Computational Astrophysics Software for the Study of Near by Planetary Systems RYAN HAYNES, JOHN ARMSTRONG, Weber State University — In an effort to bring computational Astrophysics to the undergraduate level, a simplified analysis tool for simulating gravitational interaction of planets orbiting stars is needed. Many tools to integrate planetary systems and study their behavior have been developed. This project focuses on combining a well-developed N-body planetary integrator (Mercury) with a web application (Rails) to automate the simulation process, making studies of Extra Solar Planetary systems much easier. Ultimately this application will have the ability to simulate any system including objects such as test particles and planets, and then store this data for later scientific inquiry. One instance of this software has already been implemented on Weber State Universities computing cluster (Workhouse). Much work is still needed to perfect and distribute this software.

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