

Working Breakdown Agreements

# Assignment 1

## What to submit

* UML Class diagrams (Huixin)
* UML Interaction diagrams(Adrian)
* A design rationale
  + What classes will exist in the extended system (Huixin)
  + What the roles and responsibilities of any new or significantly modified classes are (Huixin)
  + How these classes relate to and interact with the existing system(Adrian)
  + How the classes will interact to deliver the required functionality(Adrian)

## Date:

Group meeting on April 22nd Thursday -> assignment 1 needs to be completed.

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# Assignment 2

## Huixin:

* Hungry dinosaurs
  + A stegosaur starts out with a food level of 50 out of a maximum of 100
  + Food level decreases by 1 each turn
  + Stegosaur becomes unconscious and cannot move or act when its food level gets to zero, until it is fed
  + Being attacked -> -20 food level
  + After 20 turns of unconsciousness, the stegosaur dies
  + Hungry (food level < 90) stegosaur move towards bush fruit / tree fruit on the floor -> food disappear and stegosaur’s food level increase by 10
  + Fruit fed by the player will increase the stegosaur’s food level by 20
  + Message: Stegosaur at (x,x) is getting hungry!
* Brachiosaur
  + 2 male and female brachiosaurs
  + 50% brachiosaurs will kill the bush
  + Brachiosaurs only eat tree fruits
  + Initial food level of 100 out of 160
  + Hungry if food level < 140
  + Food level -1 each turn
  + After 15 turns of unconsciousness the brachiosaur dies
  + 5 food level up per fruit, 20 up fed by the player
* Allosaurs
  + Near a stegosaur -> attack & 20 food level up
  + Can’t attack the same stegosaur in the next 20 turns
  + Eat dead stegosaur & allosaur -> 50 food level up
  + Eat dead brachiosaur -> 100 food level
  + Eat egg -> increase 10 food level
  + Maximum food level 100
* Status

## Adrian:

* Dirt, trees and bushes
  + At the beginning of the game (and at the beginning of each turn), each square of dirt has a 1% chance to grow a bush.
  + On any turn, any square of dirt that is next to at least two squares of bush has a larger (10%) chance to grow a bush
  + In any square of dirt that is next to a tree there is no chance for a bush to grow.
  + On any turn, any tree has a 50% chance to produce one ripe fruit and a bush 10%.
  + On any turn, any ripe fruit in a tree has a small (say, 5%) chance to fall. Dropped fruit will sit on the same square as the tree. Fruit left on the ground will rot away in 15 turns.
  + The player can pick up fruit that is lying on the ground or from a bush. Fruit in the player’s inventory does not rot.
  + The player can try to pick fruit from a tree or bush in the same square. This has a chance of failing (say, 60%) with a message such as “You search the tree or bush for fruit, but you can’t find any ripe ones.”
* Breeding
  + If a stegosaur or a brachiosaur is sufficiently well-fed, i.e. has a food level over 50 for stegosaurus or 70 for brachiosaur, it has a chance to breed. A dinosaur that wants to breed will try to move towards another dinosaur of the opposite sex, if there is one nearby. Once in an adjacent square, the dinosaurs will mate (only with those of their same specie). Ten turns (for the stegosaur) and thirty turns later (for the brachiosaur), the female of the pair will lay an egg.
  + Eggs will hatch after a while (experiment to find a length of time that works well), into a baby dinosaur. Baby dinosaurs are hungry: its starting food level should only be 10. Baby dinosaurs cannot breed. The brachiosaur may have higher chances to become extinct.
  + After 30 turns for the stegosaur and 50 turns for the brachiosaur, the baby dinosaur should grow into an adult.
  + Similar to the other dinosaurs, allosaurus can also breed (if their food levels are above 50) and lay eggs (20 turns after mating). Eggs will hatch after 50 turns, into a baby allosaurus. Baby allosaurus are hungry: its starting food level should only be 20. Baby allosaurus cannot breed but they can attack stegosaurus (with only an increase of 10 food points while they are babies). After 50 turns, the baby allosaurus should grow into an adult.
* Eco points and purchasing
  + a ripe fruit is produced by a tree (1 point).
  + a ripe fruit is harvested from a bush or a tree (10 points).
  + fruit is fed to a dinosaur (10 points)
  + a stegosaur hatches (100 points)
  + a brachiosaur hatches (1000 points)
  + an allosaur hatches (1000 points)

Vending:

* + fruit (30 eco points)
  + vegetarian meal kit (100 points)
  + carnivore meal kit (500 points)
  + stegosaur eggs (200 points)
  + brachiosaur eggs (500 points)
  + allosaur eggs (1000 points)
  + laser gun (500 points)

## Meeting Date:

Group meeting on May 6th Thursday -> assignment 2 needs to be completed.

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# Assignment 3

## What to submit

* UML Class diagrams (Huixin)
* Thirsty dinosaurs (Huixin)
* Pterodactyls (Huixin)
* Recommendations for extensions to the game engine Part 2 (Huixin)
* UML Interaction diagrams (Adrian)
* Lakes, water and rain (Adrian)
* Second map (Adrian)
* Recommendations for extensions to the game engine

## Date:

Group meeting on May 24th -> assignment 3 needs to be completed.

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