

How to use annotations tools in Flai web application

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Point cloud datasets produced by 3D laser scanning or photogrammetry gain a lot of value if they are accurately classified.

While AI models do most of the work for us, sometimes manual annotation is still required to iron out the details. Flai web application includes a powerful online 3D point cloud viewer that allows annotation of point clouds using a variety of selection tools.

Let's check the features of the point cloud editor by looking at the specific use case: annotation of wires and transmission towers.

Navigation tools

Flai point cloud editor provides several navigations, selection and classification options. To navigate the point cloud, use the mouse:

- double click or scroll the wheel to zoom,
- left click to change the camera orientation and
- right click to pan around.

Or use predefined views in the toolbar (front, back, top, bottom, right, and left view).

When you navigate to a point of interest, in our case a transmission wire, you can use the following selection tools:

- rectangle,
- strip, or
- polygon.

Clipping mode

A useful tool that can speed up annotating is clipping.

After selecting a region, select *Enter clipping* in the toolbar (or press *C*) to enter clipped view. All points that were selected are now temporarily isolated. Here you can navigate and make annotation changes as before. To exit the clipped view press the *escape* button.

Point cloud clipped view



Manual point cloud classification

On the right side of the point cloud viewer, you can choose which classes you want to reclassify by a selection. After selecting, confirm the selection by either pressing the checkmark in the toolbar, pressing the enter key or clicking the right mouse click.

Manual annotation of point clouds does not have to be a tedious and time-consuming process. Flai's feature-packed point cloud editor equips annotators with a variety of tools that make editing quick and easy.

If you make a mistake, there is an undo button for removing the last correction.

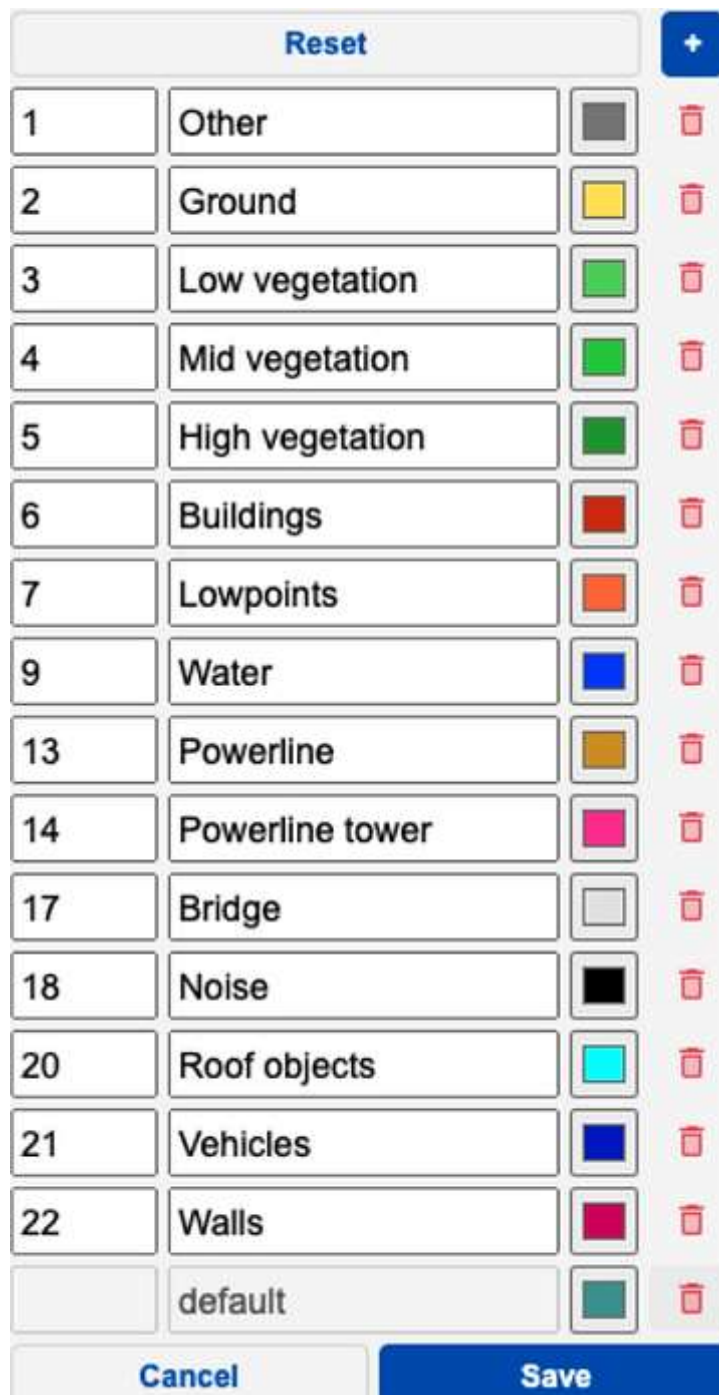
You can also change annotations conditionally by choosing classes in the *From* category. This way only points from the selected classes will be classified to your chosen class. As shown in the animation, you can change only wire points, while leaving ground and vegetation in the background unedited.

Point cloud reclassification in Flai web application



Editing class properties

If you want to edit classes click *Edit classifications*, where you can add any number of new classes or change the colour and name of exist onesing.



Add, rename, recolour, or delete classes in the "Edit classification" editor.

Keyboard shortcuts

There are several keyboard shortcuts you can use to speed up and optimise the workflow. The ones we found most useful are:

- using the right mouse click to confirm the selection,
- pressing **C** to enter clipping,
- **T** to view from the top, and
- **TAB** to swap between to/from classes.

All available keyboard shortcuts are listed below the classification legend.

(-) SHORTCUTS

U - undo last selection
F - front view
B - back view
L - left view
I - right view
T - top view
O - bottom view
C - clip selection
SHIFT + RMB - clip selection
R - rectangle selection
S - strip selection
P - polygon selection
ENTER - confirm selection
SPACE - confirm selection
RMB - confirm selection
ESCAPE - reject selection, exit clip mode
CONTROL - reuse selection tool
LMB - add selection point
[F1, F12] - from classification
[1, 9] - to classification
TAB - invert selection

LMB - left mouse button
RMB - right mouse button

Shortcut can be used to speed up annotation flow

Try Flai web application