



User Manual

A step-by-step user guide to getting started on
Zibian Labs Forensic Handwriting Examination app.

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ZIBIAN LABS

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1. Introduction

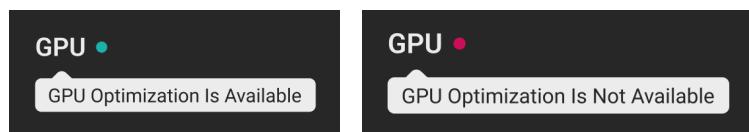
The **Zibian Labs Forensic Handwriting Examination** user manual offers comprehensive guidance for its use in forensic handwriting analysis. Developed to assist in the comparison and analysis of handwritten documents, this software is intended to support casework by offering specific tools and offers a structured and reproducible environment for accurate results.

Below the different tabs that compose the software are explained and in the following sections, in-depth information on the use of the software and step-by-step explanation on each of the sections and tools.

Home		Central dashboard of the application, providing users with quick access to evidence loading. The option to change the UI or processing language is available here.
Document Loader		The Document Loader section enables users to input two text documents (Questioned and Reference).
Search		The search section allows users to filter through the documents by a specific letter, highlighting individual letters or the word containing it.
Settings		The settings view compiles information about the license and the system.

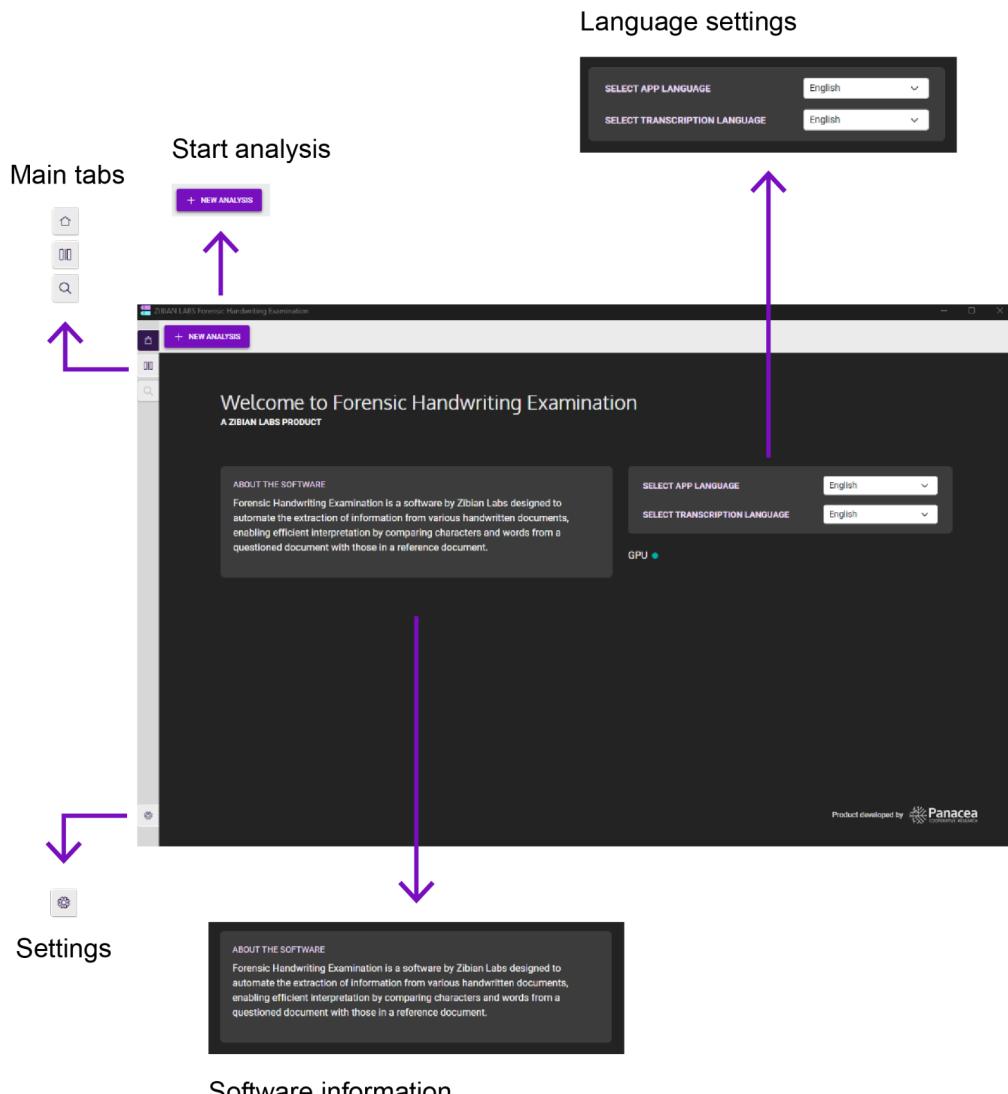
Upon starting the Zibian Labs Forensic Handwriting Examination application, users can **select two different language settings**: the display language for the user interface and the transcription language for the documents. Currently, the application supports four languages: English, Spanish, French, and German.

