilities.

Enemy Type	Characteristics
Fast Enemy	Low health, high movement speed.
Tank Enemy	High health, slow movement.
Magic Enemy	Attacks with special effects.
BOSS Enemy	Massive health, poses a significant threat.

Resources and Gold

- **Gold Usage:** Build and upgrade towers.
 - **Acquisition:** Earned by defeating enemies or get victory at the end .
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Development Plan

Tools:

- **Programming Languages:** JavaScript, HTML, CSS
- **Software:** Photoshop, Procreate, Visual Studio Code

Timeline:

- **Phase 1: Planning** (2024.11.18–2024.11.20)
 - Define core gameplay, level design, and backstory.
 - **Phase 2: Prototyping** (2024.11.20–2024.11.22)
 - Build basic tower defense mechanics and user interface.
 - **Phase 3: Development** (2024.11.23–2024.12.03)
 - Refine game interface.
 - Complete art and level design.
 - Integrate sound effects and other elements.
 - **Phase 4: Testing & Optimization** (2024.12.03-2024.12.05)
 - Internal testing, balance adjustments, and bug fixes.
 - **Phase 5: Launch & Promotion** (2024.12. 06)
 - Create a promotional trailer and prepare for release.
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Expected Outcomes

Create a tower defense game with a comprehensive and engaging interactive system.