System modelling and simulation

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https://github.com/ddworak/formin

Formin

Concurrency

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Proposed changes

Grid

+ New cell type: **Buffer**
  Buffer zone will replace the current Obstacle zone (where applicable). Foraminifera and algae are free to move to the buffer zone, signal propagation works there as usual. The buffer zone is reset after sending results at the end of iteration.

Scheduler

+ Collects statuses from all workers
+ Starts new iterations after all workers have finished
+ StartIteration message contains previous iteration statuses of neighbour workers

Collision strategy

We aim to support configurable strategies for resolving buffer application conflicts. The essential interface can be described by a single method:

```
def resolveConflict(current: Cell, incoming: Cell): Cell
```

Worker

+ Applies neighbour buffer data before the start of each iteration
+ Uses CollisionStrategy to resolve conflicts
+ Resets buffer zones after sending full iteration result

GUI

Works seamlessly on a single node with the size of full grid using data from the scheduler.

+ support rendering buffers