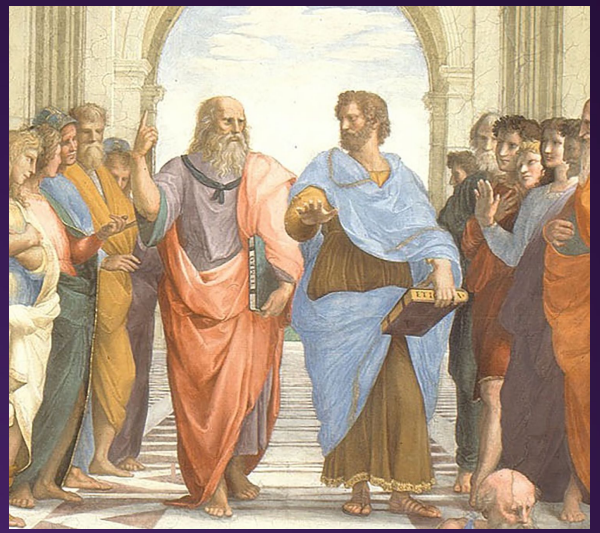
RetroGa

By: CTRL-ALT-ELITE

□Team Meetings□

What we took away

- Focused more on one game really fleshed out rather than a whole library
- How we want to make our game more unique
- What features we wanted to tackle this week

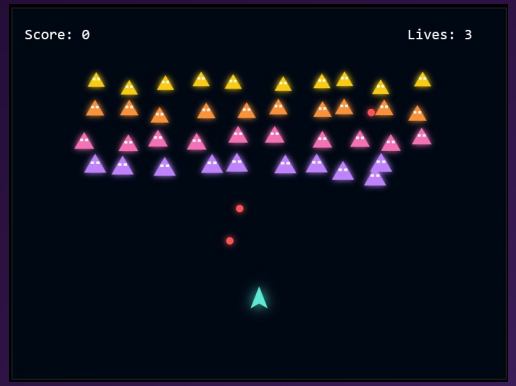


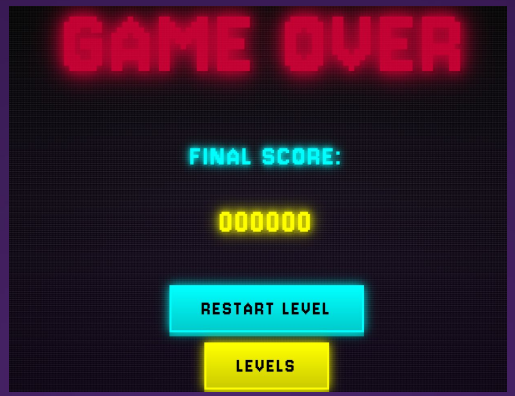
Making some bitchin’ UI

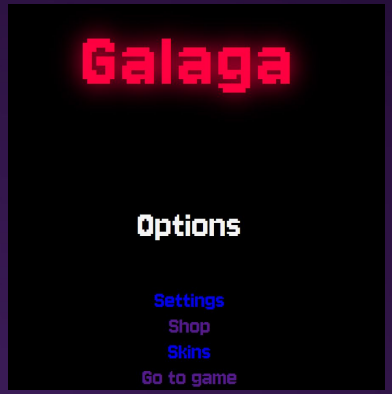
We went for a neo-retro UI design where it still preserves the retro vibe we were going for but with the new edge that would still keep younger audience interested.