Additionally, there is a visual indicator confirming whether **GPU optimization is available or not**. This simple visual cue allows users to quickly assess if the device satisfies the minimum requirements for acceptable performance.



1.1 Start a New Analysis

Once the language has been selected, **you can start a new project by clicking on the button "NEW ANALYSIS".**

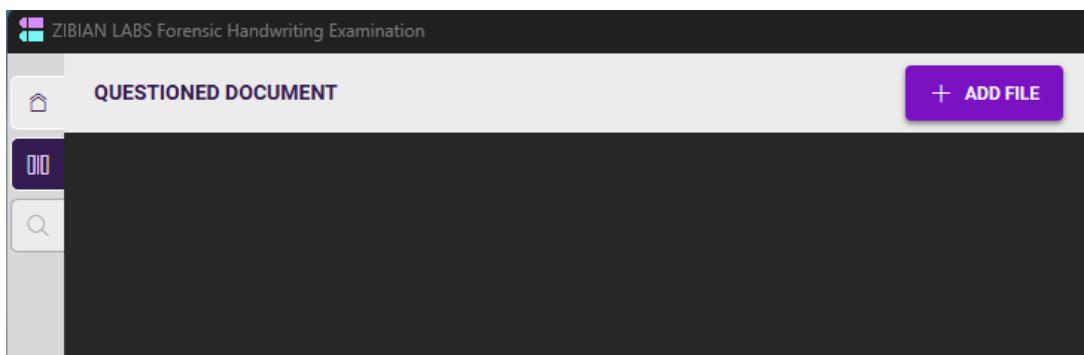


2. Upload document

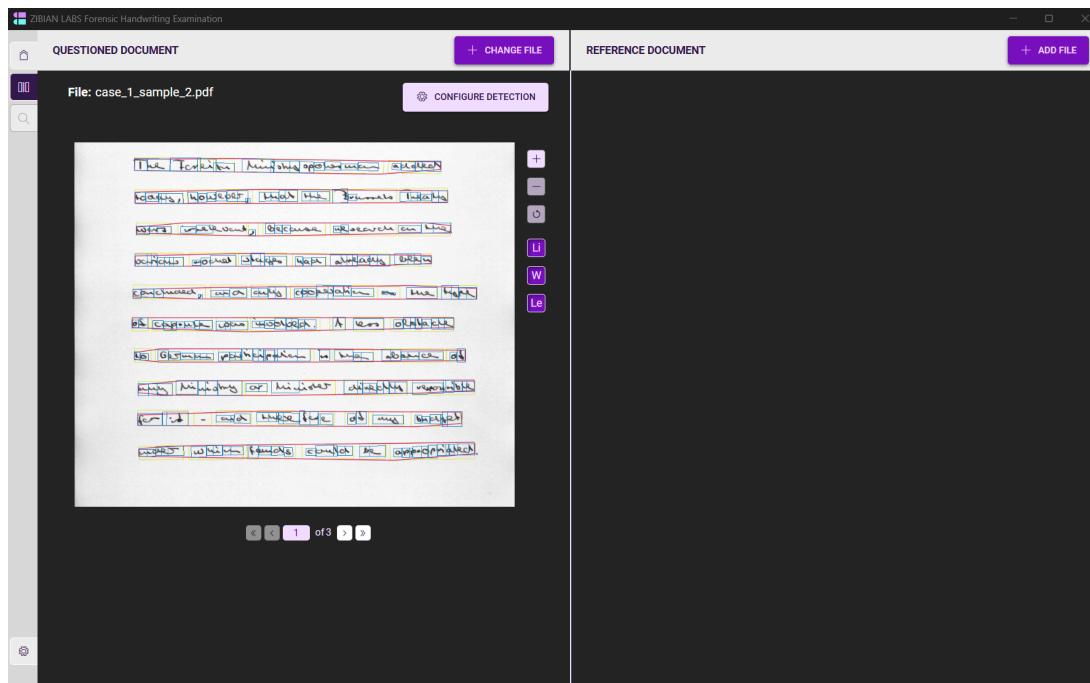
2.1. Add your files

