
09:00 - 09:45

DVA423

Experimental Evaluation of Tools for Mining Test Execution Logs

Edvin Parmeza

Advisor: Wasif Afzal

Examiner: Daniel Sundmark

Abstract:

Abstract - This thesis work focuses on software tools that are used to analyze different test execution logs. Logs are records, which get generated by the servers of an organization or a company, and collect information about the activity this company does. Different tools use different methods to analyze the logs and can display the results textually, visually or both. They also use different fault localization techniques, in order to find the errors or the root cause of the failures that may occur during testing. We divided our work in three different case studies: literature study, experimental study and survey study, in order to collect as much useful information as possible to help us enrich and complete our work in a successful way.

Opponent 1: Charlie Kotro

Opponent 2: Nejra Bahtic

Opponent 3: Yousuf Khan

09:50 - 10:35

DVA423

Classification of flaky test fixes

Nejra Bahtic

Advisor: Jean Malm

Examiner: Kristina Lundqvist

Abstract:

"Regression testing presents an important part of software testing, especially for developers that work with continuous integration. It should confirm that the latest changes in the code did not affect the existing features of the software system. During the regression process, tests can behave non-deterministic giving different verdicts without any change in the system or the test. This type of test behavior is called flaky and is harmful as it erodes the trust developers have in their tests.

Analyzing commits manually is a very time-consuming process for developers as well as for quality assurance teams since they need to go through commits individually while trying to find a solution or where the change that affected the system happened. Making this process automated should benefit both developers and QAs and save their time.

In this thesis, we developed an automated Rule-Based system for the classification of commits that address flaky tests and their fixes. The created classifier was validated using data from the study done by Luo et al. An overview of both manual and automated approaches is presented together with advantages and disadvantages for them. In the end, we explained the limitations of our work and where it could be improved."

Opponent: Vildan Zivojevic