GeoEasy^{os} 3.1

The development of the GeoEasy program started in 1997. Twenty years later in 2017 it has became free software under GPL license, freely available for everybody. The ComEasy module of the project was released under open source license from the beginnings (see https://github.com/zsiki/ComEasy). The core development of GeoEasy is made on Linux operating system, using Tcl/Tk script language, thanks to the Tcl/Tk ports to several operating system the program can be used on Linux, on Windows (32 and 64 bit version), on Android tablets and on OSX machines. Intensive tests of the code were made on Linux and Windows only.

New features:

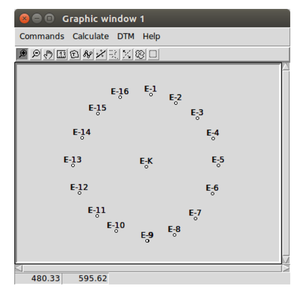
- German,Czech,Russian GUI
- Tcl console for your scripts
- Portable windows release
- Variable column widths in field-books
- Parallel line regression
- Circle regression fixed radius
- Vertical transformation
- KML export of coordinate list
- Many bug-fixes
- More than 400 commits and 72 issues solved after 3.0

Objectives

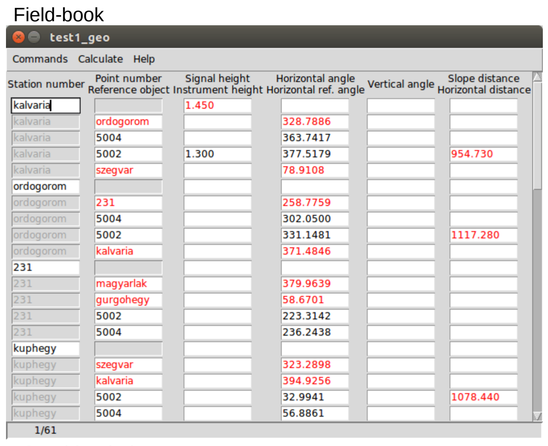
- User friendly graphical user interface
- Modular, extendable structure
- Direct process of data from total stations
- Flexibility and openness connecting to other programs
- Educational and professional usage

open source

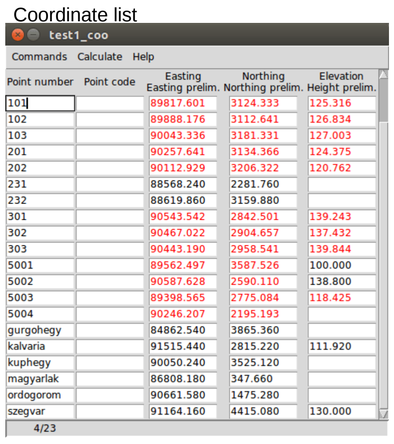
Graphic window



Field-book



Coordinate list

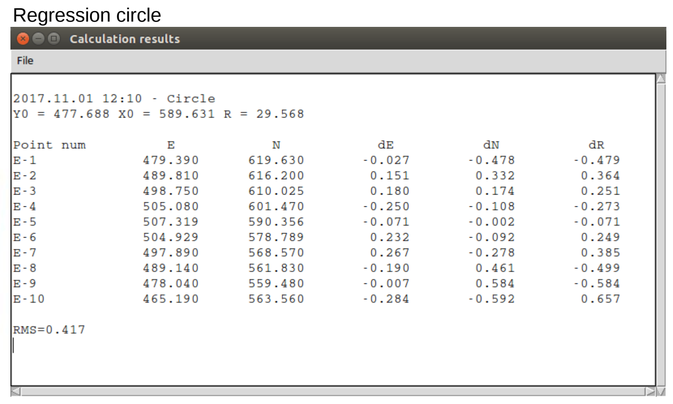


Download the binary releases for Windows and Linux:
http://digikom.hu/english/geo_easy_e.html

