UNTITLED TANK GAME

A project by

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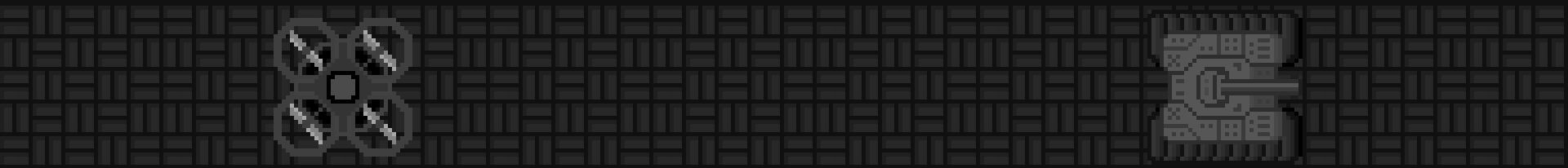
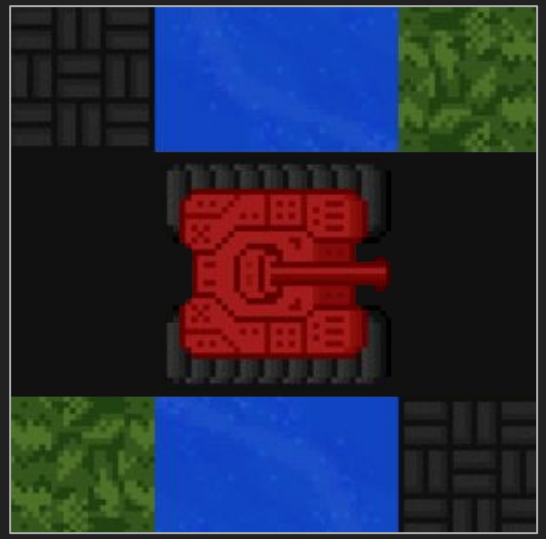
Part 1:

The Core Idea

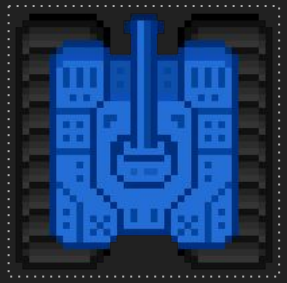


The Graphics



- 2D
- Pixel Art
- Top-Down View

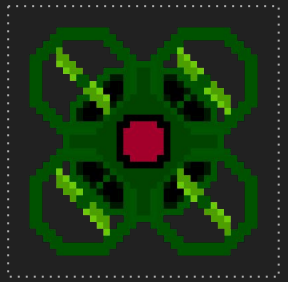
The Fundamentals



Player 1

Player 2

Local Multiplayer



Drone

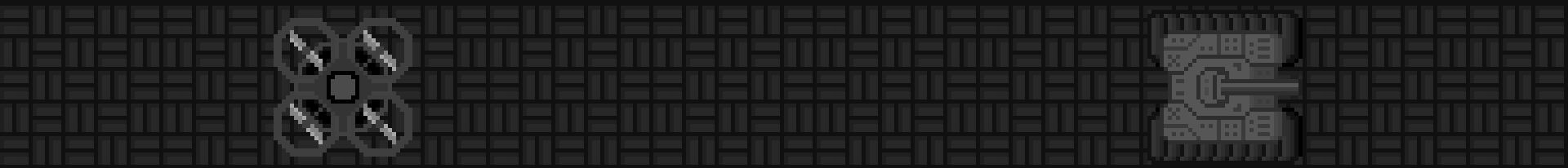
Mecha

Multiple Enemy Types

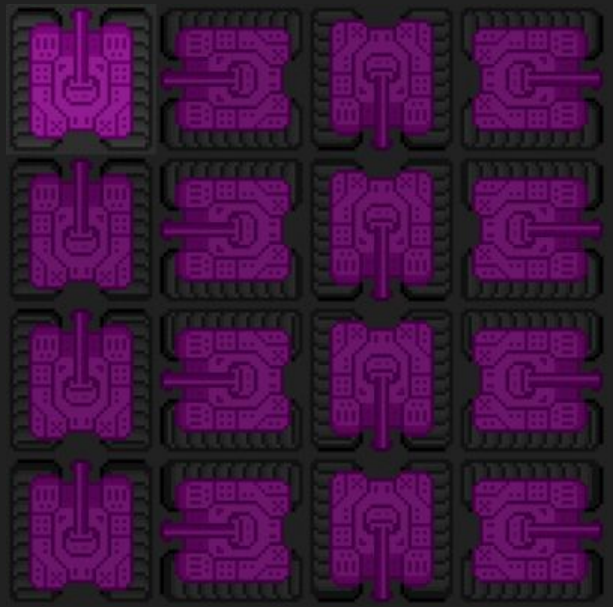
The Game Modes

Part 2:

