**MEMOSA: MEMS Overall Simulation Administrator**

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**Project Management**

All of the source code and data for MEMOSA are gathered into a project management system provided by nanoHUB.org, which includes:

- Subversion source code control system
- Wiki for documentation and project notes
- Bug tracking system

https://developer.nanohub.org/projects/app-memosa

**Automated Build and Test System**

The entire code for this project includes a number of open source subsystems, such as LAMMPS, each with their own build procedures. A Python script coordinates the builds for all subsystems and kicks off a suite of regression tests.

Test results are registered with a CDash installation, which provides web-based access to results and a way to "drill down" on failures.

**Architecture**

MEMOSA, the MEMS Overall Simulation Administrator, is a collection of C, C++, and Fortran routines integrated into the Python scripting language and bound together by a collection of scripts to provide a comprehensive simulation system. Python bindings provide access at a very fine level of detail to FVM, MPM, and the data objects they use to exchange information. This fine-grained control over the simulation framework provides a strong foundation for the regression test suite.

Integrating with Python via the Rappture toolkit:
http://rappture.org

https://developer.nanohub.org/projects/app-memosa