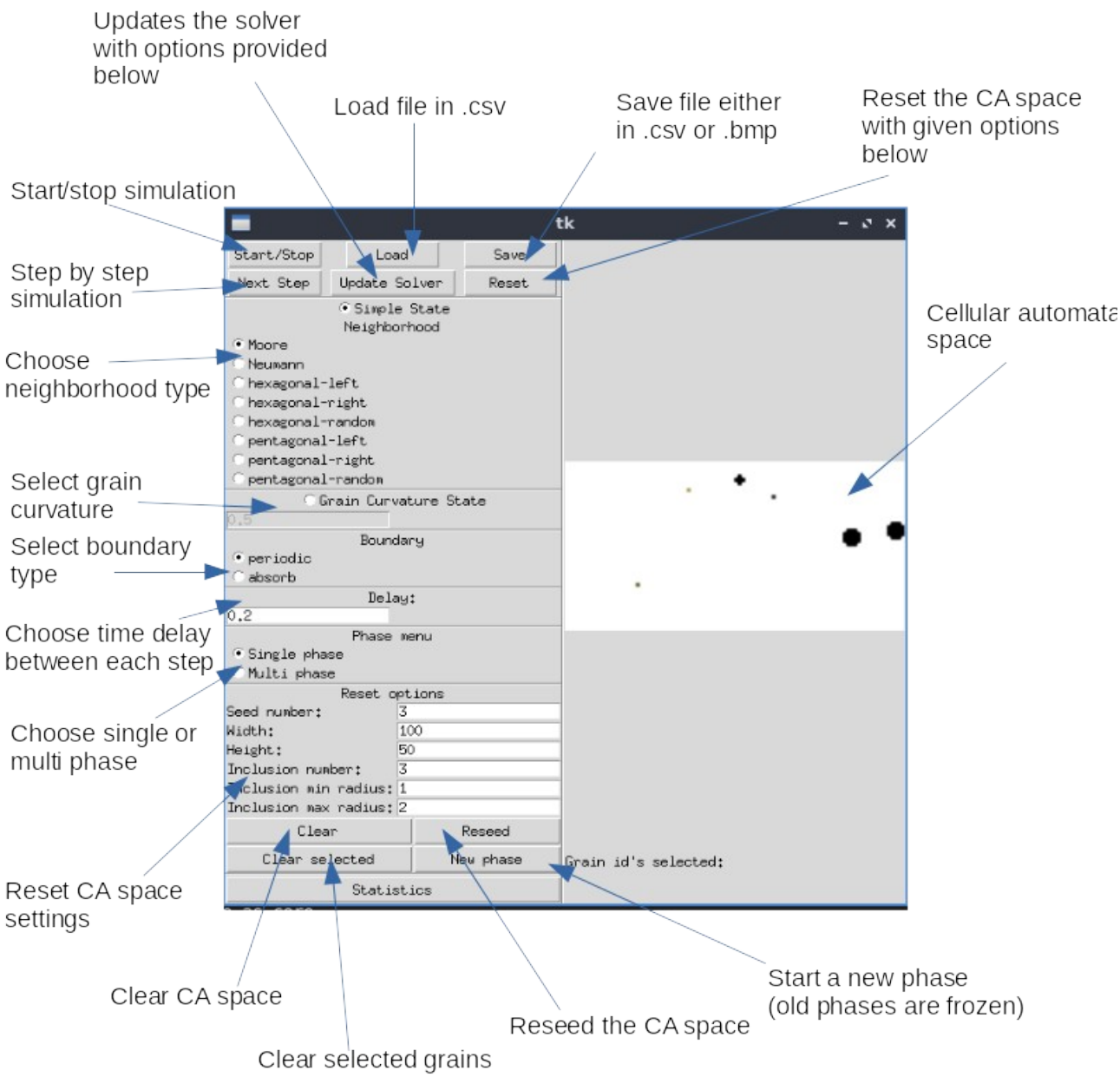
Multiscale Modelling – Report

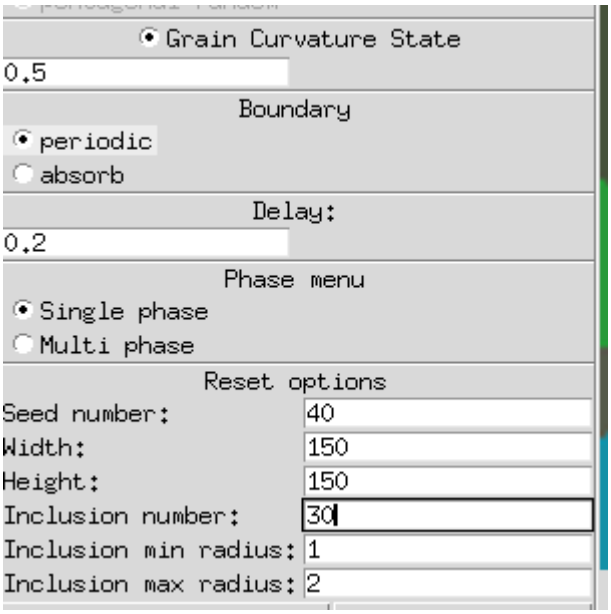
1. Topic

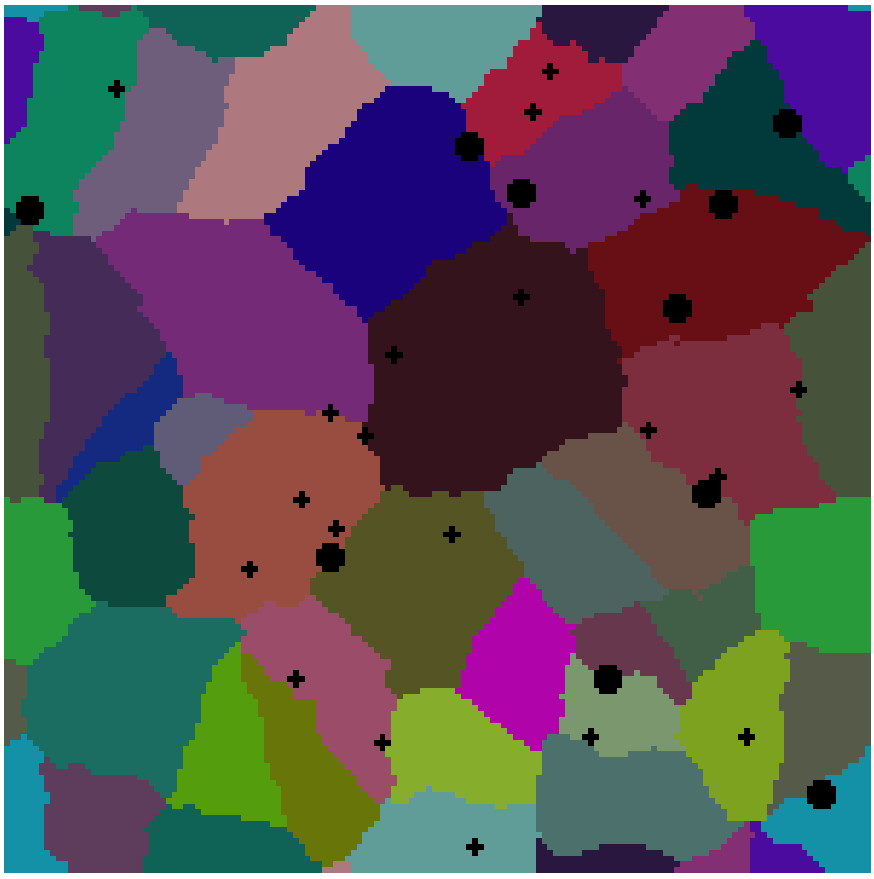
The topic of the task was to create an application that simulates the behaviour of grain growth, based on the cellular automata algorithm.

2. GUI – Funcionalities and appearance



3. Sample results:





4. Conclusion

The task was very interesting. There were many opportunities to implement good design OOP design patterns.

The biggest obstacles that I have faced was the implementation of a „step-by-step” feature, because of the design of the application it was not as simple as one might thought it would be. The whole application-controller was thought as a simple state-machine and because of that, and because of the lack of a distinction between „running” states (only „on” and „off”), it was quite a tricky task to solve.

5. Links:

https://github.com/ptutak/cellular-automaton

6. Installation - dependencies:

```
pip install -r requirements.txt
```

7. Running

```
python3 cellular_automaton/main.py
```