Reviewer's report

Title: A Meta-model for Computer Executable Dynamic Clinical Safety Checklists

Version: 0 Date: 01 Mar 2017

Reviewer: Floris Wiesman

Reviewer's report:

The paper presents a metamodel for clinical decision support by checklists. This topic makes the paper relevant for the journal.

The authors aim to provide generalizable results in the form of a metamodel, which could be instantiated in different ways for different applications. So as to make the work suitable for publication this is a good idea; however, in my opinion the resulting metamodel is not more than a system design. The metamodel consists of a detailed class diagram (Fig. 5). A useful metamodel would comprise building blocks than can be used to make a model of a concrete system. And it would not already include the choice for BPMN and Gaston. But that is not the case for this metamodel.

The authors do describe a concrete system implementation, but it is not clear how the metamodel was mapped to the implementation.

I see two possible solutions:

1. Forget about the metamodel and just report on the system. However, this would require also some kind of system evaluation.

2. Turn the class diagram into a true metamodel, abstracting away from implementation decisions. Moreover, the validation step of making a concrete implementation should be expanded to at least two systems and a discussion of the resulting findings.

Both solutions would mean a major rewrite.

Other problems:

What makes dynamic checklists dynamic is not well defined.
P. 3: Are these all the requirements? Which are "these implementations" from which they are identified?

P. 3: "a singleton, meaning that this activity can not be decomposed": Are you sure about this meaning of singleton? In the context of object oriented design, I would expect the term "final" instead.

P. 6: "The meta-model can be divided into three parts respectively, which are clinical pathway, clinical algorithm and checklist form" ⇒ Not visible in fig 5.

There are many problems with spelling and grammar, which more than once reduces the readability of the paper.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Unable to assess

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
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