CprE 492 – Senior Design Bi-weekly Status Report 6

sdmay18-09: Tool Support for Continuous Model-Based Verification of the Linux Kernel
Weekly Report 6
March 24 – April 6, 2018
Client: Suraj Kothari
Faculty Advisor: Suraj Kothari

Team Members:
Srinivas Dhanwada – Team Lead
Collin McIntyre – Tool Integration Lead
Benjamin Weno – Automation Lead
Matthew Wall – Web Lead

Summary of Progress this Report

A lot of work was completed in this period. Our team decided to switch from Slack to Discord for team communication due to issues with receiving mobile notifications. We've created a GitLab webhook to help increase productivity in Discord as well. We've also created/added unit tests for several modules, including the DiffMapper, Patcher, and RSS Reader and begun writing documentation for their usage. We've started taking steps to tie each of our programs together by having the RSS Reader generate config files for the DiffMapper and DiffLinker. We've added command line interface and ini file support to the Patcher and added its tests to the pipeline for our master branch. To aid in pipeline testing execution time, we've also set up several GitLab CI runners on various team members' machines. Lastly, we've continued fixing bugs in the website backend and improving the frontend aesthetic design. Please see the individual team member contributions section for more details about work we've completed.

Pending Issues
- One team member is having a lot of trouble setting up a GitLab CI runner
- We're still working out some details for CLI options for the Patcher
- We need to figure out how to convert LSAP-generated data into a website-usable format

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Plans for Upcoming Reporting Period

In the upcoming reporting period, we plan to continue working on transferring data between each of our programs and create .jar files that can be used for execution through a terminal. We also plan to continue writing documentation for each of our programs and analyze the results of our programs applied to an LSAP verification run to ensure each of our programs functions individually in a real setting before continuing to work on executing each of the steps sequentially and automatically.

Individual Contributions

Team Member	Contribution	Hours This Period	Total Hours
Srinivas Dhanwada	- Worked to create Discord webhook to increase team productivity - Cleaned up repository by removing stale/merged branches - Wrote documentation for setting up GitLab runners - Started manual LSAP mapping to test differencing methods - Increased test coverage of DiffMapper - Added documentation for DiffMapper - Reviewed merge requests for other projects	25	155
Collin McIntyre	- Added CLI support to the Patcher - Added Ini file support to the Patcher - Created unit tests for the Patcher - Set up a GitLab runner for use with GitLab CI	22	117.5
Benjamin Weno	- Updated RSS Reader to place new kernel in planned location - Updated RSS reader to generate config files for the DiffMapper/DiffLinker - Added unit tests for the RSS reader - Began creating program to convert LSAP data into required format for website	9	72
Matthew Wall	- Fixed bugs with dummy data in Firebase - Analyzed aesthetic layouts for displaying LSAP data - Fixed homepage display based on which version of the kernel is selected	15	78.5