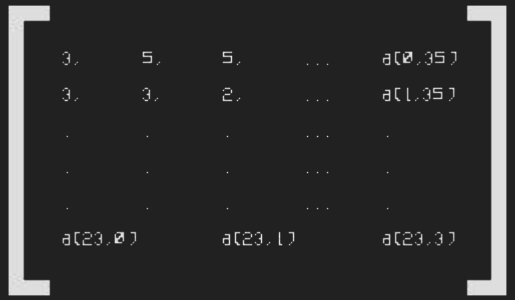
Implementation

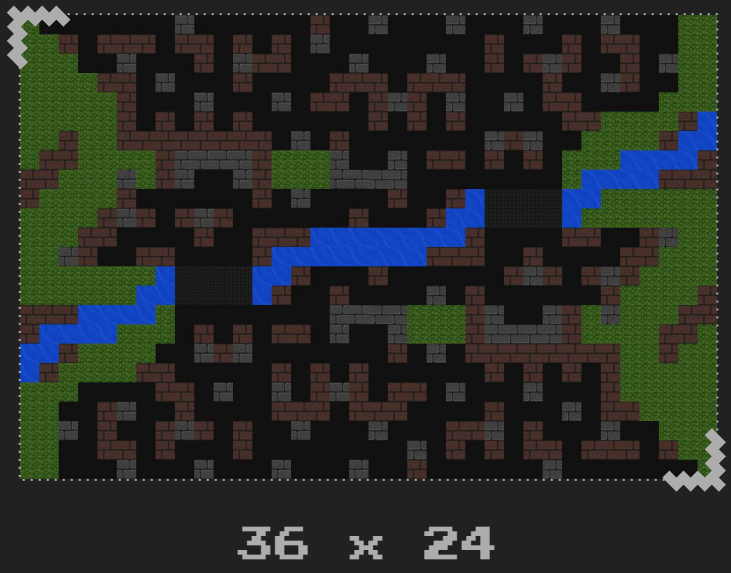


How Spritesheets Are Animated



How Maps Are Rendered





Visualizing Experience and Player Progression

Player Class

player.h

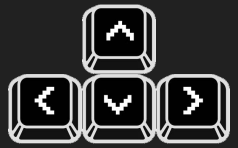
- → Contain characteristics & decisions variables
- → Logics for Movement

player.cpp

- → Update Animation
- → Update Movements

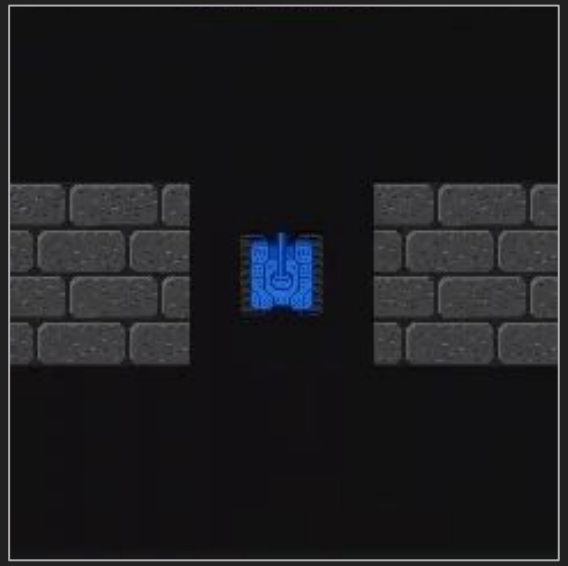
Player movement and Controls

→ Player 1



→ Player 2

Projectile



→ Player 1

→ Player 2

Collision detection and Hitboxes

Projectile	Player	Enemy	Wall
→ Break Wall	→ With Wall	→ With Wall	→ Player
→ Kill Enemy	→ With Enemy	→ With Player	→ Enemy
→ Kill Player	→ With Projectile	→ With Projectile	

