

Rationale

What classes will exist in the extended system

Engine:

GameMap, Actor, Ground, World, Location, MoveActorAction, Exit, Item, Action

Game:

Appliation, Player, Dinosaur, Dirt, Plants, EchoPoints, Wall, Floor, Behaviour(WanderBehaviour, BreedBehaviour, FeedBehaviour, FollowBehaviour, GrowBehaviour, DeathBehaviour), VendingMachine, PortableItem, AttackAction, FoodLevel...

What the roles and responsibilities of any new or significantly modified classes are

The dinosaur class is subdivided into Vegetarian and Carnivore classes, so the dinosaurs can be distinguished by their diets. By doing that, it will be easier to implement more species of dinosaurs and their complicated diets. Beyond that, three species of dinosaurs, Brachiosaur, Stegosaur and Allosaur are implemented as three classes. They all have different behaviours and will be interacted with the player differently. In the extended system, the Male dinosaur class and female dinosaur class are created. This will make the process of “breeding” easier since for all species, fertility requires one dinosaur from each gender, and only the female dinosaur will give birth of the egg. The Egg class is implemented as well because it can either be purchased by the player or lay by the female dinosaur on the floor (Ground class).

Plants will be added as a new class to the system. There are two types of plants in the game, which formed the Tree class and the Bush class. The reason to separate them is because their fruits are food of different species of dinosaurs. Ripe fruit from the trees can be either picked by the player or eaten by the Stegosaur. Those rot fruits will become dirt and furtherly grow more bushes. Fruits from the bushes are food of the Brachiosaur. Another reason for doing so is to differ the earnings of eco points when different fruits are produced, harvested or fed.

There will also be a vending machine class implemented. The vending machine is placed on the map, and the player can purchase things from it by spending the eco points (which is also a class).

In the extended system, both player and dinosaurs have new interfaces. The player will be able to purchase goods, pick up fruits, attack dinosaurs via the gun, reed dinosaurs with fruits or meal kits. Dinosaur will be able to feed, breed, grow, attack and die. The food level class is also created so the live of the dinosaurs can be tracked.