

Assignment 6 - Task 3 - Dealer Feeding Decisions

Vignesh Mohankumar, Luke Van Seters

The dealer does not need to call the function to ask the current player for its feeding decision when there is no need for player input.

The player has no choices when: (1) no species can be fed, (2) nothing can be attacked, or (3) only there is only one option.

(1) If no species are hungry, this means one of:

- the fat tissue has maximum allowed tokens store
- the species' food equals its population
- the watering hole is empty

(2) No opponent species can be attacked when one of:

- all opponent species prevent attacks from all of player's species
- when horns trait would result in suicide of the attacking species (the attacking species' population is 1)

(3) There is only one option when:

- only one vegetarian species can take a single token
- only one carnivore can attack and it can only attack one opponent species

The method is called when one of:

- many species can be fed
- only the player's own species can be attacked
- a fat tissue can store a variable number of additional tokens

The dealer applies the results of the above method to the state of the game by validating the result then asking the players involved in the result to update their species with the effects of the result.

If the player cannot be trusted, a proxy must validate the type constraints of a valid response and a dealer must handle validation of the game logic. These validations ensure:

- the species belongs to the player whose turn it is to feed
- the watering hole has a sufficient number of tokens to fulfill the result request
- in the case of a fat tissue result:
 - the player asked for a valid number of tokens
- in the case of a carnivore result:
 - the defending player is a valid player and the defending species belongs to the defending player

To update the game with the validated result, the dealer will pass the validated species' state to the player who will replace their original species.

In the case of the carnivore result, the dealer will also update the state of the attacked player by decreasing their species' population. If after an attack any species becomes extinct, the dealer will give cards to this player.