Biosim-project

INF200 – Advanced programming

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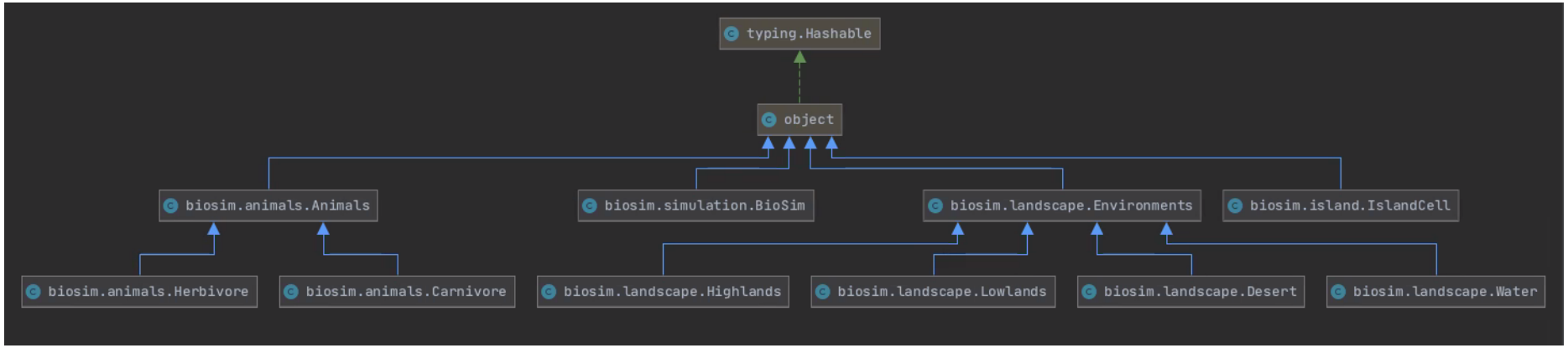
Delivery

- Our delivery consists of the following:
  - Description of code
  - Transference of project and understanding of code
  - Quality assurance: documentation and tests
  - Suggestions for further work

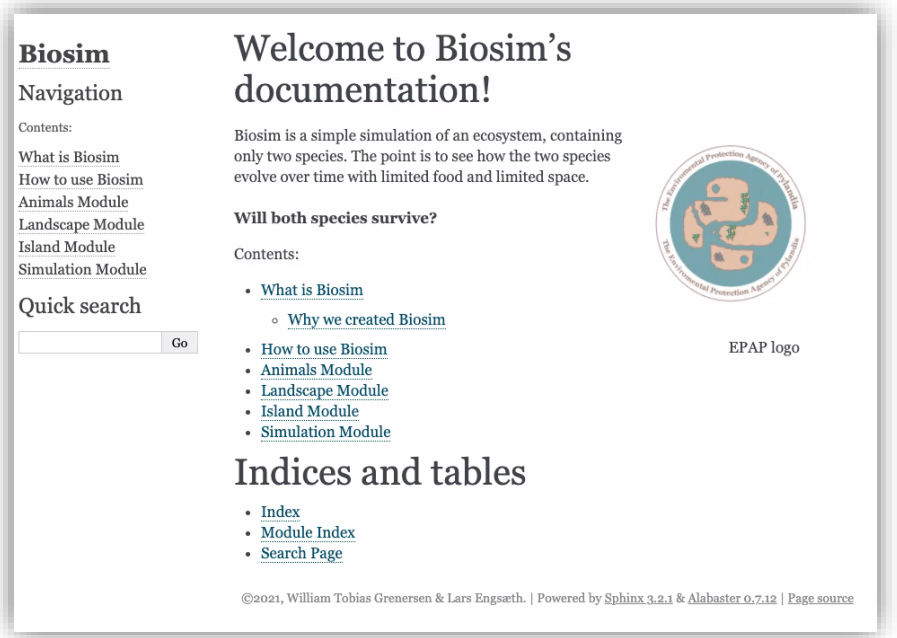
Overview of the code

Stucture:



