

HAnnoI Manual

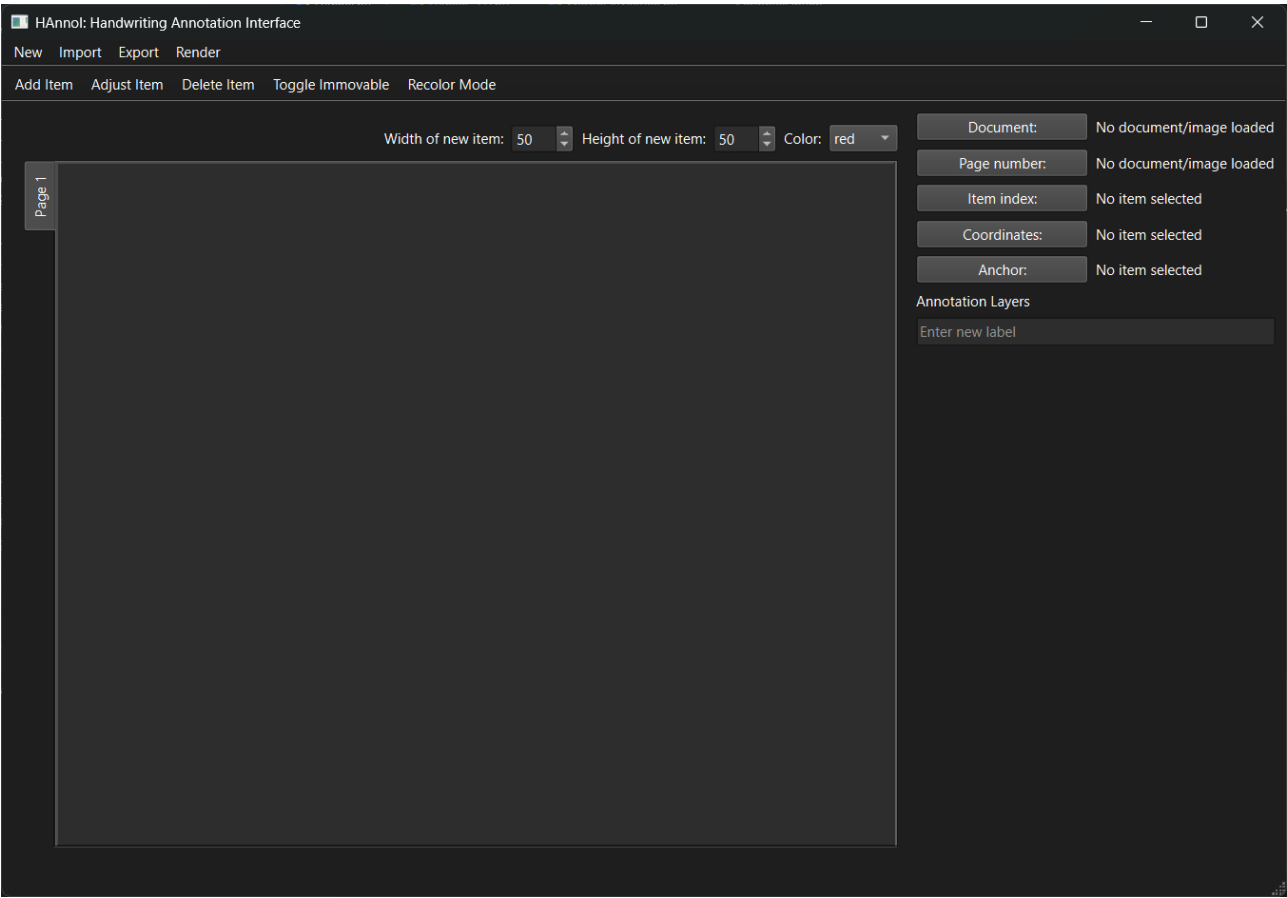
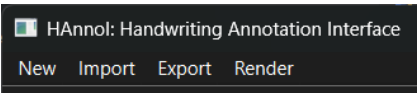


