

**Title:** **Project Management Dashboard: *git*, Performance Metrics and Collaboration Patterns**

**Description:** Nowadays software development teams collaborate on their projects with the help of version source control systems, such as *git*. The teams' activities leave a trace of their patterns in the system's logs – features that they work on, time to start working on a bug, who comments on a PR and how fast an item (a bug or a new feature) takes to change its status from to-do to completed. These logs keep the data on the team's performance and specific collaboration patterns. What makes this data interesting is to be able to get insights and automatically generated reports to present to the teams themselves and project managers.

This project focuses on building a tool to visualize insights gained from *git* logs. The main goal for is to present useful information with the help of a well-designed user interface (UI), and with intuitive user experience (UX). The edge would be to allow users to customize what data they want to see and in what form.

The project consists of research and technical parts split in four milestones:

1. Do a short literature review [research part] on:
  - a. Project management of software development projects, performance metrics, especially related to the git workflow.
  - b. Data visualization papers, methods, and tools.
  - c. Existing project management dashboards.
2. Find useful information and patterns in the data that are interesting to visualize in order to understand how the project evolves. Then, explore and propose different customization options [research and technical part].
3. Build a dashboard prototype [technical part].
4. Evaluate the design of the tool [research and technical part]

**Prerequisites:** (1) Motivation to conduct an action-oriented project. (2) Web technologies knowledge. (3) *git* and GitHub

**Benefits for the student:**

- Build a project management dashboard.
- Learn how to apply visualization and human-computer interaction techniques to achieve a smooth UX.
- Extensive work with *git*.
- Get in-depth knowledge of software development metrics, team organization and patterns.

**Domain:** *git*, project management, service-oriented architecture, user experience

**Project type:** Master or semester project

**Responsible:** Blagovesta Kostova (<http://people.epfl.ch/blagovesta.kostova>)