

HPC Lab

Session 5: Project

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Repast for High Performance Computing



Source: <http://www.zephram.de/blog/innovationsmanagement/zombie-innovationsprojekte/>

Repast for High Performance Computing

- Agent-based modeling framework
- Written in C++
- MPI Parallelization
- Example application: Zombie Invasion

Links

- Homepage: `http://repast.sourceforge.net/repast_hpc.php`
- Documentation: `http://repast.sourceforge.net/docs.php`
- Code: `http://sourceforge.net/projects/repast/files/Repast%20HPC/Repast%20HPC%202.1/repast_hpc-2.1.0.tar.gz/download`

Warning: Use “Repast HPC” not “Repast”

Deliverables

- Optimization strategy (2 pages)
- Git-repository, which documents all of your code-changes
→ <http://gitlab.lrz.de>
- Documentation how to build and execute your code
- All slides, graphs, results . . . created throughout the project phase

Deadline: January 25, 2016, 8 am

Hints

- Use profilers to analyze the code
- Make the results reproducible (agents can have random behavior)
- Find measurements for performance (FLOPS?)
- Consider all parallelization levels: Vectorization, OpenMP, MPI
- Target platform is the Linux Cluster
- Document your improvements early