

Bringing Extract Method Refactoring to the Rust Programming Language: Experiments with REM

Matthew Britton¹, Supervisor: Alex Potanin²

Abstract

This report details my current progress on advancing extract method refactoring in the Rust programming language. This project builds on existing work completed by Ilya Sergey, Sewen Thy and others in Adventure of a Lifetime: Extract Method Refactoring for Rust. The first half of the project is focussed on bringing the Rusty Extraction Maestro (REM) tool to a usable state, with the second half focussed on researching and evaluating new extraction methods.

Keywords

Rust, Extract Method Refactoring

¹School of Engineering, The Australian National University. — matt.britton@anu.edu.au

²School of Computing, The Australian National University. — alex.potanin@anu.edu.au

Contents

1	Introduction	1
2	Work Completed to Date	1
2.1	Literature Review Progress	1
2.2	Advanced Refactoring Method Research	1
3	Coding Progress	1
3.1	Modifications to REM	1
3.2	REM-Extract: Performing initial function extraction in Rust	1
3.3	REM-CLI: A comprehensive command line interface for REM	1
3.4	Rem-VSCode: A Visual Studio Code extension for REM	1
4	Future Work	1
5	Issues Encountered So Far	1
	Acknowledgments	2
	Source Code	2

3.3 REM-CLI: A comprehensive command line interface for REM

3.4 Rem-VSCode: A Visual Studio Code extension for REM

4. Future Work

5. Issues Encountered So Far

1. Introduction

2. Work Completed to Date

2.1 Literature Review Progress

2.2 Advanced Refactoring Method Research

3. Coding Progress

3.1 Modifications to REM

3.2 REM-Extract: Performing initial function extraction in Rust

Acknowledgments

I would like to thank my supervisor, Alex Potanin, for his guidance and support. Additionally, I would like to thank Sasha Pak for listening in on all of our meetings and providing valuable feedback. Finally, I would like to thank Sewen Thy, the original developer of REM, for his help in understanding the project and his assistance in getting me started.

Source Code

The source code for this project can be found at the following repositories:

- REM-cli
- REM-extract
- REM-vscode
- REM-utils
- REM-controller
- REM-borrower
- REM-repairer
- REM-constraint