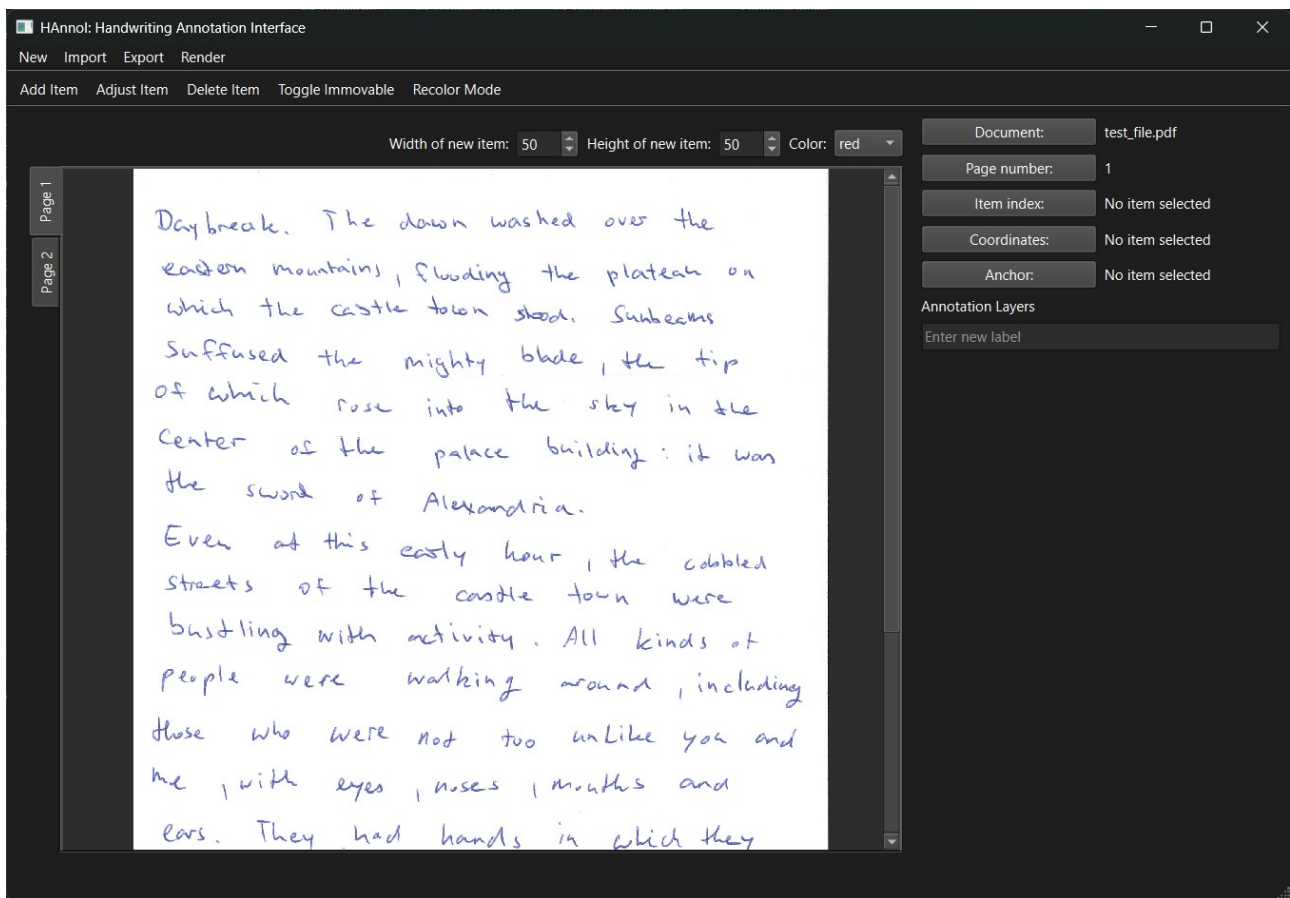
Figure 1: HAnnoI's Interface upon launch.

1. Starting / Continuing



New	→ Single Image	Start working on a single image (PNG, JPG, JPEG, BMP)
	→ From PDF	Start working on multiple images from a PDF document; a PDF document to be imported must consist of one image per page
Import	→ Import CSV	Continue working on a CSV file
	→ Import Scheme	Import scheme from a CSV; adopts columns but not rows