Wall Class

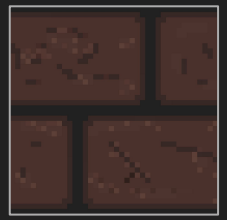
wall.h

- Contain characteristics variables of walls

wall.cpp

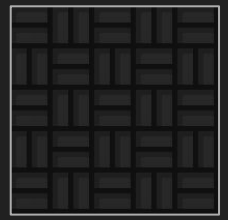
- Update wall status

How Different Terrains Work

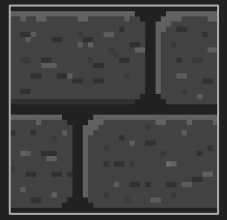


- Breakable
- Colliedable

- Jungle
- Bot spawn



- Bridge
- Connect both side of River



- Colliedable
- Not-Breakable

- Water
- Projectile c pass

- Null path

Pick-Ups Class

pickUp.h

→ Contain characteristics variables of Pick-Up items

pickUp.cpp

→ Update PickUps Animation

Power-Ups and Pick-Ups

→ Speed Up

→ Shield

→ Invisibility

XP → XP

→ HP

→ Mine

Enemy Class

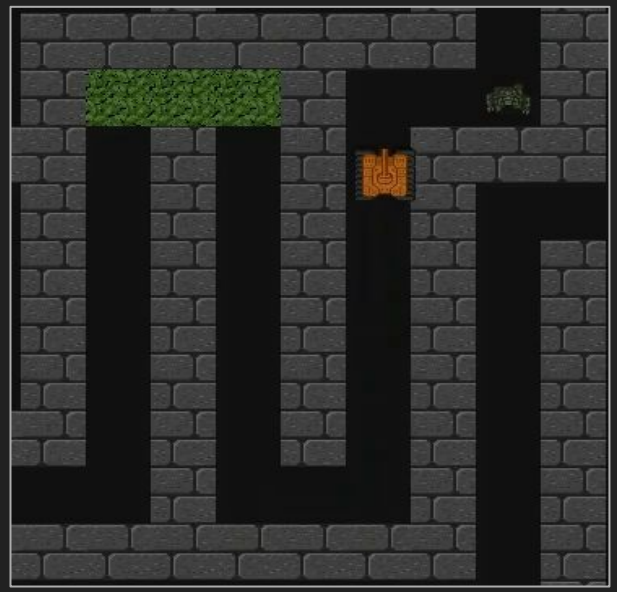
enemy.h

- → variables(bool, int, float etc.)
- → public functions

enemy.cpp

- → Update Animation
- → Update Movement
- → Agro
- → Spawn Enemy

Enemy Bot Spawning and Behavior (Mecha)



- Agro when Hit
- Damage on Collision
- Drop loot at Death

Enemy Bot Spawning and Behavior (Drone)

- Agro at random
- Drop Mine on Player
- Drop loot at Death

Status Bar,Match Timer, Pause Menu

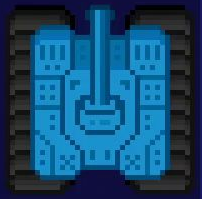
- → Random Number Generator
- → Wait Function
- → CountDown at First
- → Match Timer and other timer functions
- → Pauseable clock

PLAYER-1

2:54

PLAYER-2

BLUE TANK



BOOSTED

37

SECS LEFT

LEVEL 1/3

XP 2

HP 3/5

DPS 1/3

RED TANK

SHIELDED

15

SECS LEFT

LEVEL 2/3

XP 7

HP 10/10

DPS 2/3

Win/Defeat Conditions

- Conditions for Win/Defeat/Draw
- High-Score File I/O

Sounds, Musics & Fonts

- → Main Menu Music
- → Button Sounds
- → Window Changing Sound
- → Countdown Sound
- → Projectile Sound
- → Collision Sound
- → Background Music
- → Different Fonts

Buttons and Work

The main menu has 5 options:

1. Play: Start the game
2. Controls: All the controls of the game
3. Hall of Fame: The record of the last 10 players
4. Credits: Name of the makers
5. Exit: To exit the game.

DeathMatch

By clicking in “Play” button introduces two options

1. DeathMatch
2. Defence

DeathMatch has three maps in itself.

Defense Mode

In Defence Mode :

You can find a solitary map which is totally different from the deathmatch and can give you a totally different experience.

Control and Credits

By pressing the these two buttons you can know about the game control and Credits

Hall of Fame

Hall of Fame of keeps the record of last ten gameplay.

We have used file system in this regard.

Things We Would Have Added If We Had More Time

- More maps
- More tank models
- Boss-type enemies
- Online multiplayer
- Customizable controls
- A functional settings menu
- A physics and lighting engine
- A procedural and manual map creator
- An option for Split-screen and tracking view