FindAuthor Design

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**Description**

The FindAuthor class reads through mystery documents and determines the author using the average word length, type-token ratio, Hapax-Legomana ratio, average sentence length, and average sentence complexity.

**Services**

double getAverageWordLength() gets the average word length of the document, in characters, as a double.

double getTypeTokenTokenRatio() returns the ratio of the number of unique words to total words in the document, as a double.

double getHapaxLegomana() returns the number of words that only appeared once to the total number of words, as a double.

double getAverageWordsPerSentence() returns the average number of words per sentence, as a double.

double getSentenceComplexity() returns the average number of phrases per sentence, as a double.

**Internal Data Structures and State**

Document d is the instance variable that stores the current mystery document, in the form of a Document class.

ArrayList<String> stats is the instance variable that holds all of the known authors’ stats for average word length, type-token ratio, Hapax-Legomana ratio, average sentence length, and average sentence complexity.

static double[] weights holds the weight of each statistic in the calculation for finding an author.