

BioSim Project

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Agenda



PREPARATIONS



STRUCTURE



TESTING



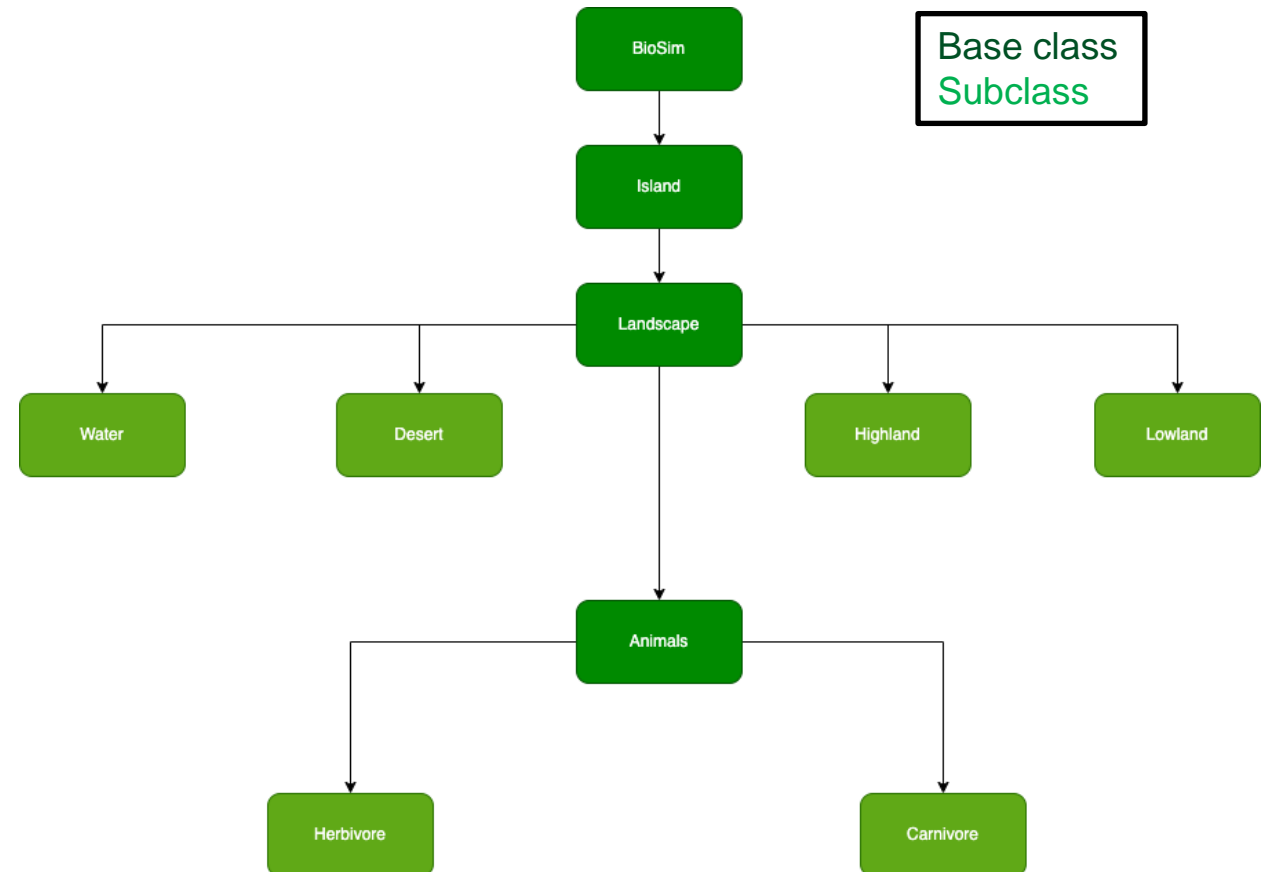
IMPROVEMENTS



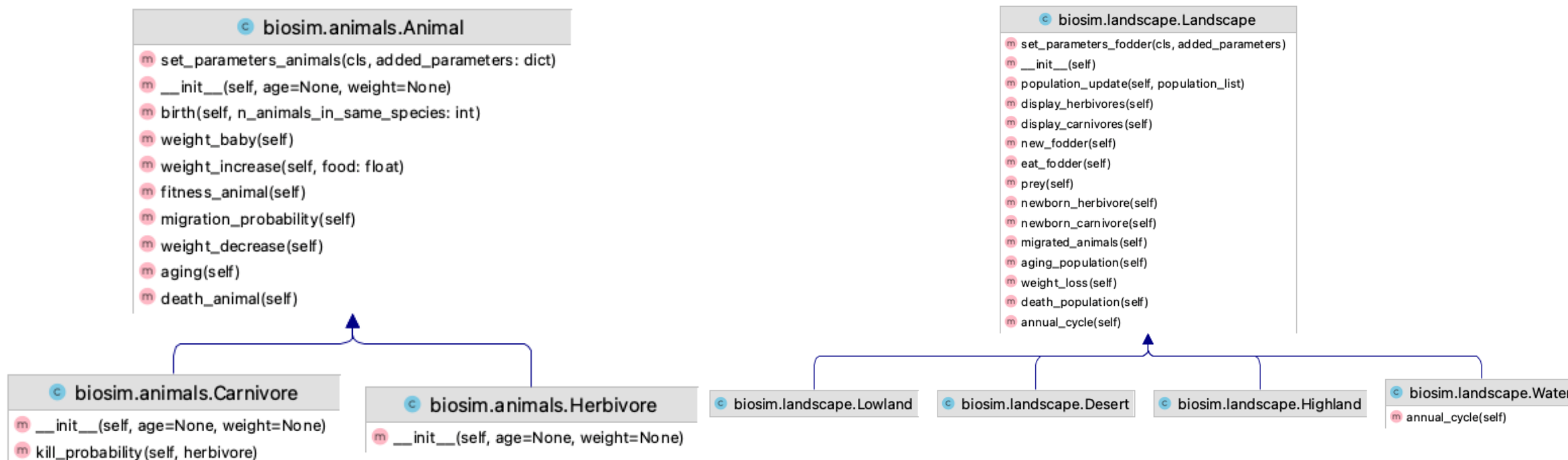
SIMULATION

Preparations

- Notes before coding
 - Common traits
 - Understanding
- Choosing a smart structure
 - Levels

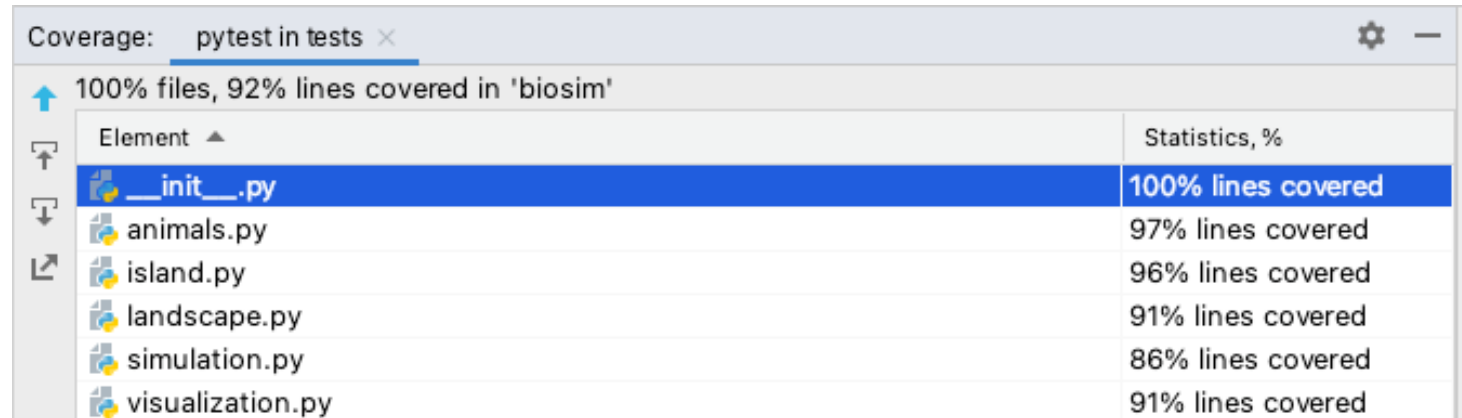


Structure



Testing

- Testing major parts
- Trustworthy
- 75 tests



Coverage: <code>pytest in tests</code> ×	
↑ 100% files, 92% lines covered in 'biosim'	
Element ▲	Statistics, %
__init__.py	100% lines covered
animals.py	97% lines covered
island.py	96% lines covered
landscape.py	91% lines covered
simulation.py	86% lines covered
visualization.py	91% lines covered