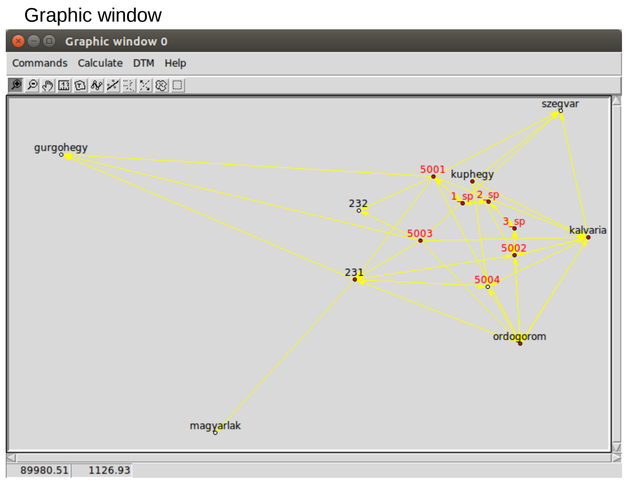
Development tool

- Console window to run ad-hoc Tcl commands
- Extend the functionality of GeoEasy with user defined scripts loaded from file
- Write your own app using GeoEasy as a library

Regression circle



Graphic window



Surveying calculations

- Edit field-books
- Intersection, resection, orientation, ...
- Traversing, trigonometric line
- Coordinate transformations
- Coordinate list and field-book import (several formats)
- DXF export

Regression calculation

- Solving engineering surveying tasks
- Regression lines, plan, circle, sphere, 3D line, parallel lines

GeoEasy

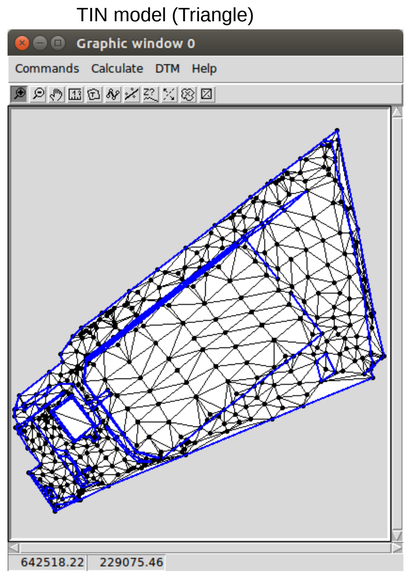
Network adjustment (GNU Gama)

- 1D/2D/3D geodetic network
- Normality check
- Data snooping
- Network sketch with error ellipses

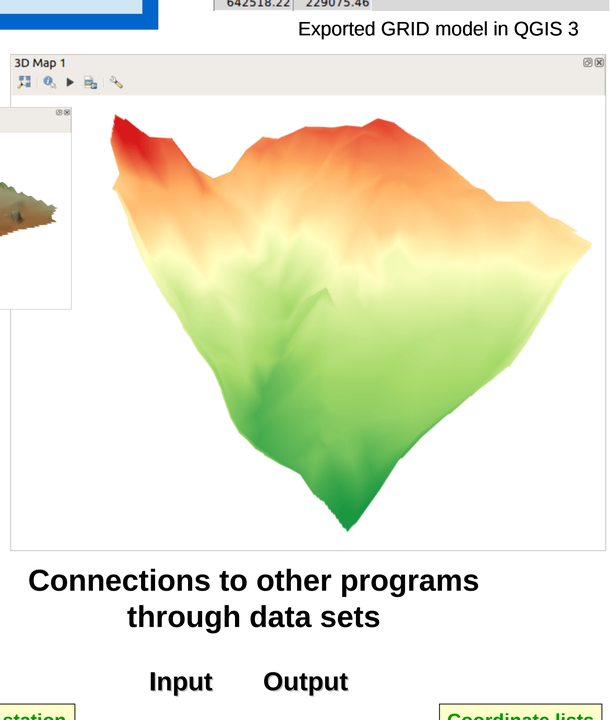
Digital Terrain Models

- DXF import
- TIN models
- Break lines
- Contour lines
- Volume calculation
- Cross sections
- VRML, KML, DXF, ASCII GRID export
- Update, regenerate

