Proposal Review 2 : 1931382

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Agency Name:	National Science Foundation
Agency Tracking Number:	**1931382**
Organization:	
NSF Program:	Software Institutes
PI/PD:	Roberts, Amy
Application Title:	Elements: Improving tools based on data-description standards for gigabyte-scale data sets
Rating:	Fair

Review

Summary

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to intellectual merit.

The proposed work is aimed at creating a data library that relies on users to create data schemas describing the underlying data. The data library would manage the underlying data in ways that scale to gigabyte-scale datasets which are common in nuclear physics.

Strengths

The proposed work extends previous work done the PI.
The PI is well-qualified to conduct the proposed work.
The PI appears to have access to necessary resources, equipment, facilities, etc.

Weaknesses
The proposed work is useful, but seems very narrow. The description of the project doesn't appear to require three years of intensive work to complete.
The proposed work appears to be well-reasoned, well-organized, and based on sound rationale. However, there is insufficient discussion of metrics for success / progress of the system and its development process.

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to broader impacts.

Strengths
The proposed work may be beneficial to a wider community.
The PIs are well-qualified to conduct this work
The PIs appear to have access to necessary resources, equipment, facilities, etc.

Weaknesses
There is little discussion of broadening participation.
The broader impacts efforts appear standard and reasonable, but not highly original
The broader impacts of this work are not sufficiently and proactively spelled out. There are insufficient metrics of success / progress for the system and development process.

Please evaluate the strengths and
weaknesses of the proposal with respect to any additional solicitation-specific review criteria, if
applicable

Science-driven:

The problem is clearly science-driven

Innovation:

The approach seems standard and widely used in other fields.

Close collaborations among stakeholders:

The proposed work does not call out specific stakeholders and show deep collaborations with them.

Building on existing, recognized capabilities:

The proposed work builds on the PIs existing work and skills.

Project plans, and system and process architecture:

The proposed work features a detailed timeline and system description.

Deliverables:

The proposed work calls out its deliverables. The set of deliverables appears to be complete.

Metrics:

The proposed work features several metrics of community engagement. It is also lacking in system and development metrics that measure the success, effectiveness of the system and its development efforts.

Sustained and sustainable impacts:

The proposed work identifies several research groups that might use the proposed software. However, It's not clear that these groups constitute a community that will help sustain the software over a long period of time.

Summary Statement

The proposed work makes sense and could be useful if built. The approach is quite standard in the software community. It's not clear that the proposed

work requires three years of effort. This proposal could be made a lot stronger with deeper discussion of existing or alternative approaches for data management systems to better justify why this capability is really needed.