Image Interpretation – Assignment 1

This assignment on **Manual Interpretation** covers the lab from the 5th of September. The exercises on this sheet are ungraded.

Exercise 1.
Try yourself how tedious work it is to interpret image data manually. We'll use software tool ArcMap (available in ETH student labs) to create annotated polygons on the aerial image of a part of Graz.

First, you need to copy the provided image (`graz_5.tif`) and empty shape files (`ground_truth.*`) to a local drive and run ArcMap.

Second, select a *"New Map"* and *"Blank"* in the dialog and connect the folder with the copied data in the *"Catalog"* panel. To show the map, drag&drop both the TIF and SHP files listed in the catalog to the main panel. Ignore possible warning messages which may pop-up.

Then, enable editing by *"Editor – Start Editing"* followed by *"Editor – Editing Windows – Create Features"* (if it does not pop-up automatically). Select the *"Polygon"* tool from *"Construction Tools"* and start annotating the border of an interesting entity/region in the map. To finish the shape, press F2 or select *"Finish Sketch"* from the context menu. For neighboring regions, you may find *"Editor – Trace"* handy as it prevents the creation of small unlabeled areas between the regions. Labels can be assigned by changing region IDs in the *"Attribute Table"* (accessible from the context menu of the shape file).

Finally, save the modified shape files by *"Editor – Save Edits"* and *"Editor – Stop Editing"*. You may also save the whole project if you wish to return to annotation later.

Exercise 2.
Think of all the problems you came or could have come along during the manual annotation. How difficult was it to define meaningful class labels? Was it easy to assign a class label to each of the annotated regions? Was the region border always uniquely defined (easy to track)? How much time did you spend by annotating this small part of Graz? What kind of supportive tools would make the annotation easier in a semi-automatic setting?