Start by clicking on “**+ADD FILE**” on the **QUESTIONED DOCUMENT** section and a file explorer window will open, browse your computer for the image (*.png, *.jpeg, *.TIFF) or **PDF** file of the document you want to analyse and upload.

The application is compatible with both single and multiple page documents.



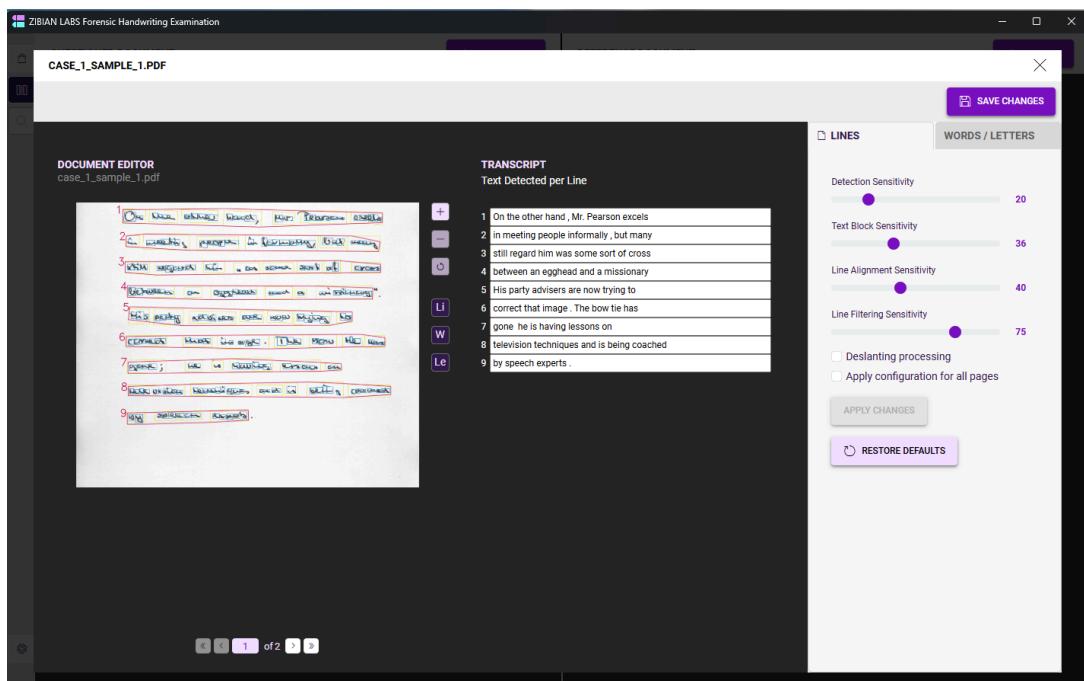
After the successful upload of the **QUESTIONED DOCUMENT**, the application initiates an automatic preliminary analysis. This analysis employs a default setting to detect individual lines, words, and letters, which in turn generates a transcript of the document.