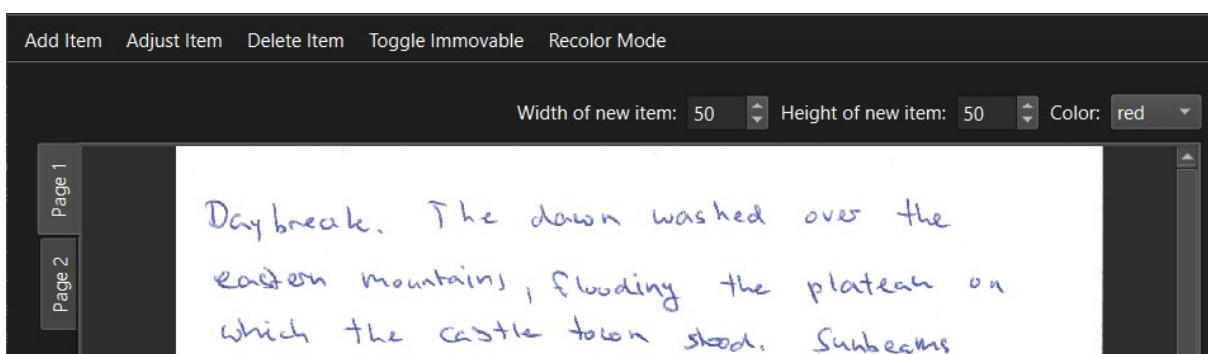
2. Graphical View



Use **Mouse Wheel** to zoom in and out of the page currently on view.

Grab the page with **Left Mouse Button** and drag it around.

Change page with the tabs on the left to the Graphical View.



Add Item

Add a new rectangular frame to the graphical view. Use these frames to mark Regions of Interest (ROIs).

The default width and height of these ROIs is 50 pixels; the default color is red. You can change the default directly above the Graphical View. ROIs may also be modified after they have been added (see further below).

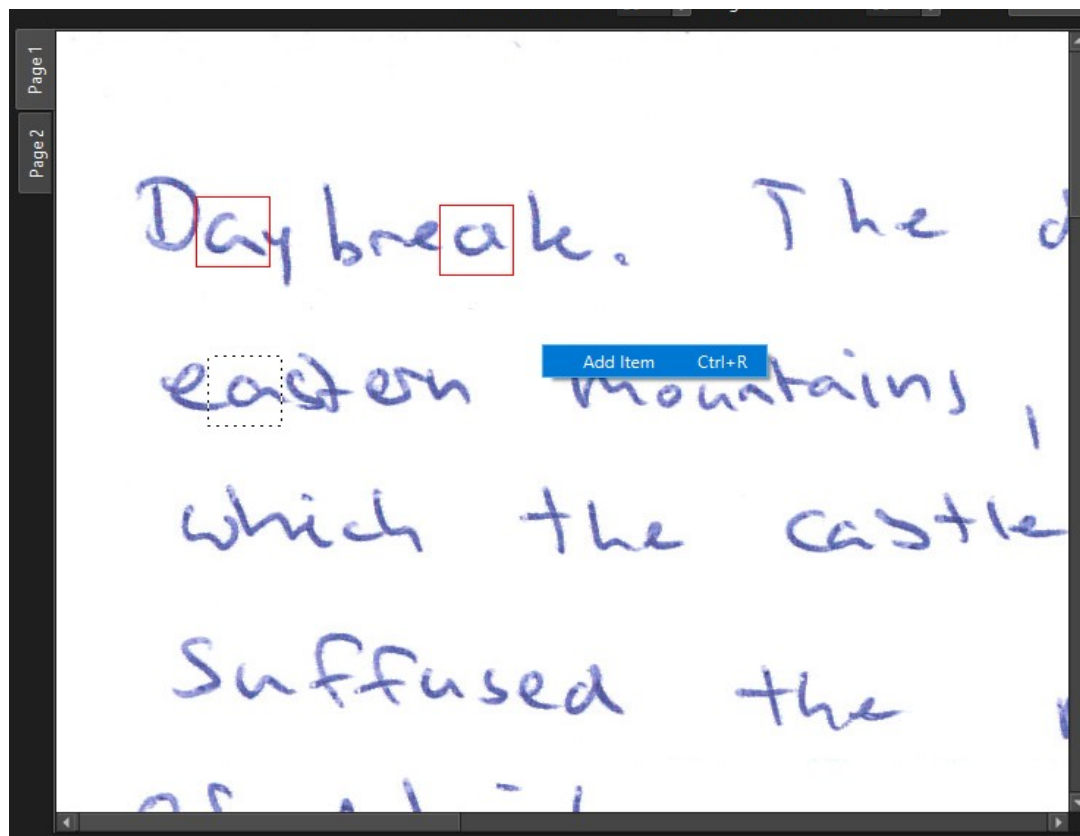
Adjust Item	Change the size of a selected ROI to match the specification above the Graphical View.
Delete Item	Delete a selected ROI.
Toggle Immovable	Toggle to set all ROIs movable (default) / immovable. This prevents ROIs from being dragged around with the mouse. Only applies to already existing ROIs, new ROIs will be movable until the toggle is activated again.
Recolor Mode	Toggle to activate / deactivate Recolor Mode. When activated, you can change the color of any ROI to the specified color above the Graphical View (currently: red, green, blue) by selecting it with the mouse.

