**Requirements**

**Requirements as stated from assignment doc:**

**1. Requirements specification**

**The functional requirements specification is incomplete (e.g., where should the input come from, and the output go?). Describe any extensions, or clarifications, to the requirements specification. The non functional requirements specification is also ambiguous. Clarify each non-functional term repeatedly as many times as you'd see necessary.**

**Please add enhancements in blue so it will be easy to document what we added when we add this to the Project Plan. Please add clarifications or limitations in red.**

**II.1 Functional Requirements**

**The KWIC (Key Word in Context) index system shall accept an ordered set of lines, where each line is an ordered set of words, and each word is an ordered set of characters. Any line shall be ``circularly shifted" by repeatedly removing the first word and appending it at the end of the line. The KWIC index system shall output a listing of all circular shifts of all lines in ascending alphabetical order.**

* **The KWIC (Key Word in Context) index system shall accept an ordered set of lines**
  + **Unlimited lines allowed.**
  + **An end of line character designation should not be necessary, once enter is pressed the system should accept the input entered as one line.**
* **each line is an ordered set of words**
  + **Perhaps we should add a character limit to each input entry. Maybe a 5000 character limit to avoid conflicts with a database implementation in the future?**
* **each word is an ordered set of characters**
  + **The system will accept Ascii including special characters.**
  + **We should think about how to handle special characters. How they impact neighboring words and how they are involved in the circular shifting.**
* **each line shall be ``circularly shifted" by repeatedly removing the first word and appending it at the end of the line**
  + **Fairly straight forward.**
* **output a listing of all circular shifts of all lines in ascending alphabetical order**
  + **The system will keep state info. Meaning if a person enters lines X then Y, and then Z. The output will be an indexed version of X, Y, and Z. Previous indexed lines will be considered.**

**II.2 Non-Functional Requirements**

**The KWIC system shall be easily understandable, portable, enhanceable and reusable with good performance. The KWIC system shall also be user-friendly, responsive, and adaptable.**

* **KWIC system shall be easily understandable**
  + **The understandability should be from the coders point of view.**
* **KWIC system shall be portable**
  + **Being a java applet should meet this requirement.**
* **KWIC system shall be enhance able**
  + **Using an OOP style should help in this regard.**
* **KWIC system shall be reusable**
  + **Using an OOP style should help in this regard.**
* **KWIC system shall have good performance**
  + **The parsing, sorting, and indexing algorithms used should have good documentation to back up the reasoning for being selected.**
* **KWIC system shall be user-friendly**
  + **Minimalist style interface. For the web perhaps just a simple Text Block to type or paste lines into, and a “submit” button.**
  + **Perhaps add tool tips.**
* **KWIC system shall be responsive**
  + **Provides feedback to what is going on ASAP.**
    - **Could include progress bar or animations for each component running, or at least one for the overall process.**
* **KWIC system shall be adaptable**
  + **Input and Output interfaces should be loosely coupled so redirecting one or both can be easily done.**