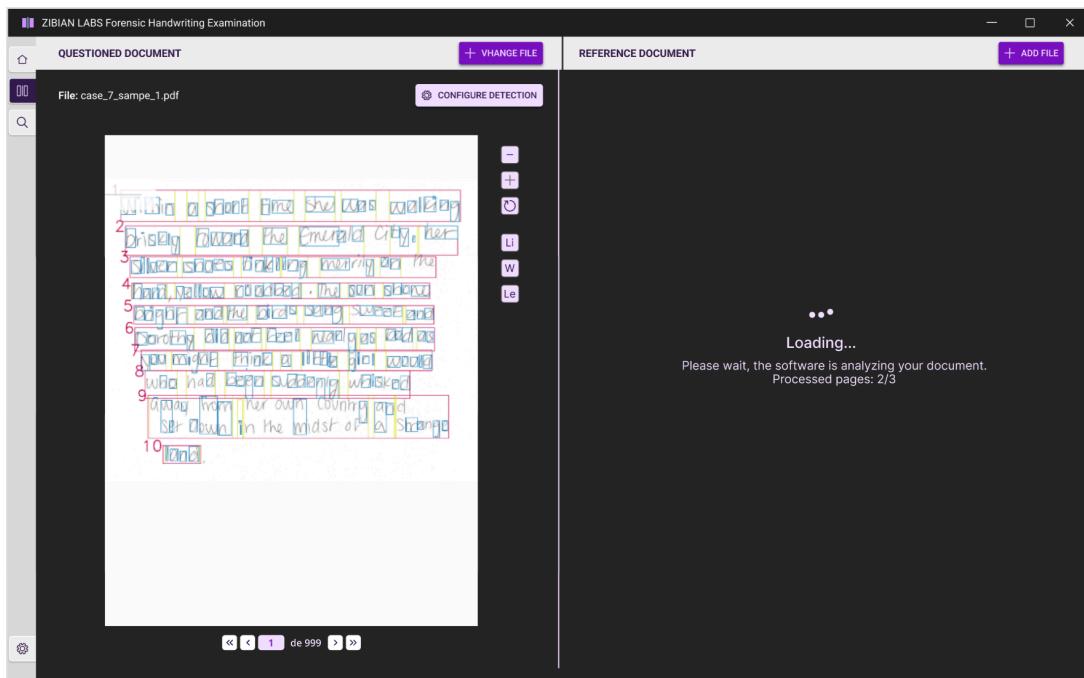
In the image, we can see how **lines** (red), **words** (yellow) and **letters** (blue) are detected.

2.2. Configure detection

To enhance element detection, access the “**CONFIGURE DETECTION**” button.

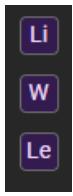
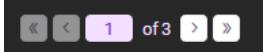


The process is similar for **REFERENCE DOCUMENTS**.



2.3. Other controls

There are additional visualization controls in the application:

Zoom		Controls to focus the document window over a specific section of the document
Bouding box visualization		Toggle the display of lines (red), words (yellow) or letters (blue) on top of the document
Pagination		Controls to navigate across documents with multiple pages

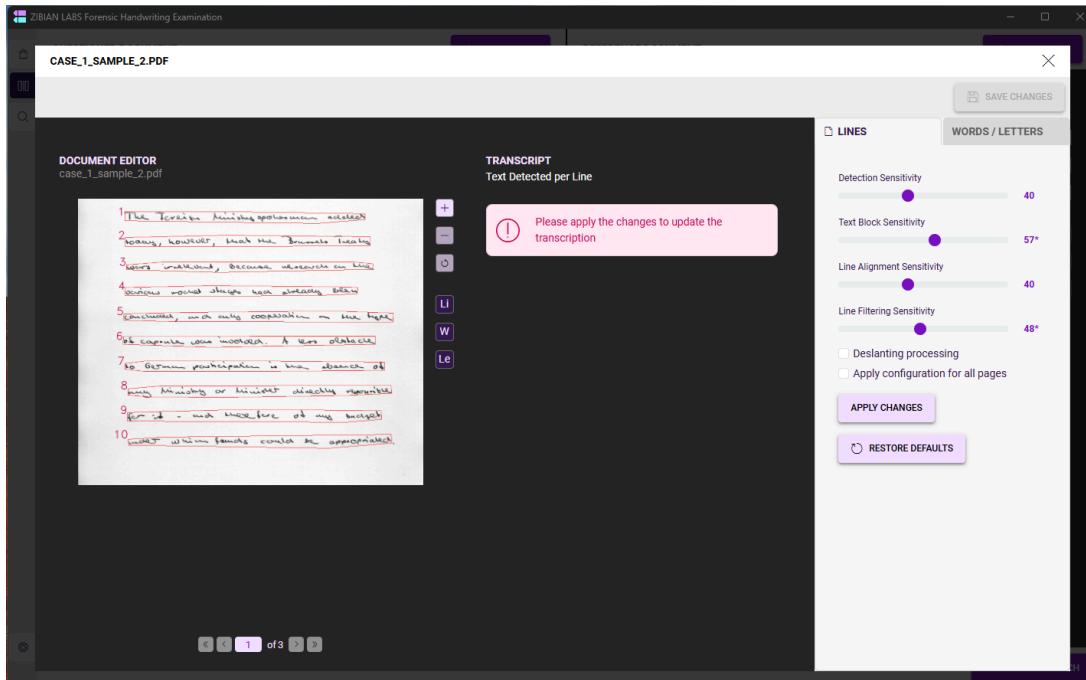
3. Refine Detection Tools

3.1. Adjust Lines Sensitivity Settings

The AI detection tool can be changed by accessing the panel to the right side of the screen where the tab “**LINES**” is selected by default. Here you would be able to **adjust the following sensitivity settings** by using the slider controls to optimize the detection for your specific document:

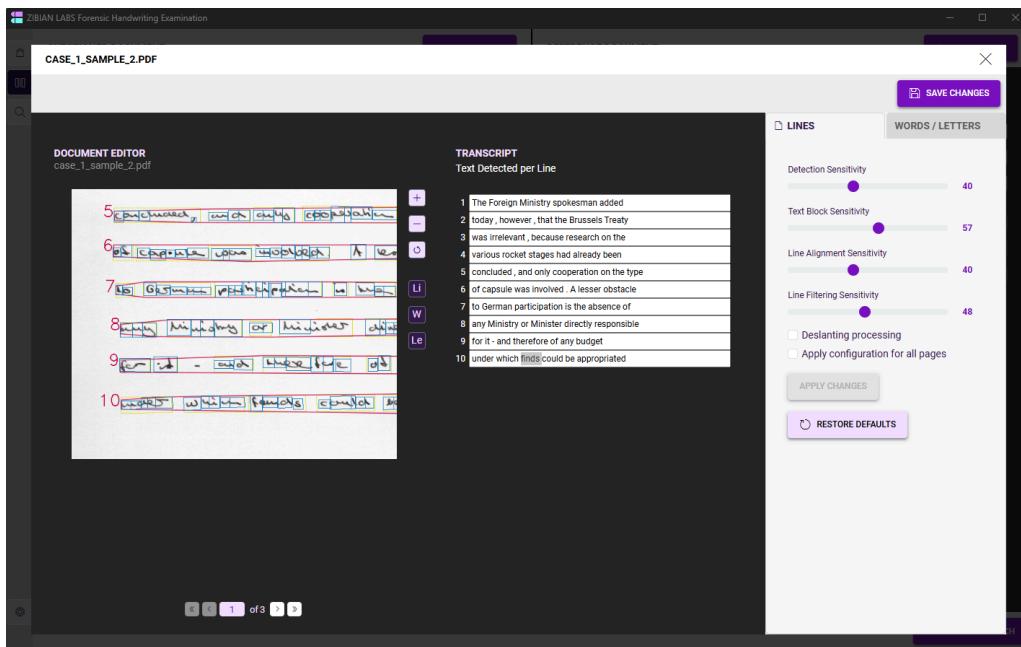
- **Detection Sensitivity:** Initial cutoff for detecting text regions before filtering.
- **Text Block Sensitivity:** Minimum confidence for a region to be considered text. Higher values reduce false positives.
- **Line Alignment Sensitivity:** Minimum confidence for linking text regions. Lower values help detect connected text.
- **Line Filtering Sensitivity:** Threshold value to merge overlapping lines. Lower values may connect multiple lines. The parameter is deactivated when reaching the maximum value

After adjusting the desired settings, click the “**APPLY CHANGES**” button. The document preview will update to reflect the new detection settings. To discard your changes and return to the application's initial detection settings, click “**RESTORE DEFAULTS**”



3.2. Edit Transcription

After verifying that lines have been correctly identified in the image, **the automatically generated transcript can be edited**. This step, which involves ensuring the detected text elements accurately reflect the word structures in the image, is crucial for guaranteeing the precision of all subsequent analysis.



3.2. Adjust Words and Letters Sensitivity Settings

Next, the **"WORDS/LETTERS"** section allows users to fine-tune the detection of words and letters in the document. First, users can choose between two methods for word segmentation:

- **Heatmap:** An AI-based method that generates a heatmap of detected words in the image.
- **Histogram:** A classical method that analyzes the whitespace between words.

Both methods require additional parameters to control the accuracy of the detection:

- **Word Sensitivity:** This is the cutoff value used to determine the spacing between words.
- **Word Noise Filtering (Heatmap method only):** This performs a cleaning step before applying the Word Sensitivity cutoff to better isolate words.

The final configuring step is adjusting the letter detection, using two parameters:

- **Letter Sensitivity:** Controls how easily individual letters are detected within words.
- **Letter Padding:** Expand the detected bounding boxes adding padding to capture all parts of the strokes

It is important to save the changes with the **"APPLY CHANGES"** button or to use the **"RESTORE DEFAULTS"** to go back to the default settings.

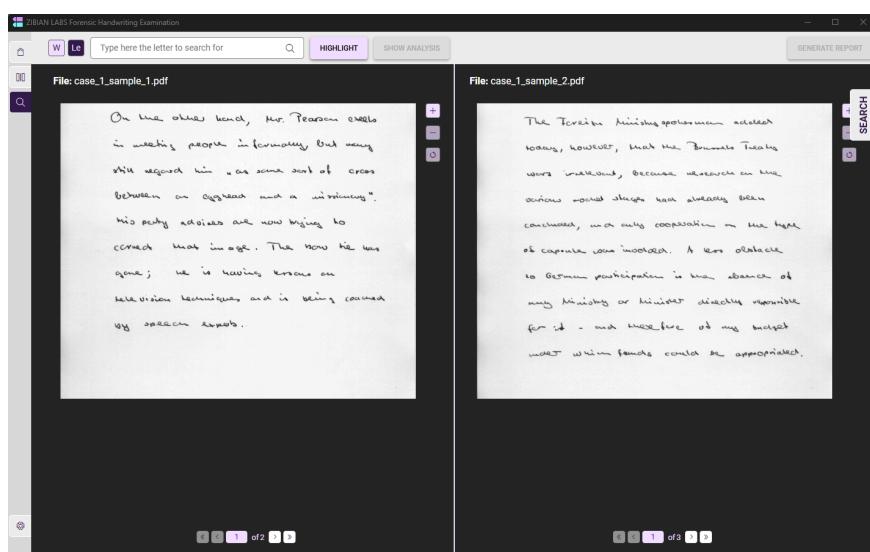
For documents of multiple pages, it is possible to apply the current parameter configuration to every page.