3. ROI functions

Click into the page using **Right Mouse Button**, to display a context menu. Choose **Add Item** to add a new ROI at the position where the mouse click happened. Alternatively, you can also use **Ctrl + R** to add a new ROI.

NOTE: ROIs are always added at the position where the last mouse click within the Graphical View was registered. Pressing **Ctrl + R** multiple times in a row causes multiple ROIs to appear on top of each other.

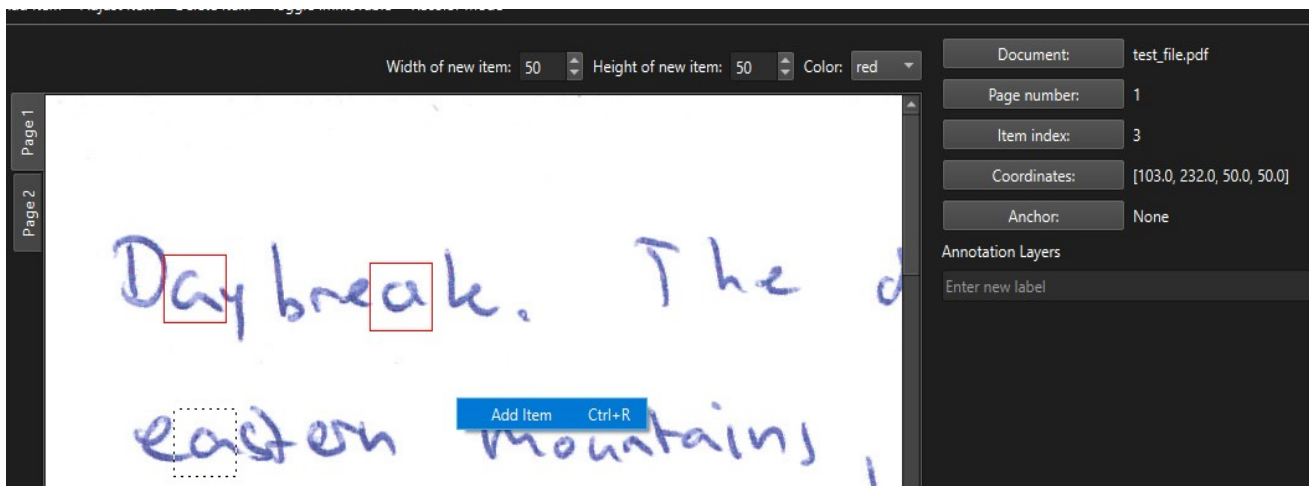
You can select a ROI with the mouse. You cannot select multiple ROIs at once. Which ROI is in selection is indicated by the dashed lined around it.



When a ROI is in selection, you can drag it around with the mouse (given that **Toggle Immovable** is not toggled). Additional functions available when a ROI is in selection:

Arrow Keys / WASD¹	Adjust position of currently selected ROI in 1-pixel-steps.
Ctrl + Arrow Keys / WASD	Adjust size of currently selected ROI in 1-pixel-steps; these adjustments always take the upper left corner of an ROI as the anchor, so decrease size with Left Arrow / Up Arrow and increase size with Right Arrow / Down Arrow .
Shift + Arrow Keys / WASD	Adjust size of currently selected ROI in 5-pixel-steps.
Alt	Allows you to adjust the selected ROIs size using the mouse: While holding Alt , a new frame appears on top of the selected frame. Drag the new frame and use its right and bottom edge to set a new right and bottom boundary for the original ROI. To confirm the change, first release the mouse, then Alt² .
Space	Set an anchor for the currently selected ROI. The anchor is always set along the bottom edge of the ROI and retains its position even after moving the ROI. Overwrite and old anchor by pressing Space again.
Ctrl + Return	Selection jumps to the ROI with the next higher index; the Graphical View follows to the ROI now in selection.

