

## Title: Arcane Overload

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### Gameplay Overview

Arcane Overload is a top-down arena roguelite where you control a young mage surviving against waves of enemies in a small tile-based arena. The game has two modes:

- Tutorial Arena: A gentler, onboarding-focused mode.
- Final Arena: A shorter, more intense mode culminating in an elite wave.

You move around the arena, cast projectiles at approaching enemies, dash to escape danger, collect experience orbs, level up, and choose upgrades that change your build. In the Tutorial Arena, you win by surviving until the timer expires; in the Final Arena, you win by defeating the elite wave and clearing all remaining enemies. In both modes, if your HP reaches zero, you lose.

### Controls

- Movement: WASD keys or Arrow keys
- Aim: Move the mouse cursor
- Shoot: Hold Left Mouse Button
- Dash: Press Spacebar
- Pause / Focus: Not implemented as a pause menu; the game runs continuously while the arena is active.

### Core Mechanics

- Health:
  - The player has a max HP value shown in the top-left UI.
  - Colliding with enemies deals damage and briefly makes the player invulnerable.
- Projectiles:
  - Shots travel toward the mouse cursor at the time of casting.
  - Damage and projectile speed can be improved via upgrades.
- Dash:
  - Quick burst in the current movement direction.
  - Grants brief invulnerability and has a visible cooldown bar in the UI.
- Experience & Leveling:
  - Enemies drop XP orbs when defeated.
  - Collecting orbs fills the XP bar; upon leveling, a 3-option upgrade menu appears, pausing gameplay until the player chooses.

## Game Modes and Progression

### Tutorial Arena (Tejas)

- Access: From the main menu, click “[ start tutorial arena ]”.
- Goal: Survive until the “tutorial time left” timer reaches zero.
- Difficulty:
  - Slower spawn rate.
  - Only basic enemies (no tank/elite variants).
  - No elite wave or final arena ring.
- Onboarding Hints:
  - Early in the run, text appears explaining:
    - Movement controls
    - Aiming and shooting
    - Dashing
    - Collecting XP orbs and leveling
  - These hints fade out after a short time so they don’t clutter the screen.

### Final Arena (Lemi)

- Access: From the main menu, click “[ start final arena ]”.
- Goal:
  - Defeat the elite wave (multiple elites plus supporting enemies) and clear all enemies from the arena.
- Differences from Tutorial:
  - Uses a different tilemap (tilemap\_final) and a tighter arena shape.
  - Spawns are faster and more intense.
  - A ring of invisible colliders appears near the end to constrict movement space.
  - The Tutorial Arena shows a visible countdown timer; the Final Arena hides its timer entirely and only uses time internally to control when waves and the elite phase start
- Elite Wave:
  - After the player has survived long enough in the Final Arena, two elite enemies spawn along with additional basic enemies. At this point, no more regular waves are spawned.
  - Once the elite wave is active and all enemies on screen are defeated, the run ends in a Victory.

## Enemy Types and Telegraphed Attacks

- Basic Enemy:
  - Chases the player using simple steering + pathfinding around obstacles.
  - Baseline speed and HP.

- Tank Enemy:
  - Slower but much tougher; larger scale.
  - Has a telegraphed charge:
    - Stops and tints yellow briefly.
    - After a short delay, performs a fast charge in the stored direction.
    - After charging, goes back to normal movement.
  - The wind-up and color change are intentional telegraphs so players can react.
- Elite Enemy:
  - A stronger variant used in the final arena's elite wave.
  - Higher HP, increased size, and reused tank-style behavior to feel like a boss-level threat.
  - Combined with the shrinking arena ring, this forces different positioning and dodging compared to the early waves.

## Upgrades

On each level up, the player chooses one of three upgrades:

- Arcane focus:
  - Increases spell damage and projectile speed.
- Quick chant:
  - Reduces fire cooldown, increasing fire rate.
- Blinkstep:
  - Reduces dash cooldown and slightly increases dash duration, improving mobility and survivability.

These choices stack over time and let the player build a different playstyle (high damage vs. high fire-rate vs. high mobility).

## Assets and Category

- Game category: Top-down adventure / RPG-like arena survival (similar space to Vampire Survivors / Halls of Torment).
- Assets:
  - We primarily use provided / external assets for characters, enemies, tiles, particles, and audio.
  - We did not create a substantial amount of new art; any custom UI or simple shapes are minimal and well under the 10% custom art constraint.

