Automated refactoring can improve the structure of existing software in 1/3 of the time it takes to manually refactor.

Read more about our vision: James Ivers, Ipek Ozkaya, Robert Nord, Chris Seifried, Next Generation Automated Software Evolution: Refactoring at Scale, 2020, 28th Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 20). ACM, Virtual Event, USA.

Our prototype can help with common evolution scenarios:

Scenario: Gather data to assess the difficulty associated with project-specific goals as input to funding decisions.

Maturity: Available now (TRL 4)

Expected Results: Enumeration of problematic couplings, their locations, and types potentially impacted by proposed change as data to inform cost estimates.

Scenario: Compare the difficulty of different refactoring approaches.

Maturity: Available now (TRL 4)

Expected Results: Enumeration of problematic couplings, their locations, and types potentially impacted by proposed change as data to inform cost estimates.

Scenario: Automatically refactor software to isolate software and speed its evolution.

Maturity: Ready for pilot application in 3–6 months

Expected Results: Recommended refactorings that enable the proposed change address multiple criteria.

Contact us at info@sei.cmu.edu if you are interested in partnering with us.