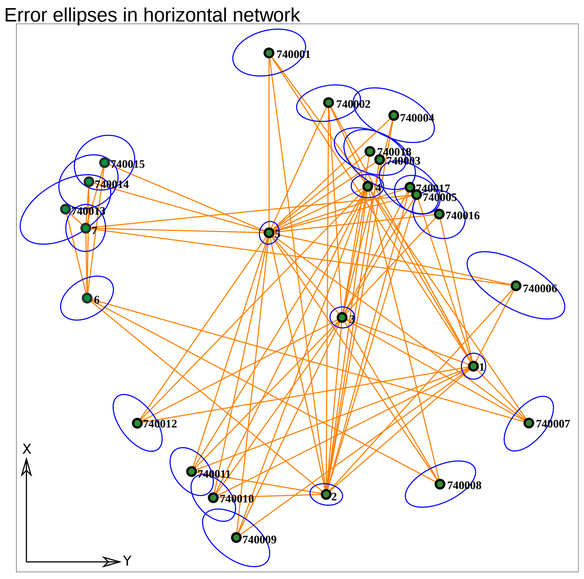
TIN model (Triangle)



Exported GRID model in QGIS 3

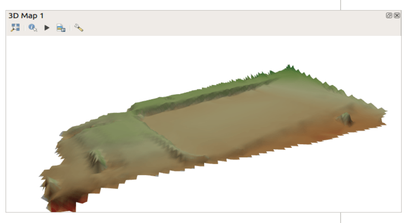


Error ellipses in horizontal network



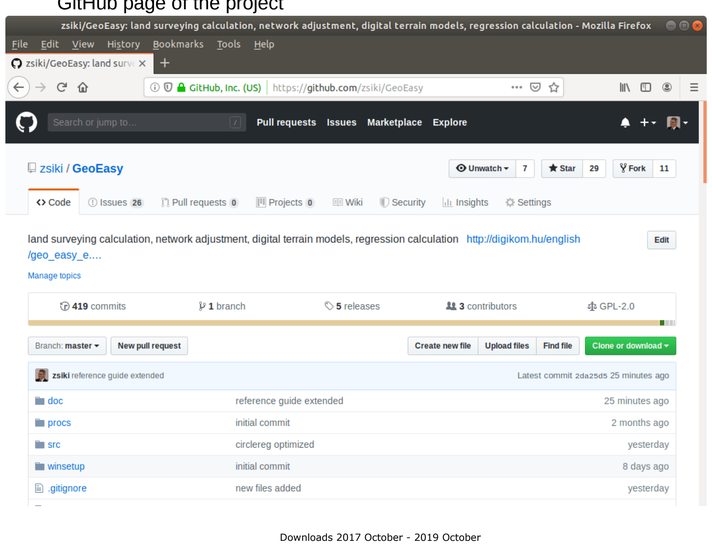
Adjustment results (GNU Gama)

```
Adjusted coordinates
********************
  i        point    approximate  correction  adjusted    std.dev conf.i.
====================== value ====== [m] ====== value ========== [mm] ===
                 1
 17              X *     735.53500  -0.00002     735.53498      0.4     0.7
 18              Y *     598.88300   0.00013     598.88313      0.3     0.7
                 2
 23              X *     673.49900  -0.00001     673.49899      0.3     0.6
 24              Y *     527.57600  -0.00087     527.57513      0.4     0.8
                 3
  1              X *     759.06300  -0.00002     759.06298      0.3     0.6
  2              Y *     535.25100  -0.00007     535.25093      0.3     0.6
                 4
 36              X *     822.31000   0.00005     822.31005      0.3     0.7
 37              Y *     547.62300  -0.00015     547.62285      0.4     0.9
```

