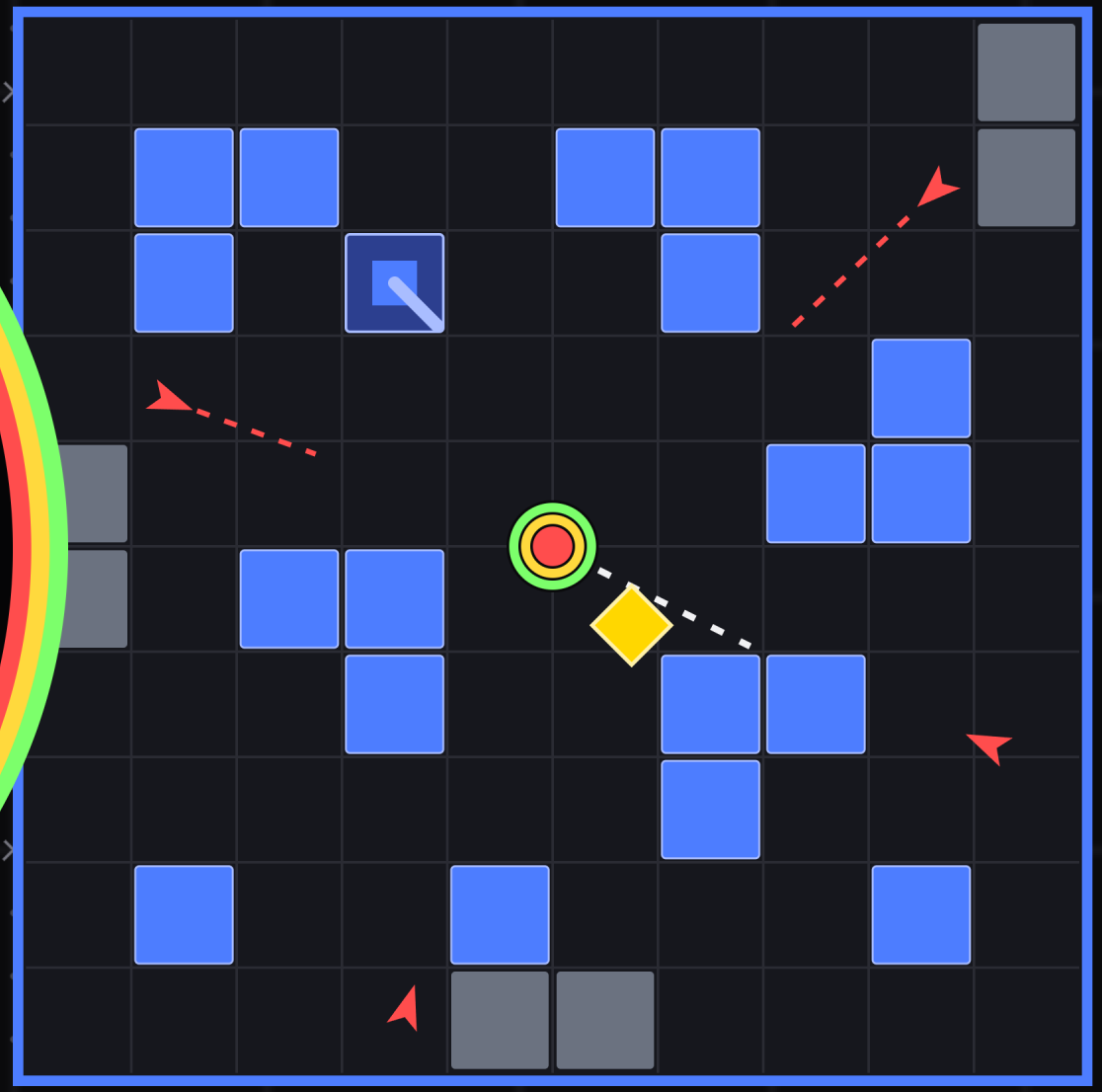
PIXEL CORE

BRENDAN DUTTON

SOLO PROJECT · MADE IN GODOT



