Biosimulation Project

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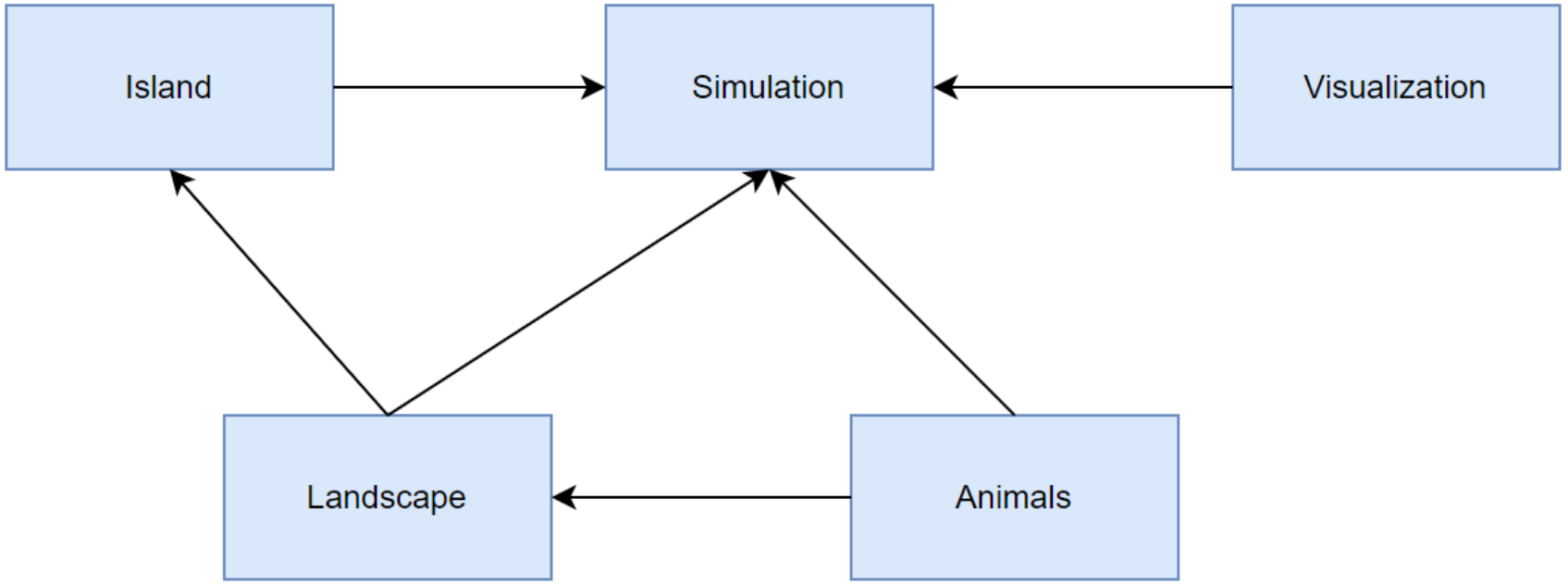
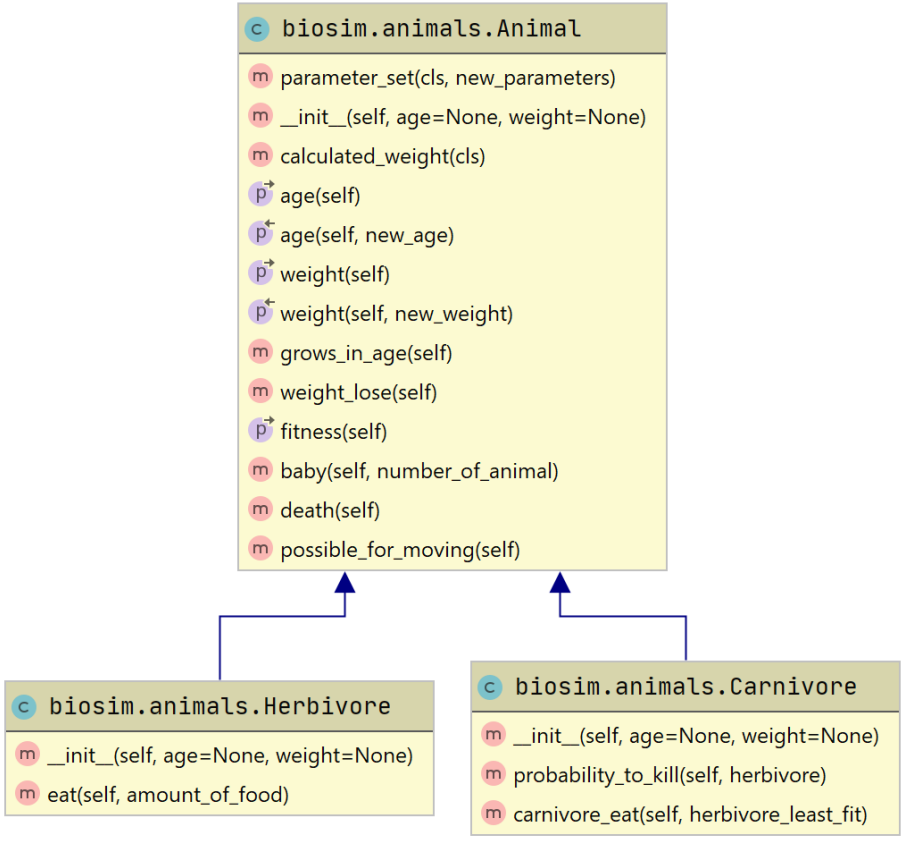
Biosim package



