Reviewer's report

Title: AGUIA - Autonomous Graphic User Interface Assembly - for clinical trial semantic data services

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Reviewer: Marie-Christine Jaulent

Reviewer's report:

This article presents an approach to develop an interface to manage clinical, demographic and biomolecular patient data collected during gastrointestinal clinical trials. The challenge is to design a user interface specific for a data source by assembling autonomous elements. The global objective is defined but it is not so clear what the authors really want to show in this article. They defend their approach by pleading for some reusability but they did not show results specifically that demonstrate this point. They are a lot of interesting tools used in this work and a general graphic showing the different components and the functionalities would have been useful.

The approach is bottom-up. The interesting reusable high-level graphic relationships are learned from already developed interfaces. Their hypothesis is that already existing specific interfaces are meaningful for clinicians and that it will lead to descriptors more easily recognized. More examples of descriptors should be provided. I understand that this approach can give interesting, complementary and concrete design patterns but the learning methodology is not described (in particular there is no evaluation).

I am not so convinced by the background. The objective is clear but not the problem and the context. What are “clinical trials data services”? It should be described in the introduction with some examples.

An interesting aspect of this work is that it is an open source application based on open source tools. They use standards.

The application on gastroinstitestinal clinical trial is not described so that it is difficult to evaluate how the front-end user interface reaches the goal and the hypothesis.

At some point, the authors spoke about an ontology of the domain. It is difficult to know if this ontology is a contribution of this work or if it pre-existed (there is no reference). Building such an ontology for a specific purpose is an important point that is not enough explained. It seems also that graphic rules come from a project with predefined ontology. The whole is confusing and the authors should clarify their contributions and provide more examples to let the reader understand that they are doing and that they are using.

A good point is that an application has been developed but it is hard to say if the objectives have been reached.

There is a discussion concerning the RDF representation and the three
components paradigm. What are the limits, how to evaluate this work, at which levels?

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests