

Design Document

Computer Science 4500 – Introduction to the Software Profession

Small Group 2 (SG3)

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Revision History:

- **11/20/2025** – Began SG3 design and pseudocode layout; identified GUI options and structure. (I use the SG2 design)
- **11/22/2025** – Outlined file handling, concordance logic, and extra list framework for GUI integration.
- **11/25/2025** – Added search and error-handling features; tested pseudocode logic consistency.
- **11/28/2025** – Revised and commented pseudocode for readability, GUI event flow.
- **12/01/2025** – Completed

Pseudocode:

BEGIN PROGRAM

DISPLAY splash window describing SG3 Concordance GUI functions.
 // Initialize main window and interface options for user navigation

INITIALIZE main menu with options:

- (1) Open Text File
- (2) Find Word in All Files
- (3) Build Concordance
- (4) Close File
- (5) Quit Program

// GUI buttons or dropdown selection menu replaces console prompts

INITIALIZE empty list OPEN_FILES to hold file contents.
 // Stores all loaded and validated text data from user

WHILE program is running
 WAIT for user menu selection.
 // Loops until user selects Quit option

IF option = 1 THEN

PROMPT user to choose .txt file via dialog.

VALIDATE file extension and check duplicates.

IF valid THEN

READ file line by line.

CLEAN text (remove punctuation, fix hyphens, trim blanks, etc).

ADD file to OPEN_FILES and DISPLAY "File Loaded."

ELSE DISPLAY "Invalid file."

END IF

// Handles file input and validation through GUI interaction

ELSE IF option = 2 THEN

IF OPEN_FILES empty THEN DISPLAY "No files loaded."

ELSE

PROMPT for search word; CONVERT to lowercase.

FOR each file and line

IF word in line THEN RECORD file, line#, and snippet.

END FOR

DISPLAY matches in output box.

END IF

//search across all loaded files and outputs results to GUI textbox

ELSE IF option = 3 THEN

IF OPEN_FILES empty THEN DISPLAY "No files to process."

ELSE PROMPT to select file.

FOR each line (numbered)

SPLIT into words; FOR each word

CONVERT to lowercase; ADD (line#, word#) to CONCORDANCE[word].

END FOR

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        END FOR
        SORT words alphabetically and WRITE to "CONCORDANCE.TXT".
        DISPLAY summary message.
    END IF
// builds concordance for selected file and saves formatted output

    ELSE IF option = 4 THEN
        IF OPEN_FILES not empty THEN
            PROMPT to choose file; REMOVE from list; DISPLAY "File Closed."
        ELSE DISPLAY "No files to close."
        END IF
// Manages open file removal through selection dialog

    ELSE IF option = 5 THEN
        DISPLAY "Exiting Program." CLOSE all files and TERMINATE loop.
// Safely exits GUI and ends program

    END WHILE

END PROGRAM
```





