**Requirements Document**

**Get the**

* **Frequency of Distinct words**
* **Count of lines**
* **Count of characters**

1. **Introduction**

The word count project will demonstrate all software engineering practices with a small implementation of a personal project. This project finds the frequency of each distinct word in each string input.  The string is passed to a program as a text file. The program reads files and considers spaces, newline characters, and tabs as delimiters to split sentences into words. The words are then stored in a list, and the list is iterated to find each word's occurrence.

Additionally, Add the methods which should count the number of characters and the total number of lines in the input String/file. A blank line with no characters in it will be considered as a line. These requirements are to be implemented as change in design and additional requirements to the existing project implementation.

1. **Out of scope functional requirements:**

Following functionalities are out of scope of this project development phase-

* + Correcting the spelling mistakes.
  + Period (.) and comma (,) are not considered as delimiters.
  + Grammatical errors are also out of scope.
  + The lower case and upper case are treated as different words.

1. **Other requirements:**

**Language used:** Any programming language can be used. This project uses python.

**Code editor:** VSCode editor

**Source control:** Github

1. **Functional requirements:**
   1. **Requirements for Word Count** 
      1. The empty string should give an empty list with no words.
      2. The string with one word must give one word as output in list.
      3. The string with space in between each word should give expected output.
      4. The string with many lines should identify the newline character and give correct word count.
      5. The string with a tab between each word should omit the tab , consider it as delimiter.
      6. The string with large size should pass too and the string should give correct word count.
      7. Special characters in a string will be considered as a character and will print separate words.
      8. The string should give correct word count.
      9. String with alphanumeric words is considered as unique words such as abc123 6abc789
   2. **Requirements For the character count:**
      1. The empty string should give character count as 0.
      2. An empty String should give the total number of spaces in the String/file.
      3. The string with only one period (‘.’) should give correct output also.
      4. Alphanumeric words, Special characters and Numbers are also to be considered as characters.
      5. The string with one word must give the count of characters in that word.
      6. The string with one space and tabs between each word should give correct output considering the spaces and tab spaces also as characters.
      7. If there are multiple spaces in between two words, then the character count should be given counting all the characters.
      8. The string with multiple lines should count a newline character as a character and give correct character count.
      9. This program should be capable of counting the characters in the large strings too.
      10. Leading spaces in the lines should also be counted in the total characters in the string.
   3. **Requirements For the line count:**
      1. A file/String with empty string in it should give the total line count as 0.
      2. A file/String when there is just one word and no new line character there, line count should be 1.
      3. A String with only spaces in it should count total lines as 1.
      4. A string with just period (i.e ‘.’) in it should give the total lines as one.
      5. String with just the numbers, special characters, and alphanumeric characters in it should give the output as 1 line.
      6. The string with one word must give the count of lines as 1
      7. The string with many lines should identify the new line character and give the correct line count.
      8. The string having only spaces and/or tabs between each word in the line should give the correct line count as 1.