Sparse Matrix Software Package Design Proposal Critique

Proposal Title: SPAM

Author: Kyle Lee

Critic: Terence Henriod

CS 365: Mathematics of Computer Science

11/14/2013

Write-Up:

Exlanations and Descriptions:

Design and Plans

Total

|  |  |  |
| --- | --- | --- |
| Category | Points  Received | Points  Possible |
| Write-Up | 25 | 30 |
| Explanations & Descriptions | 28 | 30 |
| Design and Plans | 37 | 40 |
| Total | 90 | 100 |

1. Write-Up

In general, the largest concern for this proposal is that the writing needs better organization to help the reader identify what is important to know about the project. There are many instances where paragraph structure is too large, combining too many ideas, diluting the idea currently being discussed. Also, there was a lot of information that is just thrown in that may or may not be of concern to the reader. It is unclear if the information should even be of concern to the reader sometimes (e.g. when Fortran is mentioned in the Abstract. Why is Fortran relevant to the discussion if it has been decided that C++ will be used?).

The language was rough in some places, and smoother language and sentence structure can be utilized to improve the flow of the paper. For example, some paragraphs could be separated to improve the flow of the document, as well as help distinguish different topics from one another. Example: in the “Error Handling” and “User Interface” sections, each is only a single paragraph, yet multiple operations are described. Split the operations into separate paragraphs when necessary.

**Score: 25/30**

1. Explanations and Descriptions

The descriptions of the coding implementation of SPAM was good, but be careful to accurately match the scope of the assignment. Specific coding techniques should likely not be discussed unless they are effective or unusual in some significant way that is new to the world. Including a list of public interface functions does match the scope of the document and is a good design idea. Listing public interface functions helps make it clear to the reader what actions SPAM is capable of.

The explanations, while specific in some parts, left something to be desired in other parts of the document. In some parts of the proposal, you were pedantic enough define a matrix or state coding techniques that might be used (e.g. that C++ iostream operations would be used), but in other parts possible important topics were neglected, like what format matrix data should be stored in when stored in a file.

Use of illustrations, tables, and equations was a good idea, but improving their implementation and layout is suggested to improve their appearance and better utilize the space of the page.

**Score 28/30**

1. Proposed Design and Plans

The proposed design seems to be a solid start, but there are certainly conditions that still need to be addressed, conditions like what happens if a matrix is too large (even computers have their limits), or

**Score: 37/40**

1. Overall

**Score: 90/100**