

11/14/25: Initial Design Decisions

Aesthetic 1: Tactical Tension

I want the player to feel like they are making careful measured decisions under the pressure of failure

Signs of Success:

- Players take a moment to think before moving and taking actions
- Use of environment or enemy decisions to advantage
- Planning and strategizing

Signs of Failure:

- Players rush into movement and action
- Gameplay feels predictable or easy
- Players feel overwhelmed or in unfair scenarios
- Players do not seek to strategize

Aesthetic 2: Feeling of Cleverness

I want the player to feel the satisfaction earned from good decision making

Signs of Success:

- Players react with pride when something goes as expected
- Players try different approaches to problems and experiment
- Failed attempts feel like lessons for future success

Signs of Failure:

- Success feels random or based on luck
- Players cannot put together how their and enemy actions led to results
- Players do not try new things
- Players do not learn from failures

Core Mechanics:

I want players to spend most of their time either moving into tactical positions or watching enemy movement to determine the next tactical decisions. I want to base my game on something like “Tanks” from Wii Party. Core mechanics are as follows

- Player can move their tank in 8 directions
- Players can aim the barrel of their tank and shoot

- Players can fire a shot, capable of bouncing from walls
- Enemy tanks exist and aim to shoot the player
- Enemy tanks are like the player, but upgraded/degraded in a few ways (movement speeds, shot speeds, etc.)
- Players have a few lives before they die for good and end the game

Core Loop:

The loop of the game should essentially consist of

1. Player identifies enemy
2. Player navigates to a location to attempt to fire at the enemy
3. Player avoids enemy fire while they (and the enemy) get into the desired location
4. Player fires and kills enemy
5. Player identifies next threats

This loop serves my aesthetic goals in the following ways:

Aesthetic 1: Tactical Tension: The loop asks players to weigh safety against opportunity. Enemy movement can both interrupt a player's plans or allow them to predict an opportunity. Players must be attuned to enemy actions whilst executing their plans. At any given movement, they need to decide where the best place for them to be is

Aesthetic 2: Feeling Clever when actions payoff:

The loop gives the players chances to repeatedly make choices. They can line up a nice shot by predicting enemy locations or find good spots to cover themselves from other enemy fire whilst they decide their next move. When the player is hit, they have an opportunity to try again based off what they learned in a prior attempt.

11/14/25: Added Initial Player Component

- Obtained a tank sprite with a separated barrel for aiming
- Created Player Tank game object, with tank body and barrel sprites inside
- Wrote Player Tank movement script.
 - Movement is snapped to 8 directions, controlled by horizontal/vertical input
 - Barrel aiming is tied to mouse position relative to tank

11/14/25: Added Walls

- Created a 2d rectangle with collision to act as wall
- Created a prefab for walls around camera edges called Border

11/14/25: Added Bullet and Firing

- Obtained bullet sprite
- Added bullet prefab, which moves in its direction and bounces a certain number of times before destruct
- Players can fire a bullet at a certain speed in the direction of the barrel. Only one bullet at a time to incentivize careful timing and planning of shot

11/15/25: Added enemies

- Split bullets into two types in case I want in future. Both use base bullet.cs currently
- Added enemy which (with no real ai) currently just fires in direction of the player while sitting still

11/16/25: Added enemy variants with AI

- 2 enemy variants:
 - Patroller: moves in a set pattern. Fire only when he has a direct shot on the player
 - Sniper: Stays still. Fires if he has a direct shot on the player OR if he can ricochet a shot off anything in the cardinal directions

11/17/25: Added Game Manager + Flow

- Game manager detects if player dies or enemies have all been eliminated
- Displays next level button or retry respectively
- Final scene is victory screen with ability to return to beginning
- 3 Placeholder Levels + Final Scene for testing

11/17/25: Added 4 Levels

- 4 levels introducing different tanks and their specialties ramping up to final test level
- Decided Lives structure was annoying for game in current state. Dropped mechanic

11/17/25

- Fixed a bug with sniper ricochet targeting that prevented them from taking shots at the player
- Added sound effects for shooting and dying

After Report

Original Goals:

At the start, I aimed to create a tactical tank game inspired by Tanks from Wii Party, focusing on two core aesthetics:

1. Tactical Tension – players making careful decisions under pressure.
2. Feeling Clever – players feeling satisfaction from well-executed strategies.

Mechanically, I wanted players to move in 8 directions, aim and fire bouncing shots, face enemy tanks with varied behavior, and navigate levels while managing limited lives. The intended core loop was to observe, position, fire, and repeat while learning from mistakes.

Evolved Goals:

By the end, my goals expanded to include:

- Adding enemy AI variants (Patrollers and Snipers) to create richer tactical challenges.
- Implementing a functional Game Manager and level flow.
- Introducing multiple levels to progressively increase difficulty.
- Adding sound effects and polishing core interactions.

Accomplished Goals:

- Core player controls (movement, aiming, firing) are fully functional.
- Bullets bounce correctly, with only one on screen per enemy at a time.
- Enemies have two distinct AI behaviors with functional targeting.
- Game flow, level progression, and retry/victory screens are implemented.
- Sound effects for firing and death are in place.
- Four test levels are playable, demonstrating tactical depth and enemy variety.

What Went Right:

- Core loop successfully creates tactical tension and moments of cleverness.
- Sniper and Patroller AI behave as intended, providing diverse challenges.
- Implementation of single-bullet-at-a-time encourages strategic play.
- Level flow and Game Manager handle player death and victory smoothly.

What Went Wrong:

- Some early bugs, like sniper ricochet targeting, delayed testing.
- AI is still basic; enemies lack advanced predictive or adaptive behaviors.
- Limited visual/audio polish, placeholders remain in several areas.

Things I Wish I Knew at the Start:

- How much time debugging bullet ricochets and aiming logic would take.
- The importance of planning sound and visual feedback early in development.

Lessons Learned:

- Tactical gameplay relies heavily on predictable, yet varied, enemy behavior.
- Small changes in bullet physics or movement can dramatically affect the player experience.
- Iterative testing of AI and core mechanics is crucial to achieve intended aesthetics.
- Player satisfaction often comes from subtle feedback loops rather than flashy features.