EVO ADVENTURE

Ocean Adventure a phaser 3 game

DC9 Programming Online with phaser

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Game Concept:

In the game player plays as a simple defenseless creature on the brink of extinction. Player controls EVO, the creature with one eye which needs to collect enough food to survive. By collecting enough points, he can evolve into a greater thing and move to next levels. EVO is not alone and there are some predators who consume him as food.

He must be careful about them since they can damage and kill him if they reach him.

Also, there are different types of food which change EVO. He can choose to what to consume. And later, he will see the change. Originally, I think about 2 kinds, meat and vegetable. So, player can choose what he wants to eat but by eating each one different thing will happen and it will be impossible to finish the game by eating just one type of food.

For this course, the only playable level is level one.

Game Elements

EVO

The main playable character with ability to swim in the ocean. Ability to freely swim and turn is necessary for him. He cannot leave the main scene and will collide with the world.

Ocean

The game world, it is blue deep ocean.

Foods

GreenFood

Represent vegetables and it will slow down enemies. There is one negative point for eating vegetables as well, but it will make the game a bit easier to continue.

RedFood

Represent Meat and it will give you 2 points. Also, by eating meat EVO will smell yummy for enemies and they will speed up a bit.

In addition, by eating each kinds of foods, enemy will be more aware and their range to detect EVO will gets bigger.

Enemies

there is one enemy type which follow EVO. By collecting foods EVO will attract more attention and the range of chasing enemies will gets bigger.
Enemies positions are random in the world and they will get awake when see EVO around. After awakening, they will chase EVO until they reach him.

Elements Interactions

Player (EVO)

- EVO moves around the world
- EVO can collect foods by colliding with them
    - Food will destroy

    - It will change speed of enemy
    - It will increase or decrease points
    - It will affect enemy view range
- EVO will collide with enemies
    - He will get damage
    - Die after 2 collision
- EVO successfully evolve after collecting 10 or more points
    - It will evolve and the game will finish after reaching 10 or more points.

Foods

- 2 types of Food
- Player can collect them by colliding into them
- Foods will spawn from random X and zero Y and start move to bottom of screen
    - GreenFood
        - Decrease player point by 1
        - Decrease enemy speed by some amount
    - RedFood
        - Increase player point by 2
        - Increase enemy speed
    - All foods colliding will Increase enemy view range

Enemy

- Enemies spawns from random positions
- They start the game in sleep mode
    - Unless the EVO is close to them
- They will start moving towards EVO after waking up
- They will get back into sleep if EVO go away from them

Process

Step1 Movement

It all started with simple creature movement.

At first, I started with normal movement and holding each key, then adding animation for it.

The challenge soon started when I wanted to turn EVO to the direction he was facing. I started to make sprite for every direction. 4 main directions and 4 other directions in between of the main ones.
but the code ends up messy with a lot of conditions.

It was not satisfying at all.
I remembered the time that I used game Maker or Unity to turn the sprite instead of using different sprite for each direction. And after struggling with phaser math for a day I did it with clear code. Now by hitting each key there will be a radian and I will turn the sprite to the appropriate direction.

Step2 Ocean

I continue with Ocean. At First, I thought to use a tile map, but I had experience with parallaxes background. So, I thought to myself that it will be a nice thing to use a simple image and move it in a way that it feels like an ocean. It worked.

Step3 Foods

Just a simple collectible, it should not be that hard!

It turns out that I needed some movement for foods. I started to experiment different ones like circular and random. But the most suitable ones were just spawning randomly on top of the screen and move towards the bottom.
After that I needed to instantiate it, since using just one would not be logical specially when I destroy them after eating.
I face a bit challenge using classes in phaser and instantiating them. But with the help of Manno and looking at some examples it just resolved, and I was ready to move to the last part of the game.

Step4 Enemies

It was easy at first, but with a lot of miss information on the internet with phaser 2 and 3 together I spent almost a day to implement enemies within a group. I simply think It is not good for students to learn phaser 3 since they can easily get distracted by phaser2 examples and end up seeing errors which cannot be fixed unless you know what you are doing.
Anyway, I finished the enemies which are 4 of them now and calculate the distance between them and EVO and then decide to go to the player or sleep based on that condition.

Step5 End game

Now everything is kind of working and I needed to see collected points end game result and victory. The only thing is I used UI class for it and some event emitters to make it in an easy way. I know it can be better, but it is working. So, no worries.

Step Final Debug

There will always be some bugs. I fixed many that came to my attention.

Fixing some conditions that need tweaking. Fixing end game freeze and end game scene with some basic if conditions or updating some previous conditions.

Final Word with you

Working on games are fun, coding is my career and I enjoy spending time coding. But I will never come around phaser again.
with so many false examples from different sources and different versions it takes a lot of efforts to find what is useful. It will be a disaster for a new student to find what is right when they have no programming knowledge.

I didn't hand in the project last year because of a simple yet chaotic problem which forbid me from running any examples on my pc. And it was an extension on chrome.

My point is for a basic course phaser is not recommended in my point of view. I hope it change for next year students.