Animals



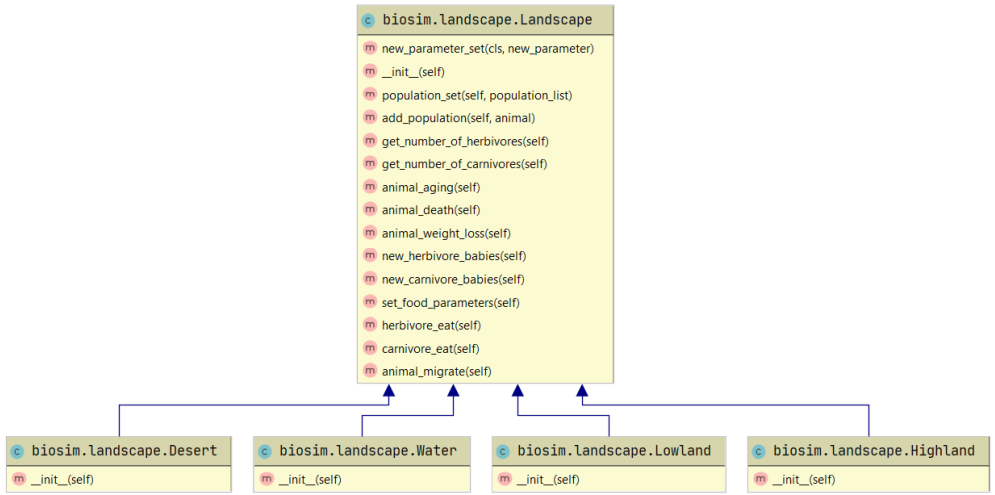
- Main class:
  - Animal
- Two sub classes
  - Herbivore
  - Carnivore

```python
def death(self):
    """
    If the weight is 0 than the animal is dead.
    If the weight is greater than 0 than we have to compare
    the death probability against a random number and will return
    the result, either False or True

    :return: True or False
    """

    death_probability = self.parameters["omega"] * (1 - self.fitness)
    if self.weight == 0:
        return True
    else:
        return random.random() < death_probability
```

Landscape

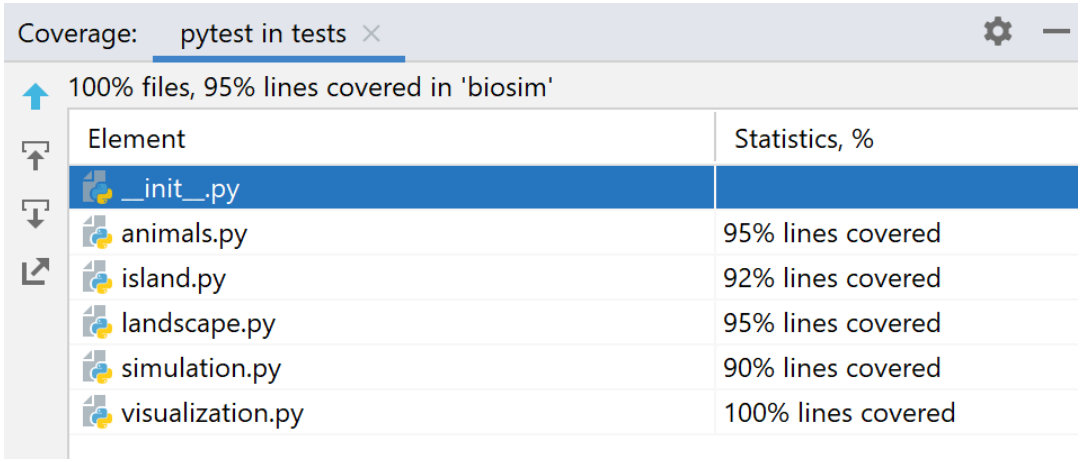



```
class Water(Landscape):
    """
    Water class is a subclass to the Landscape class
    flag is False, since animals can not move on water
    """
    parameters = {"f_max": 0}
    flag = False
```

- Main class:
  - Landscape
- Four sub classes
  - Desert, Water, Lowland, Highland
- Flag

