

Internship 2013

Surgical Process Model visualization

Supervision:

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Keywords: software development, Qt, Surgical Process Models.

Context

The MediCIS team has been working on surgical process modeling for many years. The aim is to understand what occurs in the Operating Room during an intervention, such as actions performed by the surgeon himself or by members of his staff. With those actions, it is possible to create accurate models for any type of surgery which could be of use to assist a surgeon during a procedure. A software has been created in order to record actions in the OR: ProcSide (<https://medicis.univ-rennes1.fr/index/software/procside>). It has been developed using C++/Qt and is usable under Windows and Mac. As of now, the software can be used to record a full SPM (i-e: both pre-operative and intra-operative information), however there is neither efficient/intuitive way to display a recorded SPM nor a way to visually compare different SPMs.

Internship focus

The internship work will focus on the creation of a visualization module for ProcSide. The main objective of this internship is to create a module offering a visual representation (2D or 3D) of one or many SPM's simultaneously. Data visualization techniques will be studied. Additionally, investigations on methods for quantitative comparison of the displayed SPM's could be done.

Trainee profile

- Master or engineering school curriculum.
- Programming skills: C/C++, Qt, CMake or Visual studio.
- Would be of advantage: statistical analysis, data visualization, data-mining knowledge.
- English (read, written).

Duration: 5 to 6 months starting February 2013. Earnings planned.