Improvements

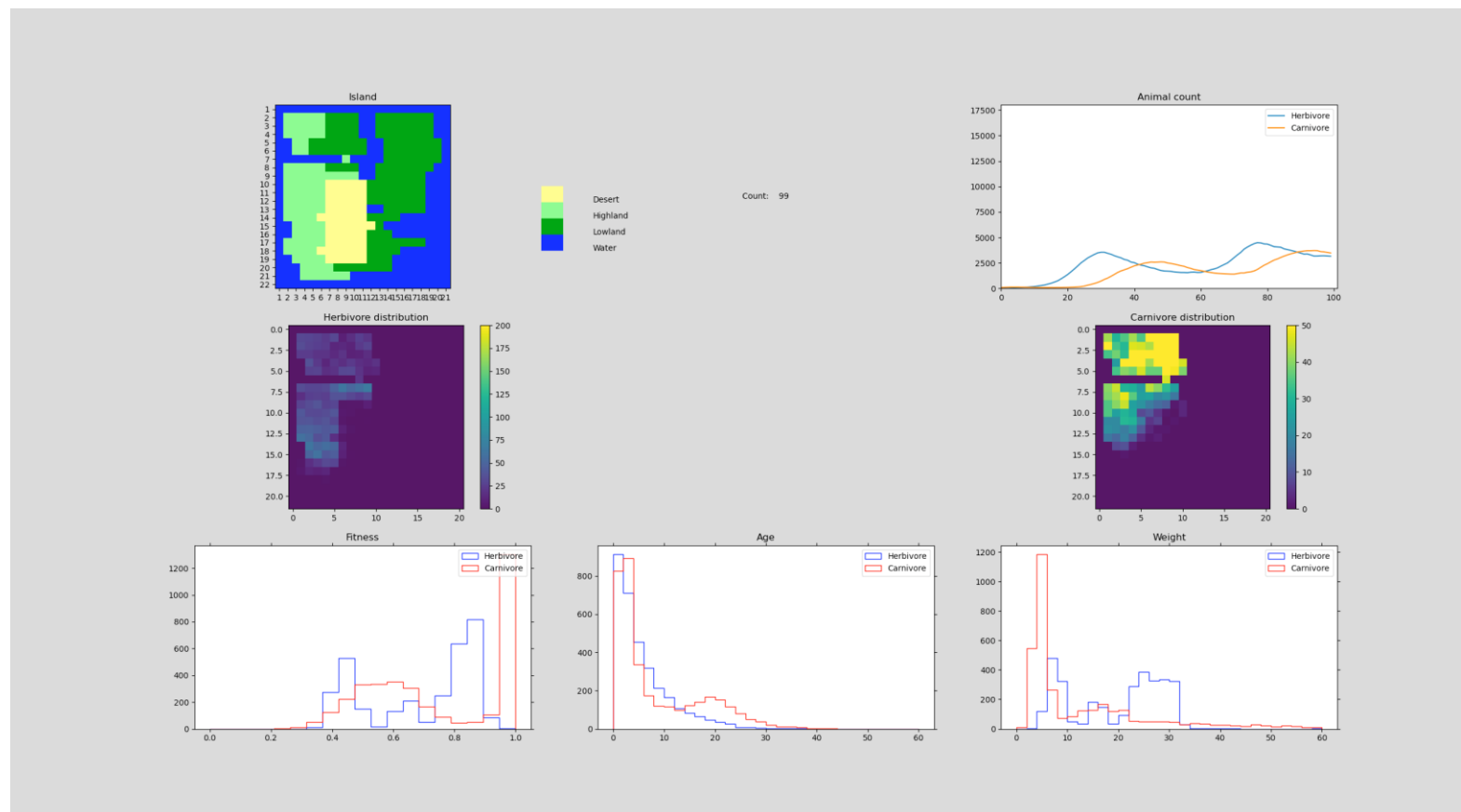
- Implementation of other languages
- Sphinx
- Better visualization
- More use of OOP principles
- Optimization
 - Time
 - Tests

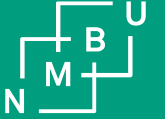
```
130 ▶ def test_weight_loss_carnivore():
131     """
132     Test if the carnivores lose weight over the year
133     Does this by indexing the weight before and after the
134     weight_loss function runs
135     """
136     population = [{'species': 'Carnivore', 'age': 10, 'weight': 10}]
137
138     land = Lowland()
139     land.population_update(population)
140
141     old_weight = land.carnivores[0].weight
142
143     land.weight_loss()
144
145     new_weight = land.carnivores[0].weight
146
147     assert new_weight < old_weight
```



```
113 ▶ def test_weight_loss_herbivore():
114     """
115     Test if the herbivores lose weight over the new year
116     Does this by calculating the weight by hand, then testing the answer
117     """
118     population = [{'species': 'Herbivore', 'age': 10, 'weight': 10}]
119
120     land = Lowland()
121     land.population_update(population)
122
123     land.weight_loss()
124
125     new_weight = land.herbivores[0].weight
126
127     assert new_weight == 9.5
```

Simulation for the next 100 years on Rossumøya





Thank you for listening! Always happy hacking!

