Patrick Silvio Bächli

Marc Etter

Graduate Candidates	Patrick Silvio Bächli, Marc Etter
Examiner	Prof. Dr. Farhad D. Mehta
Co-Examiner	Tom Sydney Kerckhove, CS Kerckhove, Zürich, ZH
Subject Area	Software

Code Panorama

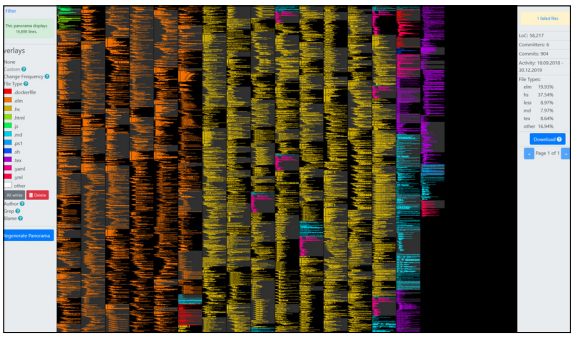
A non-reductionist, visual review-tool for large code-bases.

CodePanorama configuration / filter page (https://codepanorama.io)
Own presentment

Objective: CodePanorama is a tool for software developers, reviewers, and consultants. Its goal is to assist in identifying points of interest within a code-base to review. A software developer might join a new project and want to quickly find the most interesting parts of the code to get started. A supervisor must review the results of a project but does not have the time to look at the entire code-base. Instead, they look to CodePanorama to make an educated guess as to where their efforts should be focused.

Approach: In contrast to other code metric tools, CodePanorama is designed to provide the user with a non-reductionist, "zoomed-out" overview of the entire code-base. It is up to the reviewer to find interesting patterns and curious anomalies based on indentation, spacing, line lengths, and color overlays, instead of the usual metrics.

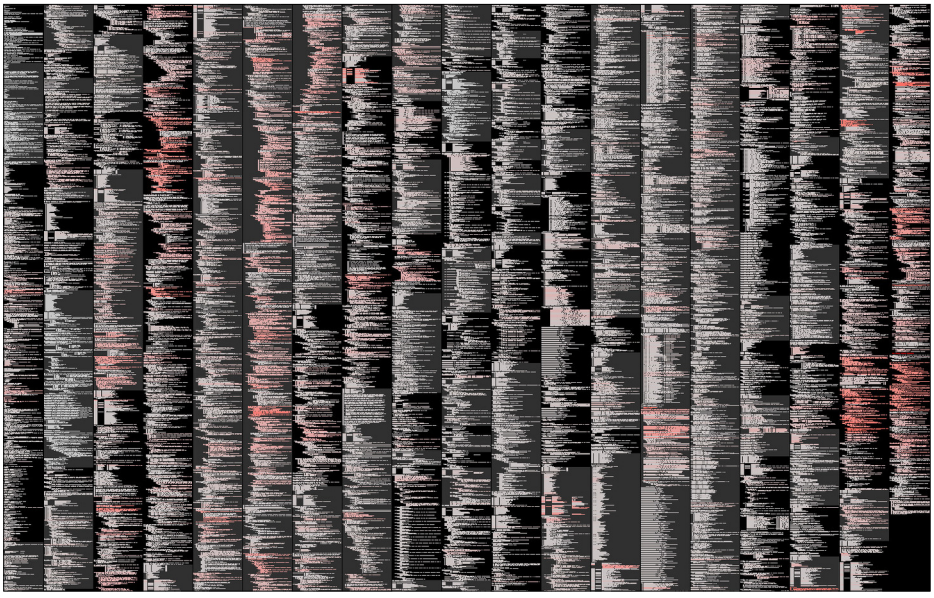
Result: After entering the URL to any git repository, CodePanorama will clone the repository in the background, and generate the panorama view. The result is basically a collage of all files in the repository, glued together.



Code panorama of CodePanorama, with a file type overlay (~17k lines shown)
Own presentment

Often, this new perspective on a code-base can find patterns such as duplicated code, excessive indentation, or any other feature the human eye might recognize. With the addition of color overlays, a reviewer might find intriguing correlations between git statistics, such as change frequency, and code layout.

Once such a feature has been identified, CodePanorama offers the functionality to simply click on a section of the panorama image. This allows the user to directly dive into the actual code at that location. From there, they can review the code in place, or just take a peek before switching to their tool of choice.



Code panorama of https://github.com/commercialhaskell/stack with change frequency overlay (~18k lines shown)
Own presentment