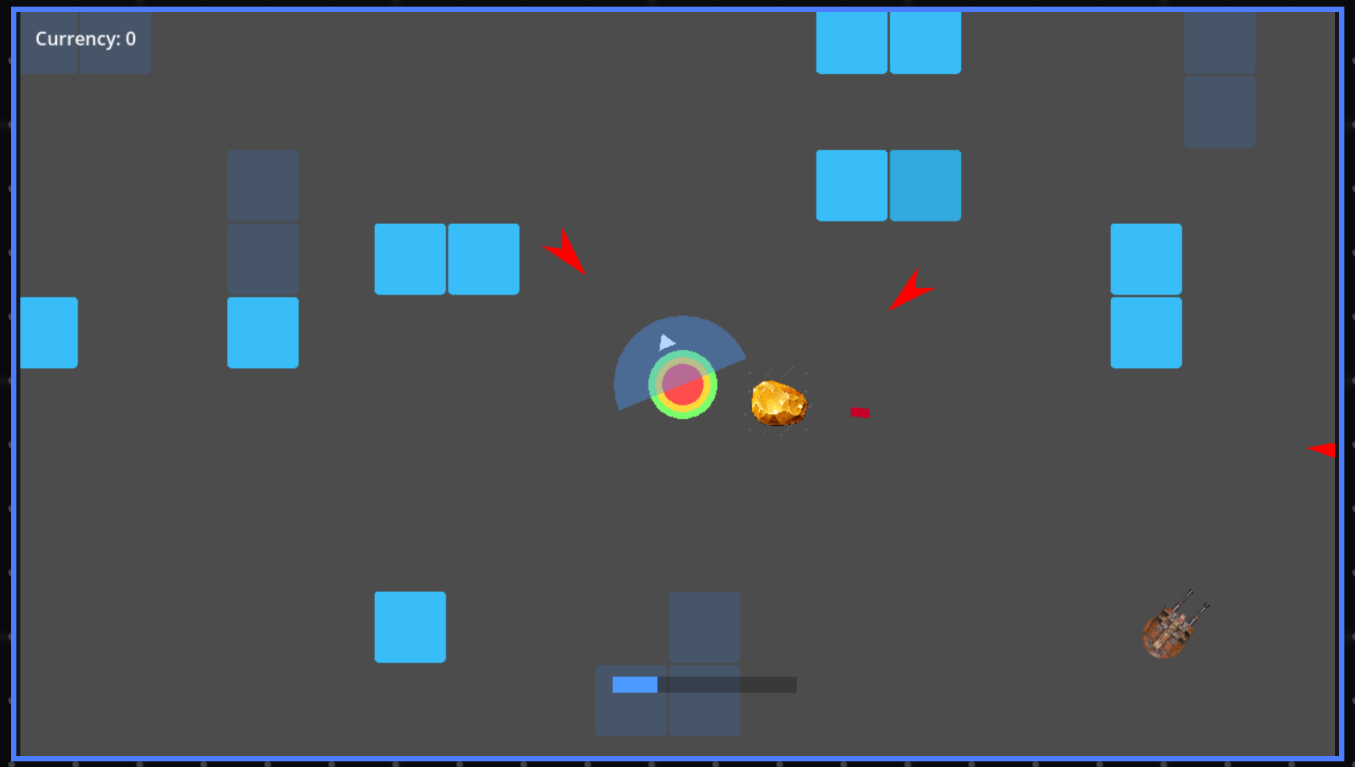
WHAT IS PIXELCORE?

A survivors-like with one new idea: you build your base while you fight.

