

EE / CprE / SE 491 – sdmay20-43
Analysis of GitLab projects using BOA
Bi-weekly Report 4

3/12/2020 -4/2/2020

Client: Simanta Mitra

Faculty Advisor: Simanta Mitra

Team Members

Diego Realpe - Team Leader | Test Engineer

Adrian Hamill - Test Engineer

Megan Miller - Test Engineer | Website Manager

Benjamin Carland - Test Engineer

Yi-Hsien Tan - Test Engineer | Organizer | Website Manager

Bi-weekly Overview

- These two weeks have been a transition period of the team and the whole university towards quarantine. Team has set up online communications and meetings to adapt to our current situation.
- Polishing of the products and attempts to get everything to work in sync. The backend pipeline has picked up more of our complementary features to start implementing
- BOA people are staying in touch and working along each other to contribute to our BOA suite of queries.

Past Weeks' Accomplishments

- Adrian has been repeatedly and endlessly testing the setup scripts and data generations scripts for the backend pipeline, in addition creating new scripts for the mass data generation.
- Megan made some breakthroughs in R and is learning how to write R scripts so that less work has to be done by the user.
- Brainstorming is in process

Pending Issues

- Upon Running some AST queries, we've noticed that for one reason or another the output data for the query is 0 bytes in size. This is true of the test queries as well. Ben is emailing one of the graduate students on the Boa team to resolve this.

Individual Contributions

Name	Contributions	Bi-weekly Hours	Total Hours
Diego Realpe	Most of my time this week has been developing a second complementary part of our script to parse and pass BOA output to R. Worked along other teammates to coordinate input output standards	15	89
Adrian Hamil	Set up a linux testing environment to repeatedly test the backend pipeline for failures and improvements	23	150.5
Megan Miller	Found different ways to import Boa query output into R and started some	10	134
Benjamin Carland	Finished up some AST queries, relating to the number of AST nodes in the tree. Another involving null checks and working on a solution to check for infinite loops.	12	107.5
Yi-Hsien Tan	Started creating queries with AST and visitor patterns. Currently making queries to check how many valid java files are in each repository.	10	129

Plans For Upcoming Week

- Data Pipeline: Adrian Hamil & Diego Realpe
 - Start committing and writing down the R script that can be run on bash.
 - Set up a mechanism to detect when BOA processing is finished and kickstart parse script
 - Attempt a full test run
- Boa Research: Ben Carland & Megan Miller & Yi-Hsien Tan
 - Continue learning R scripting to simplify the process of creating charts for boa scripts.
 - Collaborate with the backend team on the best way to take the boa query results and feed that as input
 - Finish writing more of the Boa queries (AST) from our document of query ideas. As well as continuing to think about new queries that might produce interesting data.