4. Meta and positional data



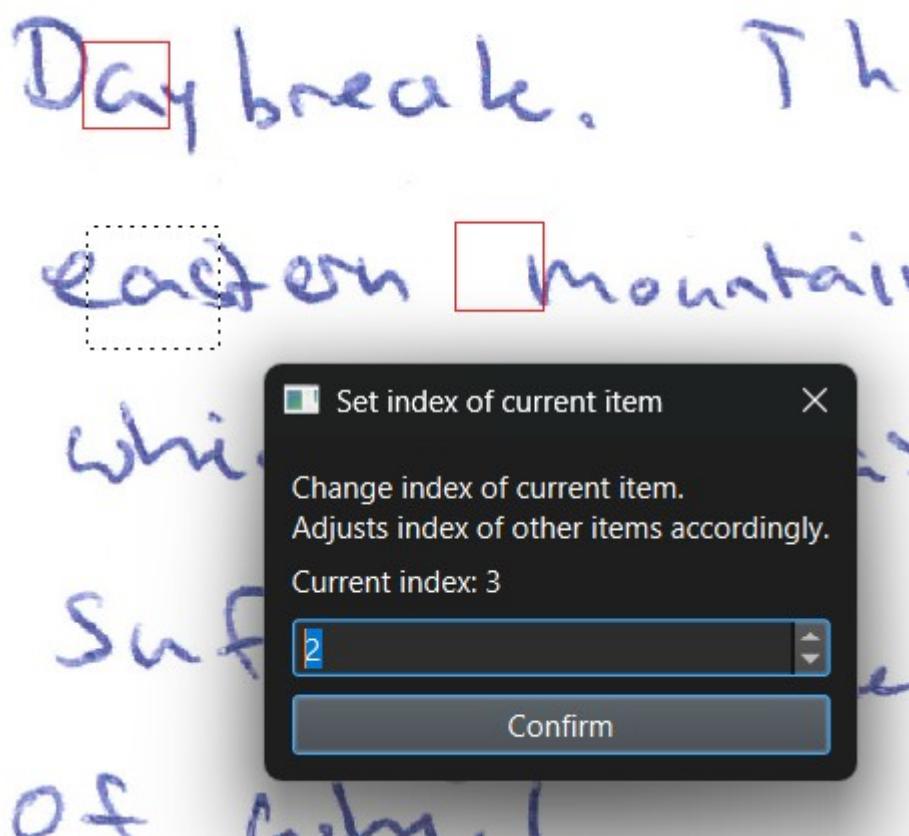
The following information is tracked in the upper right corner of the program:

Document	The name of the file that was loaded into the program.
Page number	The number of the page currently in display.
Item index	The index of the currently selcted ROI.

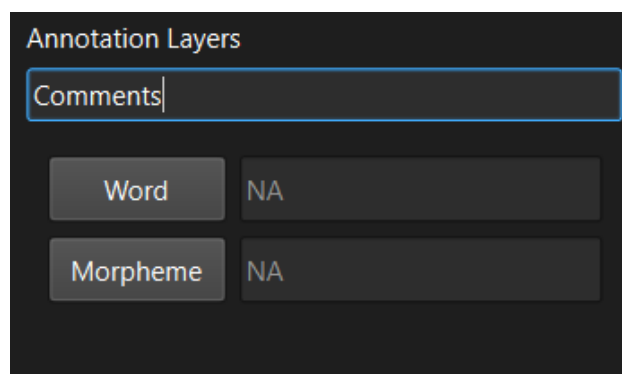
- 1 The **WASD** alternative was introduced, because modifying **Arrow Keys** does not function as intended on macOS.
- 2 Releasing **Alt** first may cause a bug in which a ROI selected afterwards jumps to a new position. To prevent this from happening, **Toggle Immovable** is activated whenever **Alt** is release first.

Coordinates	Coordinates and size of the currently selected ROI. It reads as follows: [x-coordinate, y-coordinate, width, height]. Coordinates refer to the upper left corner of a ROI and they are relative to the loaded page.
Anchor (optional)	Coordinates [x-coordinate, y-coordinate] of the currently selected ROI's anchor.

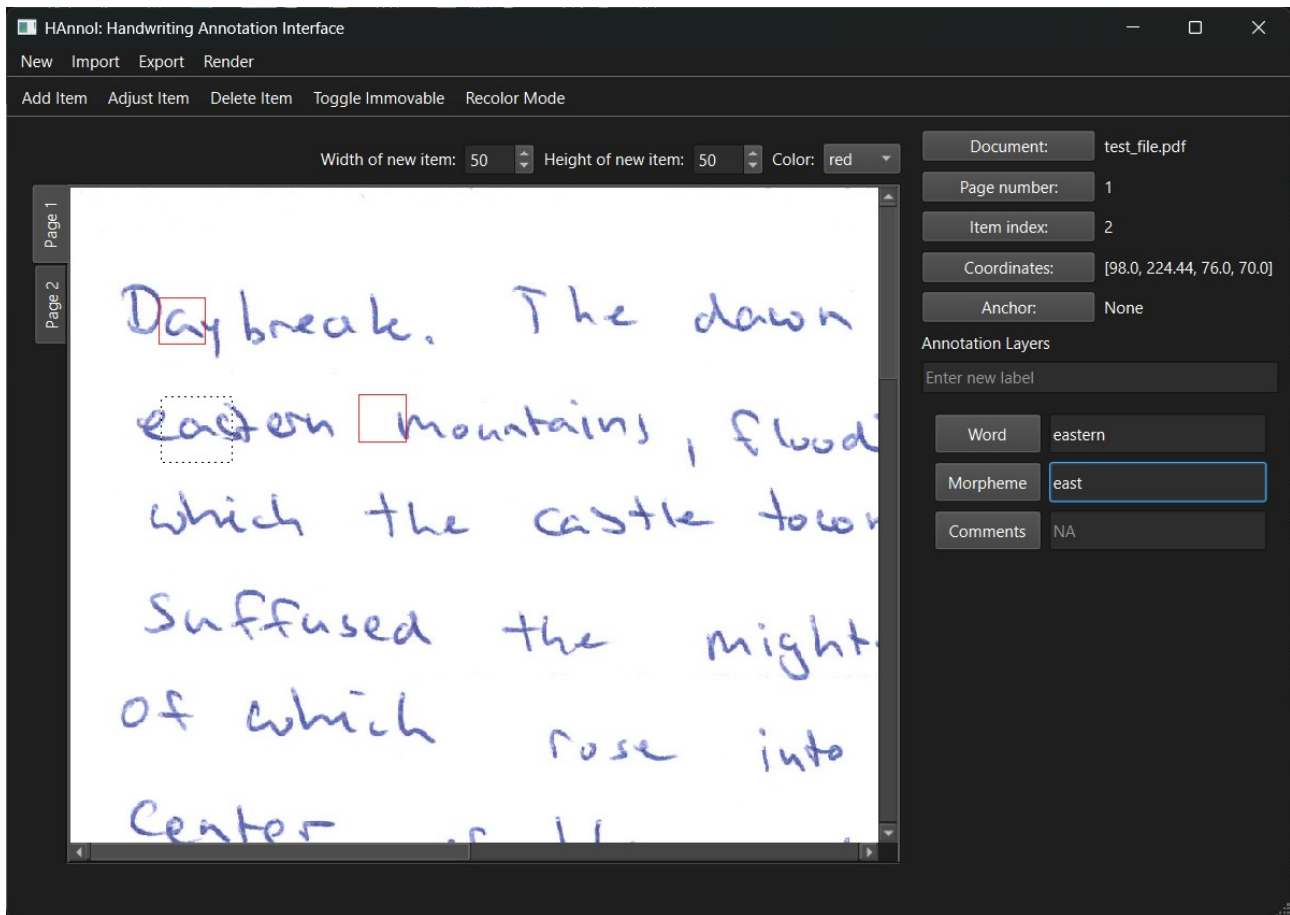
Indexing: HAnnoI applies indices automatically in the order in which ROIs have been added. You can change the index of a selected ROI by clicking on the labeled button **Item Index** in the meta data panel. This opens a new window in which you can adjust the index. All other indices are adjusted so that no index is doubled.