- How migration works:
  - Each cells knows its neighbors
  - Each animal in every cell evaluates if it moves. Thereafter, the moved animals are merged into the selected cell’s list

Transfer project knowledge



- Documentation
  - Html for ease of reading
  - Doc-string for almost all methods
  - whatisbiosim.rst with detailed description of how to use the code
- Tests for evaluating quality and correctness
  - 90% of “animals.py” and “landscape.py” is covered
  - 84% of “island.py” is covered
  - 49% of “simulation.py” (visualization was not tested)
  - Mocker.patch was troublesome. TAs claimed the tests worked on their PCs

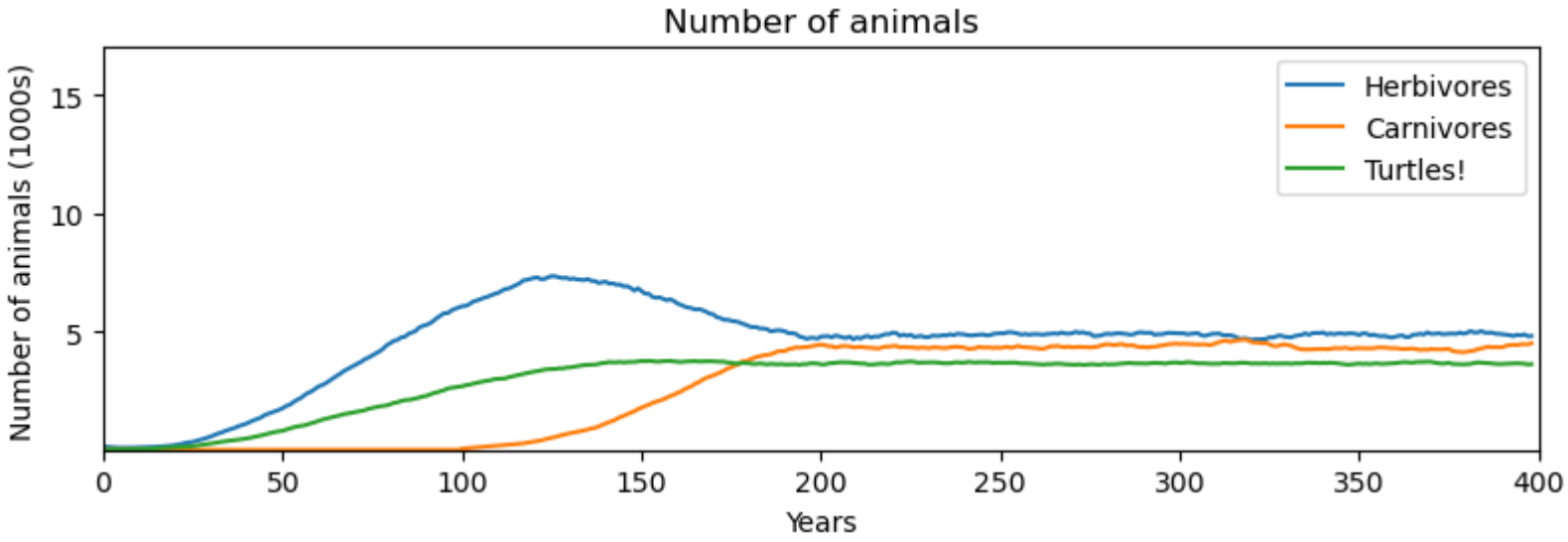
Known improvement areas

- Rebuild population structure with DataFrames
- Implement histograms
- add_population() needs ValueErrors to ensure correct input

- Suggestions for further work:
  - Add new species (birds, animals with other parameters, animal subclasses who can evolve)
  - Change dynamics of landscapes. Change food amount over time (due to climate change, due to overpopulation, or introduction of new plants), rising sea levels
  - The only limit is your imagination!

Example of new species

- Durable and large animals
- Hard to hunt
- Eat a lot



Thanks for listening!