

Internship proposal

As every year the Codex team, part of ICT division in STMicroelectronics Tunis, offers to students in the last year of engineering study the opportunity to have an end of study internship in order to obtain their degree.

Codex is based on a Free and Open Source Software (FOSS) application called Tuleap which is a software forge allowing collaborative software development, involving source code management tools (CVS, SVN, Git), communication tools (forum, mailing lists, news, etc), tracking (bug, requirements, tasks, etc), and many other services.

Three proposed subjects are available, and two students will be selected as interns within Codex team.

Students will have the task to understand the affected subject, study the different aspects, prototype then develop an accurate solution. A good object oriented skills are needed same as a good English level.

Subject 1: Automated Code Review

Description: In its approach to continuous integration, the team seeks to improve the quality of its source code. The benefits of code review are great, but the practice can be painful. To take this pain away, the student will benchmark different tools aiming to:

- Automate the generation of code review
- Enhance the peer code review
- Capture code review metrics
- Generate customizable reports

Then select the most appropriate alternative to Tuleap and integrate it into the platform.

Some solutions: ReviewBoard, CodeCollaborator^{*}, FishEye^{*}, etc.

* CodeCollaborator & FishEye are only examples since we deal only with free software.

Required Technical Competencies: PHP5, MySQL5, good object oriented knowledge.

Key words: Quality assurance, agile methods, code review, Subversion, Git.

Subject 2 : Virtual Scrum Table integrated with Tuleap tracker

Description: To make this feature more adapted to scrum framework, the existing feature needs some enhancements:

- Make the feature more intuitive so it encourages teams to use it for daily stand up
- Add a countdown watch to monitor time spent on daily stand up
- Add colors to post'it (by user, by status, by time left, etc)
- Add a mail notification containing a picture overview on today's table
- Adapt the table to browser's size

Student is called to make this feature as complete as possible to fit with agile software development.

Required Technical Competencies: PHP5, Javascript.

Key words: Agile methods, Scrum, CardWall.

Subject 3 : Implement an automatic validation framework

Description: In order to gain in productivity and quality, the team needs to automate the validation process.

Student will be responsible for:

- Test suite definition: collections of test cases, define the expected behavior... *(It is possible to use an API like PHPUnit, DejaGnu or, Python Unit).*

Tests implementation is out of the project scope

- Automate the testsuite execution
- The output definition and tools integration for analyzing results, checking for regressions

Required Technical Competencies: Python, PHP5.

Key words: Validation, functional tests, Selenium API, Python webdriver.

Please send your CV + cover letter (optional) to: hatem.ounis@st.com