

Practice sheet 3 – due on 2013-11-04

Please prepare your solutions / answers in written form. Make sure to always prepare them in a way that you are able to present them to your class mates and discuss your solution process effectively.

Please remember to always list your references.

Learning Aims:

- Familiarizing with an Open Source project of your choice
- Exploring the source code of a big application

Outlook: In this practice sheet you are asked to identify an Open Source project of your choice with respect to some criteria. This is the first step in the context of the overall goal of actively participating in an open source software development process by submitting code for an issue (bug or feature).

Roadmap for the next 5 weeks:

Time span	Tasks	Content of the tutorial
by 2013-11-04	Find OSS project you are interested in and pick issue (bug or feature) to work on.	Present your chosen project and the issue with its context.
by 2013-11-11	Develop solution approach for issue and present it to the project's community	Discuss emails with solution approaches and address possible reactions of the community.
by 2013-11-18	Revise or refine solution approach with respect to the input from the community. Write test case for issue.	Look at the development process of the solution approach and the test case.
by 2013-11-25	Implement and present the patch to the OSS projects.	Your experience with submitting your patch.
by 2013-12-02	Get patch reviewed and accepted.	Talk about process, progress, success, problems and experience concerning the patch submission and acceptance by the community.

The practice sheets 3, 4, 5 and 6 entail different phases of participation in an OSS project.

- **First read all practice sheets from 3 to 6 to gain an overview of the process and the procedures described.**
- The process varies from project to project, and thus the steps and procedures described in the practice sheets do not necessarily fit any given project in the exact same way.
- Note that **the guidelines of participation given for each respective project have precedence over the steps described in the practice sheets.**

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Therefore, as you work with the practice sheets 3-6, make sure to:

- become familiar with the data and the circumstances of your OSS project;
- get in touch with the Community;
- apply common sense;
- use your judgment to make decisions;
- discuss how reasonable the given procedure was for your particular OSS project.

Task 3 – 1: Identify Open Source Project

The aim of this task is to identify an open source project you are interested in and you can contribute code to.

1. Search for an OSS Project you are interested in or a project that sounds interesting to you. The project must fulfill the following criteria:
 - a. It must be an **active project**, this means it must have
 - at least 2 active committer
 - at least one commit during the last week
 - at least 20 commits during the last month
 - at least two mails on the developer mailing list during the last week
 - b. It must be written in a **programming language** you are skilled in
 - c. It should **not** be **too big** and should be **well modularized**.
2. **Subscribe** to the **relevant mailing list(s)** of the project.
3. **Check out** the project's **source code** for development.
4. Look into the project's **documentation**.

Hint: possible sources for OSS projects:

Host of OSS projects:

- <http://sourceforge.net/>
- <https://github.com/>
- <http://code.google.com/>
- ...

Umbrella organizations for OSS projects

- *Apache Software Foundation:* <http://www.apache.org/>
- *Mozilla Project:* <http://www.mozilla.org/>
- *The Eclipse Foundation:* <http://www.eclipse.org/>
- ...

Open Source Project of the AG Software Engineering at our Institute

- <http://www.saros-project.org>

Helpful hints from Apache on how to get involved:

- <http://www.apache.org/foundation/getinvolved.html>

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Task 3 – 2: Identify an Issue (Bug or Feature)

The aim of this task is to find an issue (bug or feature request) in the tracker of the OSS project you took on within Task 3 -1.

1. Familiarize yourself with the tracking system of your project.
2. Familiarize yourself with the project's process for contributing code (from outside).
3. Go to the Issue Tracker of the project and search for an issue you want to implement during the next three weeks.

Hints for identifying an adequate issue:

1. *The error description is understandable and comprehensible.*
2. *You can reproduce the error in the development branch aka trunk (the version you already checked out).*
3. *It is no problem if comments with approaches already exist, as long as they do not completely anticipate the solution.*
4. *Now have a closer look at the issue. Understand its error message (possibly look into the documentation). Go to the code and do the following:*
 - a. *Look for the affected class(es)/method(s) in your Eclipse project.*
 - b. *Are there (unit) tests for this/these class(es)/method(s) already? Where?*

Task 3 – 3: Present Project and Issue to your fellow Students

The aim of this task is to present to your fellow students your chosen OSS project with its characteristics and the selected issue, and also to place these basic points of information on a separate page in the Softwareprozesse Wiki (**until Mon, Nov 4 2013, 9 am**).

1. Prepare to **present** your project and selected issue in the tutorial. Pay attention to the following points:
 - a. Introduce the project:
 - i. kind of software, functionality, target group (users)
 - ii. activity, committer, contributors, mailing lists, programming language, process of contributing code, ...
 - b. Your motivation to pick this project.
 - c. Describe the issue you selected:
 - i. Which functional areas are concerned?
 - ii. Explain the problem behind the error message in detail.
 - iii. Affected classes
 - iv. Are there unit tests for these classes? Why do these not report any failure in this respect?
 - v. Describe the written tests.
 - vi. Explain the written code.
2. Create a page in the Wiki and place the relevant information about your project.