Evolution of a collaborative learning environment for experimental sciences: LabBook
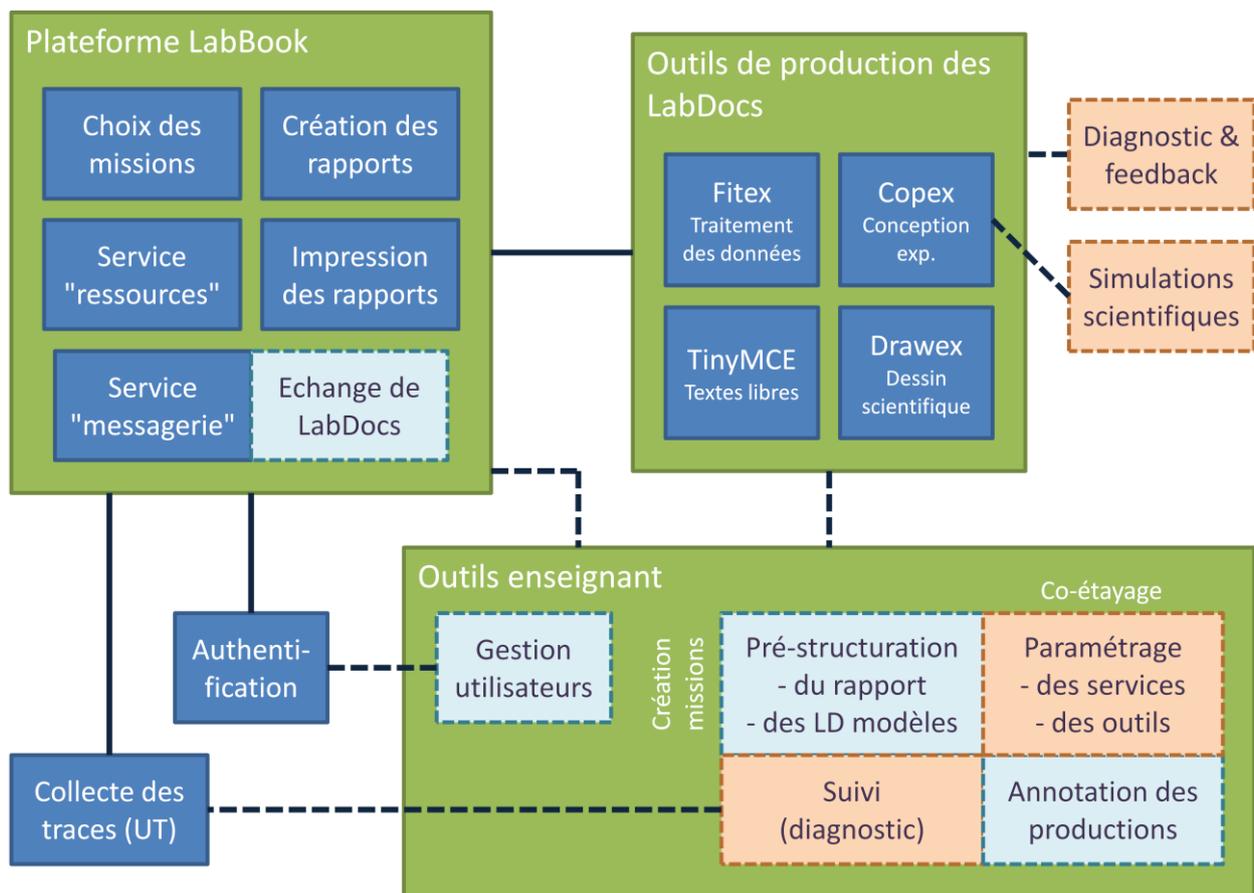
Institutionnal context: Université Joseph Fourier / LIG – Laboratoire d'Informatique de Grenoble / Equipe MeTAH : Modèles et Technologies pour l'Apprentissage Humain
Campus – Bat ENSE[3], 11 Rue des Mathématiques, 38402 St Martin d'Hères

Supervisor: Cédric d'Ham, équipe MeTAH-LIG cedric.dham@imag.fr

Scientific context:

After experimental sessions or projects, scientific students (physics, chemistry, biology) have to produce reports for their teacher. LabBook is a collaborative computer environment that supports this task. In LabBook, students can collaboratively build their report, share and consult resources and communicate between each other or with their teacher. The teacher can structure, follow and annotate the work of the students.

LabBook has been produced as a modular web application and can be found at http://labbook.imag.fr/. The platform has been used for two years with second-year students of the University of Grenoble. The use of LabBook is still in a test phase, as some modules are not completely developed (light blue modules in the following figure) and some are still lacking (orange modules in the following figure).

Work of the intern:

The proposed internship aims to improve LabBook at multiple levels:

- Add some functions, mainly in the teacher tools
- Increase the security of the connections
- Increase the stability and performances of some critical student tools
- Increase the compatibility for the different browsers

The intern will have to:
- gather information on the structure of LabBook, and the structure of its data storage (XML files in a SQL database)
- define technical specifications regarding the existing material,
- code, test and documente the evolution of LabBook

Duration of the work : 4 months – The work can be shared by a team of interns.

Expected skills:
- Web technologies: JavaScript (Ajax, JQuery), XML, HTML, CSS, PHP, SQL.
- Ergonomics skills for the conception of interfaces.
- English language for code comments.