Some inspiration ->

Some designs that we created

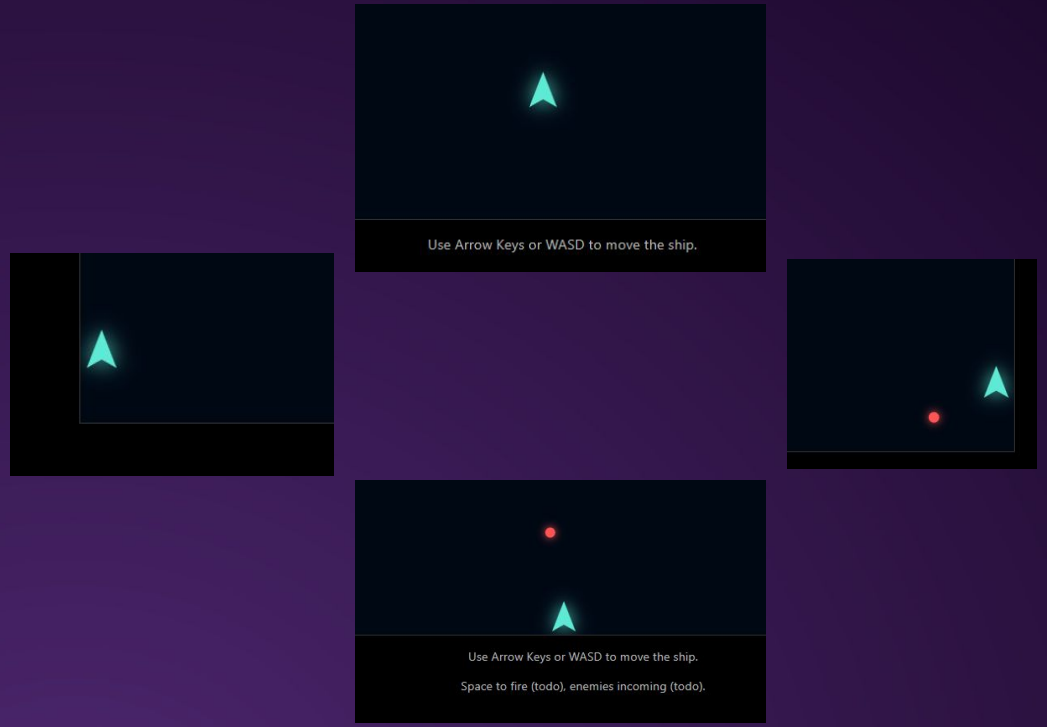






Basic Functions fleshed out

- A range of motion that controls where the player can and cannot move.
- We decided on rectangle on the bottom of the screen that doesn't extend too high



Enemy Movement

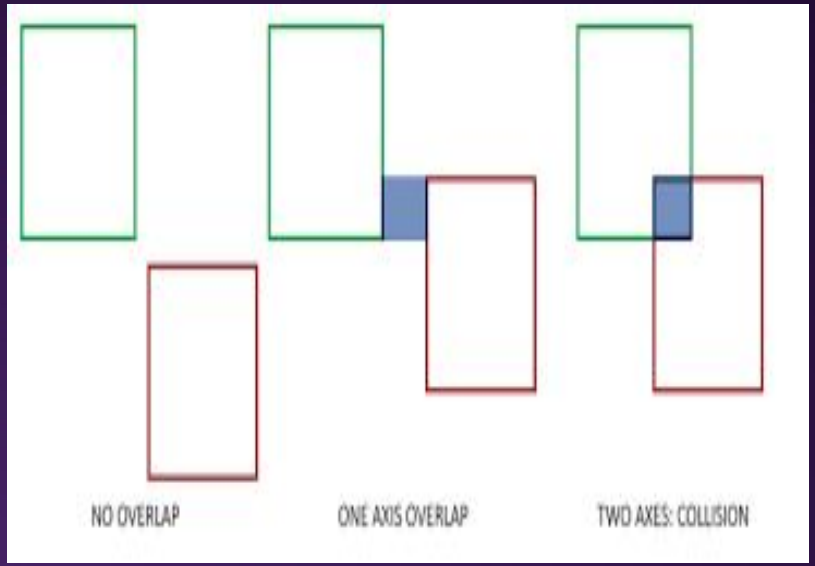
- Enemy Types
  - different colors/sizes/speed
- Entry path
  - enemies fly in from left/right with curved paths
- All pure math

```
const enemyTypes = [
    { color: '#facc15', size: 14, enterSpeed: 210 }, // yellow bees
    { color: '#fb923c', size: 15, enterSpeed: 205 }, // orange
    { color: '#f472b6', size: 16, enterSpeed: 200 }, // pink
    { color: '#c084fc', size: 18, enterSpeed: 195 } // purple bosses
];
```

```
enemy.x = finalX + Math.sin(oscillationPhase + waveOffset) * 14;
enemy.y = finalY + Math.sin(oscillationPhase * 0.6) * 7;
```

Collision System

- AABB collision detection
  - Checks overlap between hitboxes
- Player hitbox: slightly smaller than visual
- Enemy hitbox: 1.7× wider to feel fair
- Player bullet: 5×26 rectangle
- Enemy bullet: circle → square hitbox



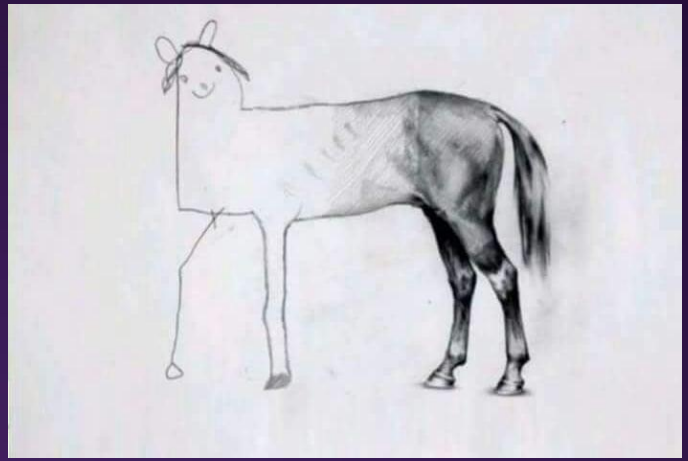
Shooting Mechanics

- Player Shooting – Fast & Responsive
  - Trigger: Spacebar (or tap-fire feel) 800px/s vertical
- Enemy Shooting – Slow and Homing
  - 180px/s
  - Snapshot aiming rather than true tracking

Demo

What’s Next

- A deeper focus on separation of concerns in our repo
- Looking back at what we have coded and making some refactors
- Look into AI designs so we aren’t looking at only triangles and squares



Questions?