4. Analyze Documents

Step 1: Find Words or Letters in the Documents

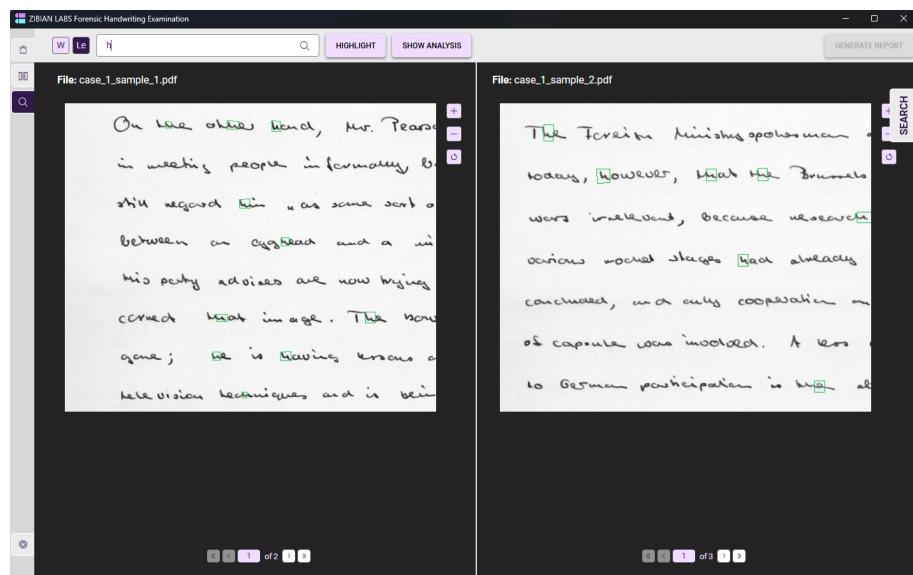
When selecting the **search tab**  (third tab on the left panel), a search bar can be accessible and it is possible to perform searches within the document by selecting the type of search (by word or letter). This option allows the expert to find words or letters on the documents by querying a specific letter then using the button "**HIGHLIGHT**".

The word and letter toggles   will determine if the queried element is a letter or the containing word



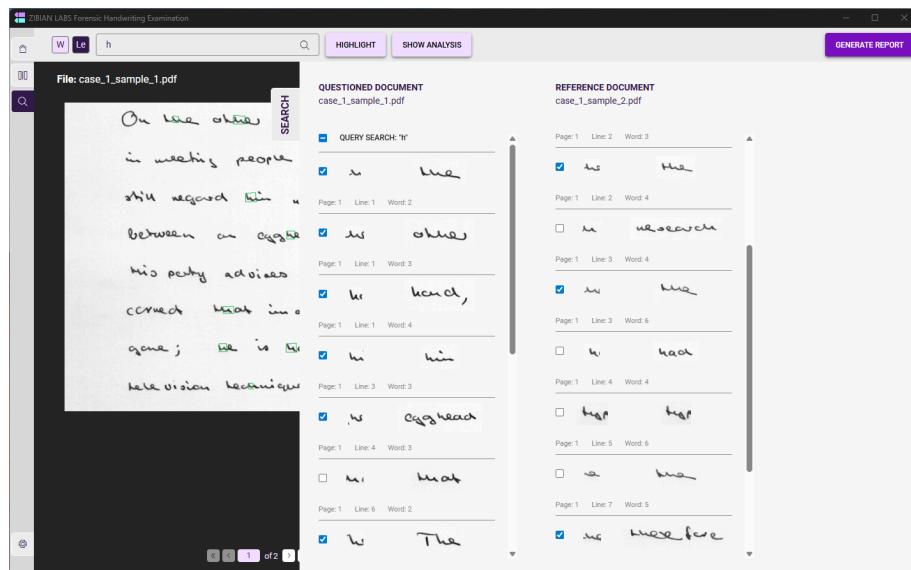
Step 2: Highlighted Results

The "**Highlight**" button will draw the results of the element queried by displaying green bounding boxes over both the questioned and the reference documents.



