**3.6** **Fieldwork and application**

**Exercise materials and tasks**

**Application Exercise**

Congratulations on completing the theory part of this module!

Now let's continue with the practical part of the module. In this practical application of GIS data collection, you will be asked to go to the field and learn how to collect simple data using a mobile app. The exercise will allow you to explore field data collection and become familiar with data acquisition using accessible GPS techniques.

**Field work and Application exercises**

This exercise consists of three parts:

1. GIS data collection in the field work
2. Data analysis on your computer.
3. Application report summarizing your findings.

Please familiarize yourself with the report requirements prior to starting your field work.

**Part 1: Fieldwork – GIS data collection**

To collect data in the field we suggest using the SW Maps mobile app. Before any further instructions, please download SW Maps on your smart device ([SW Maps - GIS & Data Collector – Aplikacije v Googlu Play (google.com)](https://play.google.com/store/apps/details?id=np.com.softwel.swmaps&gl=US)).

SW Maps is a free GIS and mobile mapping app for collecting, presenting and sharing geographic information. Whether you are conducting a full scale GNSS survey with high precision instruments, need to collect large amount of location-based data using nothing but your phone, or just upload shared shapefile on your phone in the app, view shapefiles with labels over a background map on the go, track a new point, polyline or draw a polygon. The surveyed output can be shared in different GIS formats that can read in EO application to monitor landscape change overtime.

As a help with the use of the application and additional ambiguities, the video shows how the application is used and how you will use it to collect data - <https://www.youtube.com/watch?v=bNRmrhdmujU>. You are now ready to start the fieldwork:

1. Please select an area near your home. You are going to collect data using the SW Mapp application on your smart device.
2. Using the application, please generate:

* 5 reference points
* 3 reference lines (at least 100m long)
* 2 polygons (bigger house and agriculture field) close to your home.

**Part 2: Data analysis**

After finishing data collection, go back to your computer and download the data. To find out how to download data, use the link of the video from above in the fieldwork part of the exercise.

Steps:

1. Open QGIS and start a new project
2. Under data Source Manager > Vector add exported layers (\*.shp) from downloaded data
3. Try to use Google map or OpenStreetMap as background to check on your data (Hint: XYZ Tiles or WMS)

**Part 3: Application report**

Done? Now you just need to draft your report!

**Forum instructions**

**Generate report of the application exercise and share your results in the forum**

Welcome to the forum of Module 3!

As a last step, please generate a report about your findings and share your results in the dedicated forum.

The report you shall post in the forum should contain the following information:

1. Make a screenshot of data in QGIS
2. Include a brief description of the selected area – what reference data you digitized
3. Discuss obtained results of accuracy. In order to do so, here are some questions that will help you:

* Do your lines match with the lines on maps?
* Why is it that the corners of the house do not match with yours?
* How accurate are you (estimation)?

Once you have finalised, please read the contributions of the other group members. Post at least one comment or question to another participant’s contribution with the idea of exchanging experiences.

Please do not forget to answer any question you got in response to your post in the country forum.