The Small Project Observatory

Mircea Lungu, Michele Lanza
Faculty of Informatics
University of Lugano, Switzerland

Tudor Gîrba
Software Composition Group
University of Bern, Switzerland

June 27, 2007

Abstract

The Small Project Observatory is an online application which supports the interactive exploration and visualization of Store repositories. The application is developed in VisualWorks using Seaside. The graphics and high level of interactivity are obtained using SVG and Javascript.

Keywords: Software Visualization, Store Visualization, Web Application

1   The Tool

Figure 1 presents a screenshot of The Small Project Observatory[1] exploring the Bern super-repository. The Small Project Observatory is a web application that allows us to interactively explore and to filter the super-repository and it offers multiple visual perspectives on a repository. The screenshot presents several of the essential features of the Observatory:

---

[1]We do not provide other screenshots but the reader is invited to test the tool online at www.inf.unisi.ch/phd/lungu/spo/
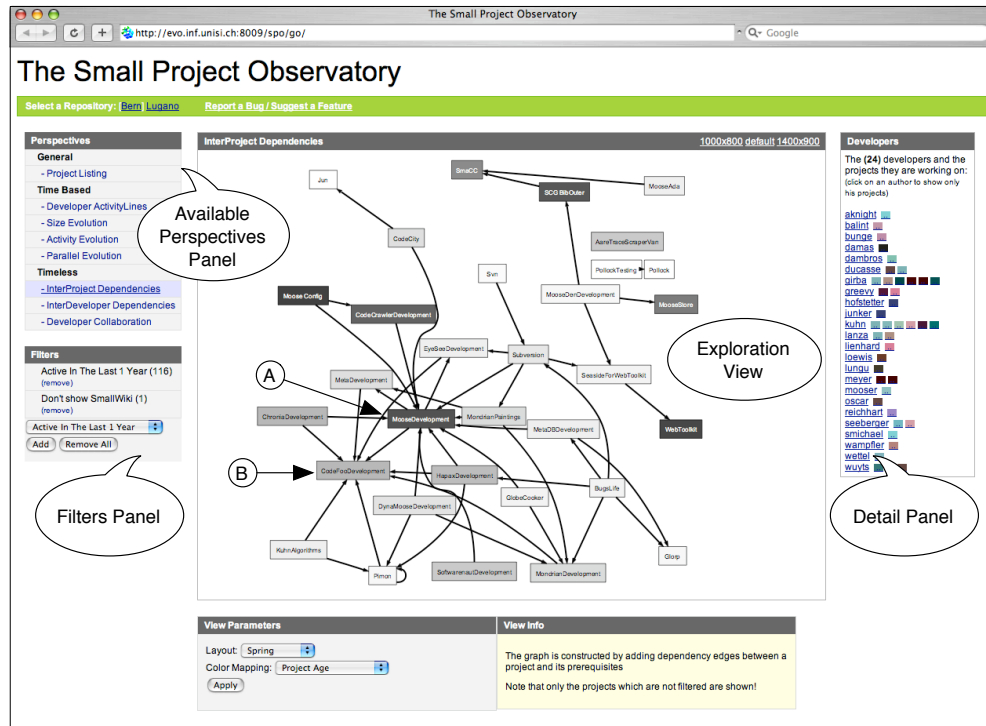
Figure 1: A screenshot of The Small Project Observatory exploring the Bern Store repository

- **Interaction.** The *Exploration View* presents the currently selected perspective (in this case the dependencies between projects) in a context in which the user can interact with its the elements. The graphical elements can be selected, hoovered over and have contextual menus. The graphics are implemented with SVG[2] and the interaction is generated with Javascript.

- **Predefined Filters.** A variety of predefined filters are part of the application, such as filtering by author, by the status of the project, by the size of the project or by the stage in the release cycle of a project. The user can add and remove predefined filters by using the *Filters*

---

[2]Scalable Vectore Graphics (www.w3.org/Graphics/SVG/)

Panel.

- **Multiple Perspectives.** To accomodate the needs of the different stakeholders the tool provides multiple perspectives on the data. The *Available Perspectives Panel* presents the list of available perspectives from which a user can choose.

  To the right of the exploration view there are *Detail Panels* which provide supplementary information on the view or on the selected elements in the view. The detail panel from Figure 1 presents the list of developers which are involved in the projects in the view and the projects they are involved in.

2 Perspectives

Some of the visual perspectives on a Store repository that the Observatory supports are:

- **Metric Evolution.** Metrics which can be defined at project level can also be aggregated at repository level. This is the case with size and activity metrics.

- **Developer Collaborations.** Sometimes it is interesting to see what is the collaboration structure for people who commit to the same repository.

- **Inter-Project Dependencies.** If there are dependencies between the projects (such as they can be derived from the preerquistes list in store, they can be visualized in the Observatory.

3 Technologies

The tool is written for VisualWorks and uses Seaside. Part of the interaction is generated with Javascript and the graphics are SVG. Currently SPO only supports Store repositories.

4 Availability

The tool can be accessed online at www.inf.unisi.ch/phd/lungu/spo/ where it presents the Lugano and Bern repositories. Alternatively the authors can provide instructions on how it can be downloaded and installed by third parties on their own repositories. The tool is released under an open source license. The sources of the tool are downloadable from the Lugano Store.