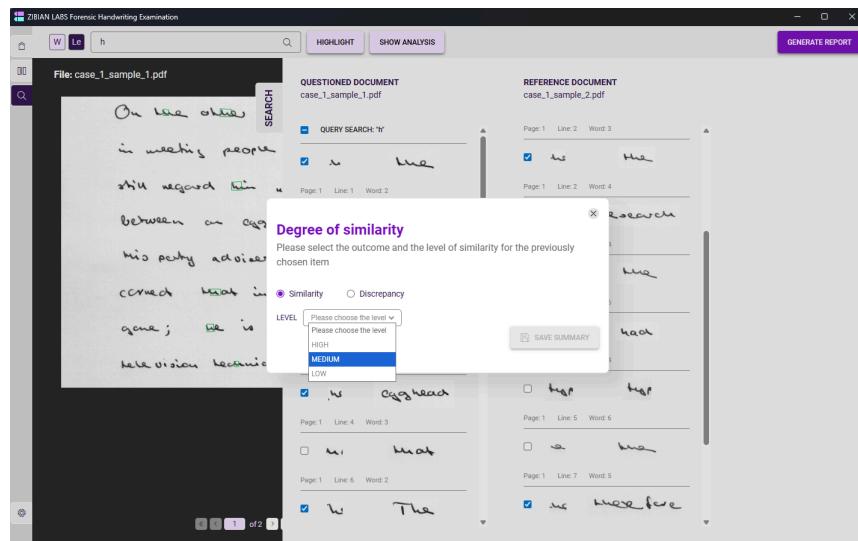
Step 3: Show the Results

Pressing the button “**SHOW ANALYSIS**” or the “**SEARCH**” tab will display a list of elements to be selected for individual comparison.



Step 4: Generate your own Editable Report

Each row in the list can be selected and pressing “**GENERATE REPORT**”, a degree of similarity or discrepancy with three levels of confidence (high, medium or low) can be selected. This process generates an editable report in **.docx** format.



ZIBIAN LABS HANDWRITING EXAMINATION

Casework: <Insert Here> Institution: <Insert Here>
Forensic Examiner: <Insert Here>

Date of Report: **January 23, 2026**
Time of Report: **18:50:43**

Reference Document: **case_1_sample_2.pdf** Questioned Document: **case_1_sample_1.pdf**

REFERENCE DOCUMENT			QUESTIONED DOCUMENT		
LETTER / WORD: h					
OUTCOME: Similarity / DEGREE: medium					
 Page 1 / Line 2 / Word 2			 Page 1 / Line 1 / Word 2		
REFERENCE EXAMPLES:					
 Page 1 / Line 2 / Word 2	 Page 1 / Line 2 / Word 4	 Page 1 / Line 3 / Word 6	 Page 1 / Line 1 / Word 2	 Page 1 / Line 1 / Word 3	 Page 1 / Line 3 / Word 3
 Page 1 / Line 9 / Word 4	 Page 1 / Line 10 / Word 2	 Page 1 / Line 1 / Word 1	 Page 1 / Line 6 / Word 4	 Page 1 / Line 6 / Word 7	 Page 1 / Line 7 / Word 2
			 Page 1 / Line 7 / Word 4	 Page 1 / Line 4 / Word 3	 Page 1 / Line 1 / Word 4

This report has been generated with Zibian Labs® Handwriting Examination (1.1.0) for testing purposes only

5. Settings

At this moment, this screen shows **information regarding the software**:

- License information
- Last access
- Owner
- Version