## Self-Evaluation Using Our Rubric

Group Rubric (7 points, same score for both students)

Rubric Item 1: Core combat loop and responsiveness (GROUP, max 3)

- Score we assign: 3 / 3
- Reasoning:
  - Movement, aiming, shooting, and dash all respond immediately to input, with no noticeable lag.
  - Collisions between player, enemies, bullets, and walls/water work reliably, and we added a safe spawn system to avoid enemies spawning inside colliders.
  - The player can consistently kite enemies, use dash to escape, and feel in control of their character.

Rubric Item 2: Enemy behaviors and wave progression (GROUP, max 2)

- Score we assign: 2 / 2
- Reasoning:
  - The game has three distinct enemy types (basic, tank, elite) with different HP, speed, and behavior, including a telegraphed charge for tanks.
  - In the final arena, waves progress over time from basic-only to mixed basic/tank waves and then an elite wave, clearly increasing difficulty.
  - The progression feels intentional rather than random and is tied to elapsed time.

Rubric Item 3: Visual, audio, and UI feedback (GROUP, max 2)

- Score we assign: 2 / 2
- Reasoning:
  - The UI displays HP, XP bar, and level. In the Tutorial Arena it also shows a “tutorial time left” countdown; in the Final Arena the timer is hidden so the player focuses on surviving and clearing waves rather than watching a clock.
  - Hits and damage are accompanied by tint flashes, camera shake, and sound effects (hurt, explosions, level-up), while leveling causes a screen flash and upgrade menu.
  - Most assets are external, and overall visual/audio feedback makes it clear what is happening at any given time.

Individual Rubric – Tejas (3 points)

Rubric Item 4: Tutorial Arena and onboarding (INDIVIDUAL Tejas, max 2)

- Score we assign: 2 / 2
- Reasoning:

- The Tutorial Arena is a distinct mode with slower enemy spawns, no wave/elite logic, and a layout that gives room to learn.
- On-screen tutorial hints explicitly teach movement, aiming, dashing, and XP/leveling, and automatically fade after the player has had time to read them.
- This mode is clearly labeled in the menu and feels safer and more focused on learning than the final arena.

Rubric Item 5: Upgrade system implementation (INDIVIDUAL Tejas, max 1)

- Score we assign: 1 / 1
- Reasoning:
  - Enemies drop XP orbs, the player levels up when reaching thresholds, and the XP bar plus level text make this visible.
  - On level-up, a 3-option upgrade selection appears (arcane focus, quick chant, blinkstep), and each upgrade noticeably affects damage, fire rate, or dash properties.
  - The system is robust and central to how the player's build evolves during a run.

Individual Rubric – Lemi (3 points)

Rubric Item 6: Final Arena and elite wave design (INDIVIDUAL Lemi, max 2)

- Score we assign: 2 / 2
- Reasoning:
  - The Final Arena uses a separate map and a dynamic collider ring that appears near the elite wave, making the endgame feel tighter and more intense.
  - Two elite enemies are spawned late in the run, accompanied by additional enemies; once this elite phase begins, defeating all enemies on screen ends the run in a Victory.
  - This final sequence clearly feels different from early waves and acts as a distinct end challenge.

Rubric Item 7: Enemy variety and telegraphed attacks (INDIVIDUAL Lemi, max 1)

- Score we assign: 1 / 1
- Reasoning:
  - Tank enemies have an explicit telegraph: they stop, tint yellow, and pause briefly before charging, giving players time to react and dodge.
  - This telegraph makes incoming damage feel avoidable with skill rather than random.
  - Elite enemies reuse this behavior with enhanced stats, reinforcing the importance of reading and reacting to telegraphs.

## Features to Notice and How to Unlock Them

- Tutorial Hints:
  - Automatically appear at the start of the Tutorial Arena to explain basics.
  - They fade away after a short time so they don't distract later.
- Upgrade System:
  - Defeat enemies and collect XP orbs; when the XP bar fills, you level up.
  - Each level-up brings a 3-choice upgrade menu; choose one option to immediately change your stats.
- Final Arena Ring (Shrinking Arena):
  - In the Final Arena, during the elite phase, invisible rings of colliders appear in two stages near the edges of the map.
  - This progressively shrinks the playable space, making dodging and positioning more demanding in the endgame.
- Elite Wave / Boss-like Moment:
  - Only appears in the Final Arena after surviving long enough.
  - When the elite wave arrives, multiple elites and additional basic enemies spawn; no further regular waves appear. Defeating the elites and all remaining enemies ends the run with a Victory screen and final stats.