Test coverage

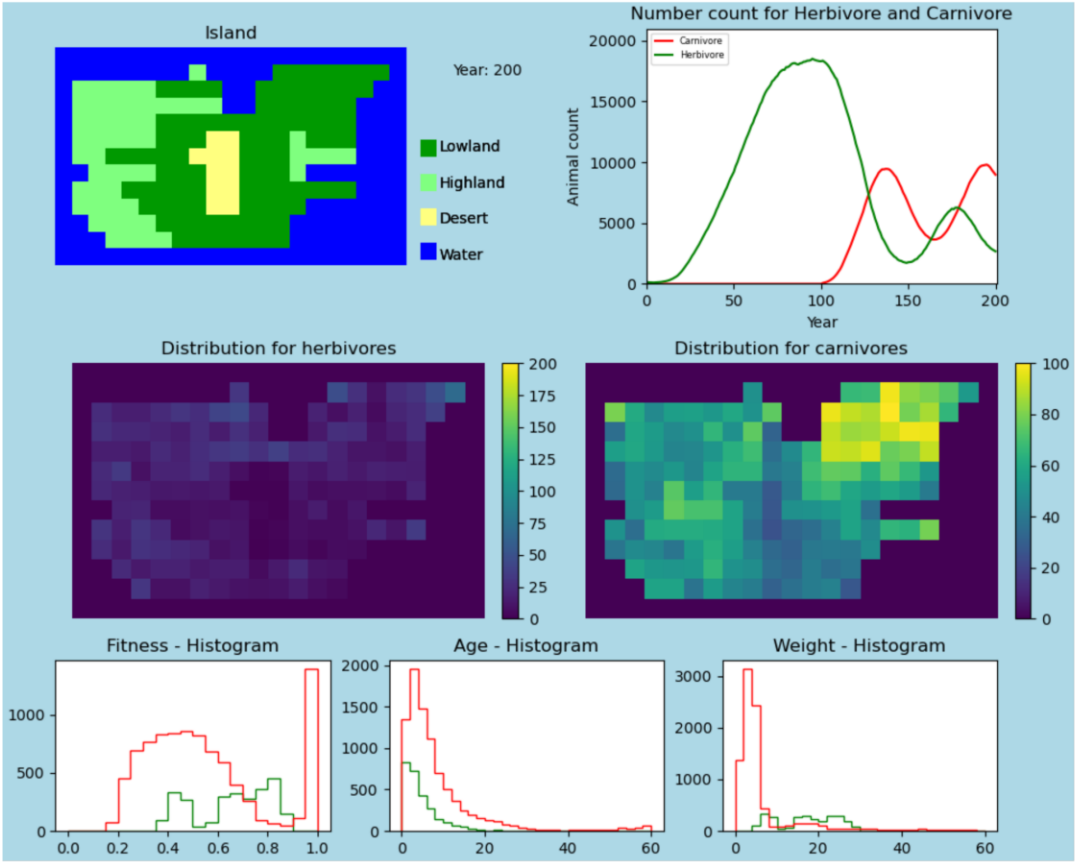
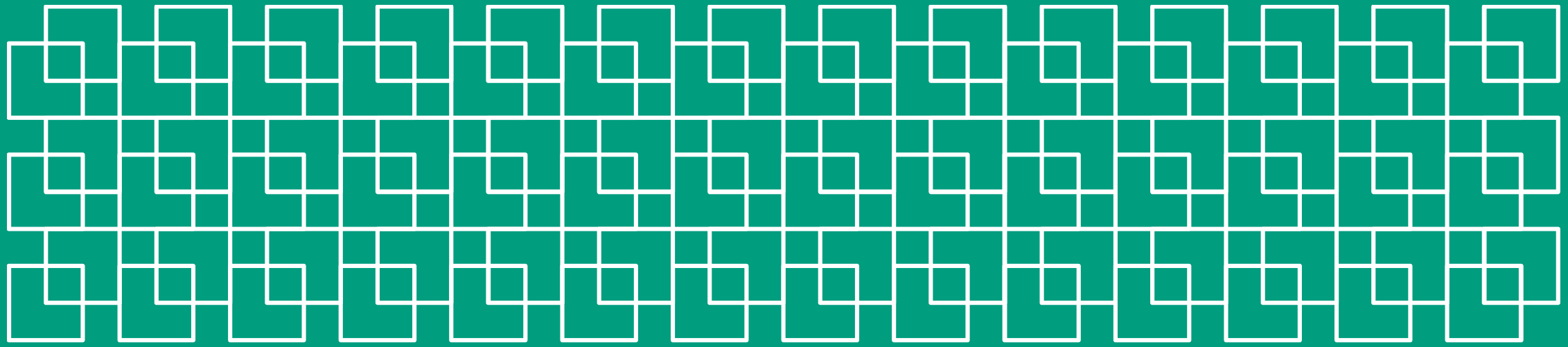
- 4 test scripts
  - Test_animals.py
  - Test_landscape.py
  - Test_island.py
  - Test_biosim_interface
- 64 tests
- Covering all the major parts
- Secure and trustworthy



Improvements

- Create more test
- Better visualization
- Sphinx
- Insects
- Faster

The simulation for the next 200 years



Thank you for listening to us!