5. Custom annotations



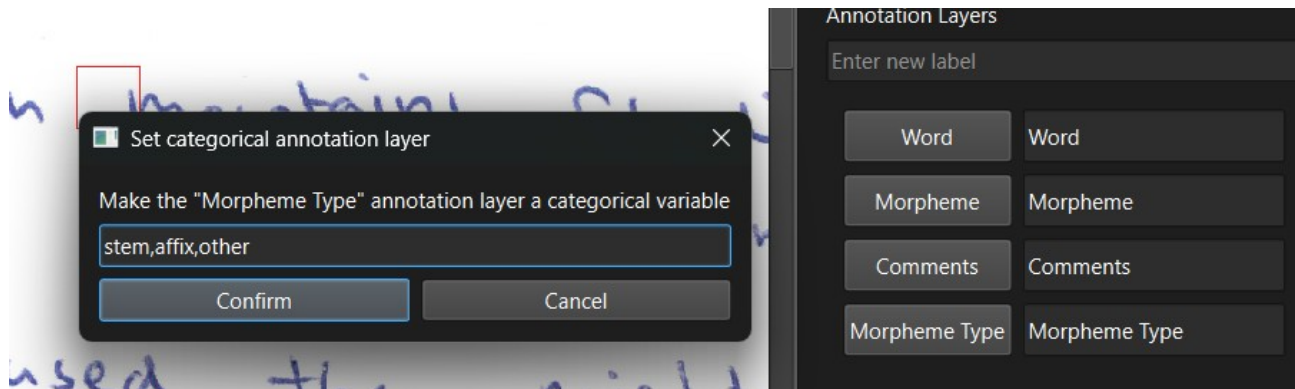
Enter a label into the text field below **Annotation Layers** and confirm with **Return** to add a new layer.



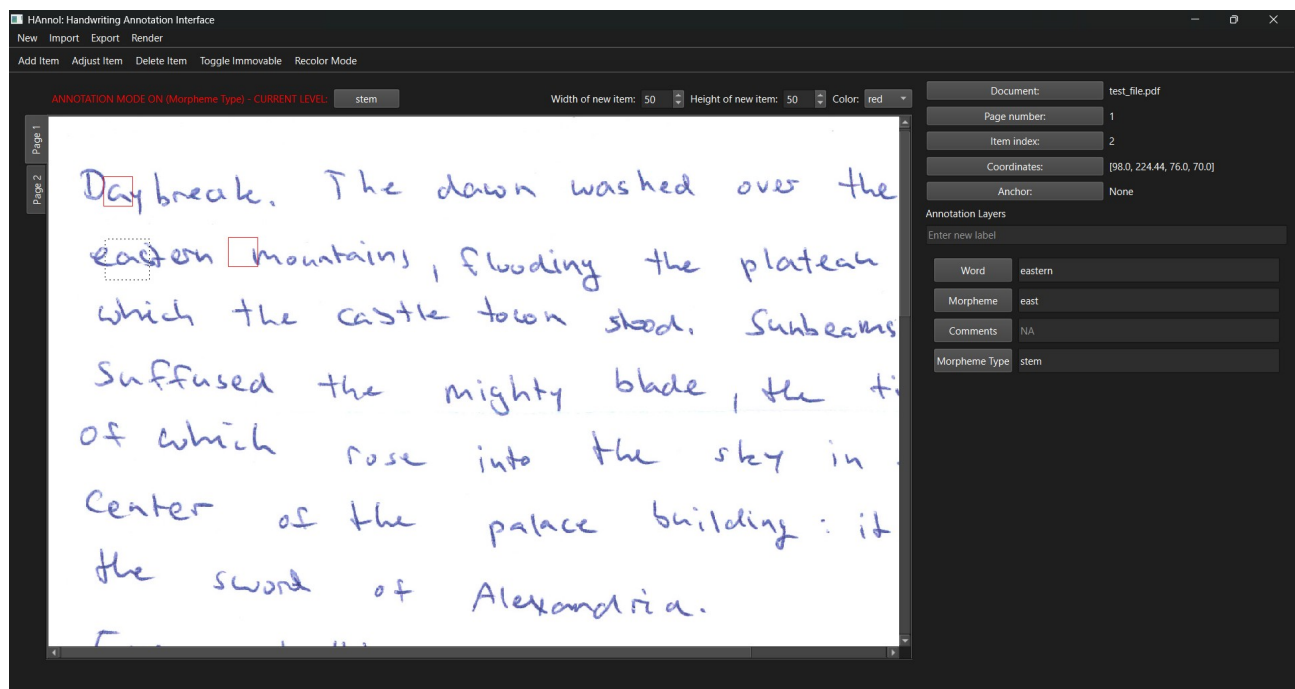
After selecting a ROI, you may enter annotations into the text fields. These keybindings supplement annotating:

Tab	Jump to the next layer in the annotation panel.
Ctrl + Return	Selection jumps to the ROI with the next higher index; the Graphical View follows to the ROI now in selection. The first layer in the annotation panel is automatically selected for text input.
Ctrl + I	Inherit the annotation for the current layer from the ROI with the previous index.

Annotation Mode: You can implement a categorical variable by clicking the labeled button of an annotation layer. This opens a new window in which you specify the levels of a variable, separated by commas (no white space).



After confirmation, you can enter (and leave) **Annotation Mode** by clicking the labeled button again.

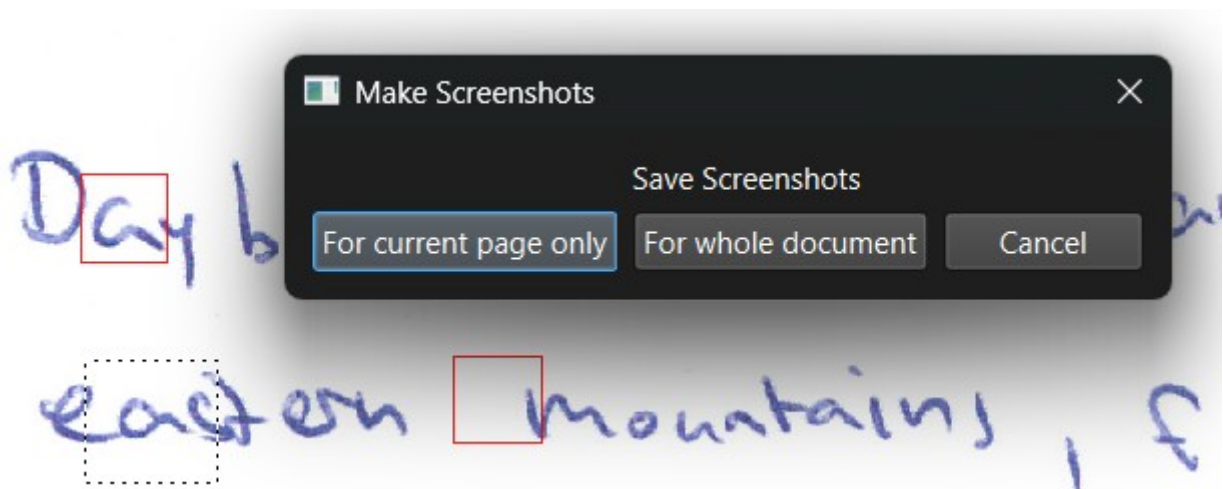
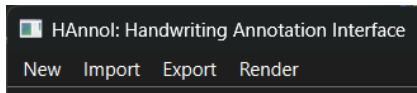


During **Annotation Mode**, whenever a ROI is selected with the mouse, it gets assigned one of the specified category levels. The level that is being annotated right now is displayed above the Graphical View. You can rotate through the levels by clicking the button above the Graphical View or by pressing **F1**.

Categorical variables must be implemented each time a new HAnnoI session starts. Implementing a categorical variable does not change the annotations that are already there.

6. Rendering and exporting annotations

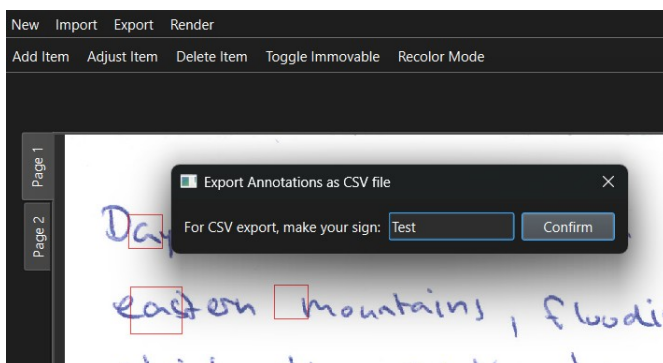
Rendering and exporting annotations creates a new directory that is named after the document itself. This directory is a sub folder of the folder **Annotated**, which itself is a sub folder of the main directory of HAnnoI.



The **Render** function saves individual PNG images of the ROI frames. There are two options:

Render → For current page only	Saves individual PNG files for each ROI on the current page.
→ For whole document	Saves individual PNG files for all ROIs added to all pages of the current document.

PNG files are stored in a sub folder named **Screenshots**, in the directory of the file. They are named after the source file, followed by _ and then the index of the ROI.



Use **Export** to create a CSV file that contains all meta and positional data as well as custom annotations for the current file. This CSV is named after the source file followed by _ and then whatever sign was entered upon pressing export in HAnnoI. The file is stored in a corresponding folder in the **Annotated** directory.