- Top-down 2D arena shooter, made solo in Godot
- Built on the loop from Brotato and Vampire Survivors
- You protect a gold Artifact as well as yourself

HOW A RUN PLAYS

CURRENT BUILD



01 30 seconds to place the Artifact anywhere on the map

02 Waves start. Enemies go for whoever is closer, you or the Artifact

03 Kills and cleared waves earn currency for turrets and repairs

04 Between waves, a build phase with a limited number of wall moves

WHAT I BUILT

Combat

Move, aim, shoot, and a timed block you have to face into

Ring health

3 rings. Lose one and you get faster but weaker

Walls

Grid-snapped pickup and placement. They darken when hit and can be repaired

Turrets

Placed by you. They lock onto the nearest enemy

Enemies

Real pathfinding. They stop at range, or back up and ram a wall if going around is too far

Waves

Enemy count climbs each wave, with currency and build phases in between

Map

Procedural wall clusters, fixed borders and three wall tiers

Placement checks

Nothing can be placed inside anything else

HOW IT CAME TOGETHER

STAGES 1 TO 4

Getting it to feel right

01 Movement, aiming, shooting

02 Grid walls, pickup and placement

03 Basic enemies and combat

04 Camera and block

STAGES 5 TO 7

Adding the rules

05 Ring health

06 Wall type split and the Artifact

07 Currency and wave spawner

STAGES 8 TO 9

Building the world

08 Procedural generation

09 Turrets

STAGES 10 TO 11

Making it smarter

10 Pathfinding rework and wall ramming

11 Build phases, move limit, reinforced walls, repair, placement checks

WHO MADE WHAT

Solo project, so every role was mine. Here's how the work split up.

DESIGN

- Core loop and the Artifact objective
- Wall split, move budget and reinforced walls

PROGRAMMING

- Everything, in GDScript
- Enemy pathfinding and ramming
- Procedural maps and the wave spawner
- A nav mesh that rebakes as walls move

ART DIRECTION

- Flat, geometric, color-coded look
- Holographic effect on the carried wall
- Turret and Artifact art are placeholders, being redrawn to match

THE BIG DESIGN FIX

THE PROBLEM

Walls were free to place anywhere, so building didn't matter.

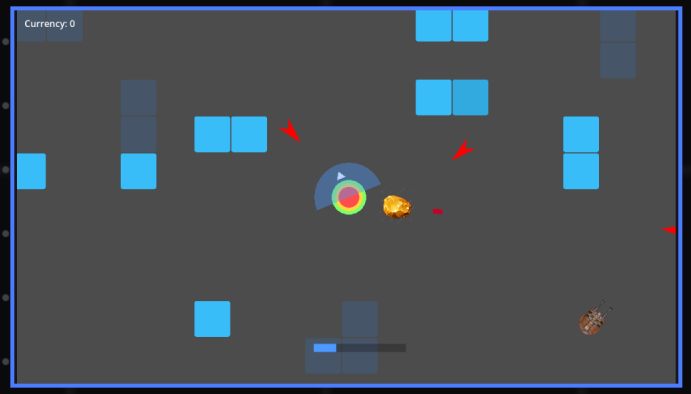
WHAT I CHANGED

- Split walls: movable ones can break, fixed ones form chokepoints
- Added the Artifact, so there's something to protect
- A limited number of wall moves each build phase
- Rare reinforced walls with much higher health

EARLIER BUILD



NOW



BUGS AND FIXES

What broke	How I fixed it
Bullets hurt whoever fired them	They now ignore their own group
Enemies walked straight into walls	Baked walls into the nav mesh. It rebakes when one is placed or destroyed, through a queue
Enemies spawned on one point and got flung apart	A small random offset on spawn
The ram-or-go-around check never fired	Wait for the path_changed signal before checking
Ramming looked silly, just constant pushing	Rebuilt it as back up, then charge
One key press picked up and placed a wall	Removed a duplicated input check

What I took from it: find out what's actually happening before changing anything.

WHAT I LEARNED

LESSONS

- Build in small steps I can test straight away
- Use debug prints instead of guessing
- Check which script tab I'm in before pasting code
- A proven loop plus one new idea is a realistic solo scope

NEXT MONTH

- Scavenged upgrade system (only just started)
- A proper game over screen
- Wave difficulty that scales more than enemy count
- Turret and Artifact art that matches the style

THANK YOU!

Take a loop that works, add one idea, test every step.

QUESTIONS?