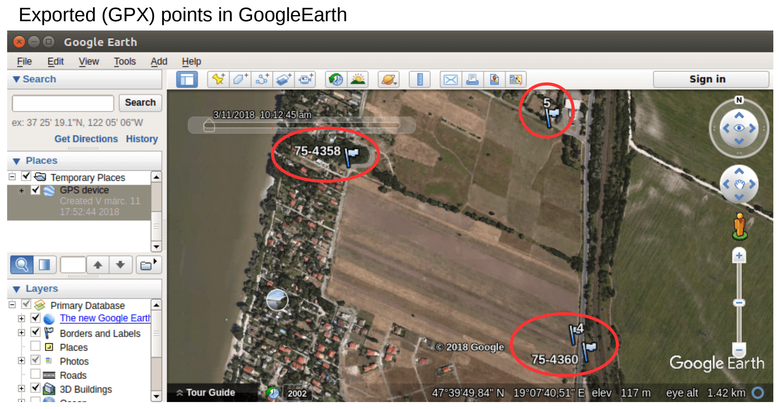


OPEN SOURCE SOFTWARE

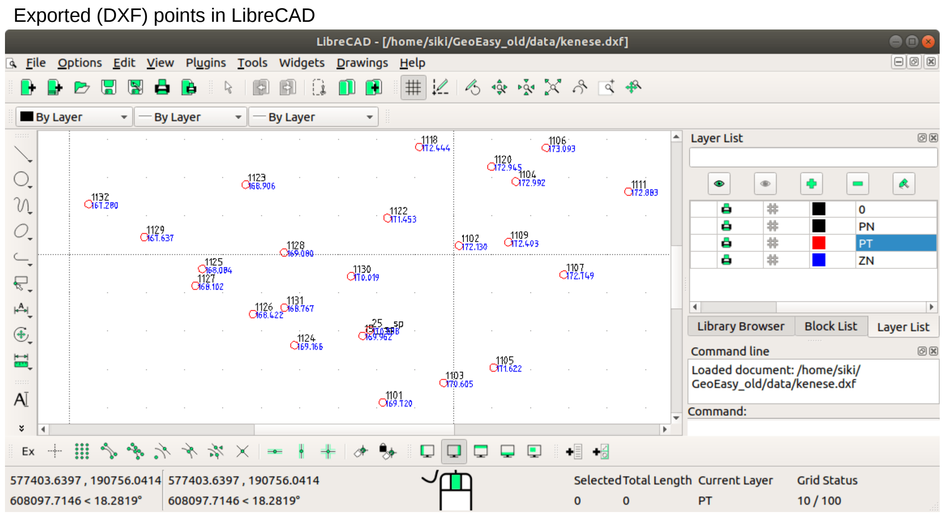
GitHub page of the project



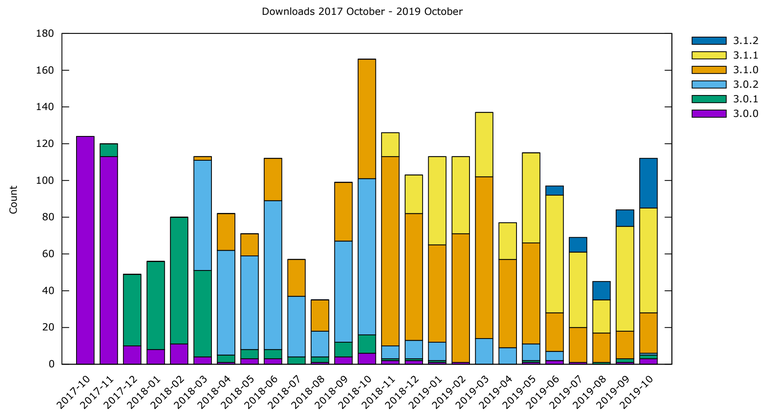
Exported (GPX) points in GoogleEarth



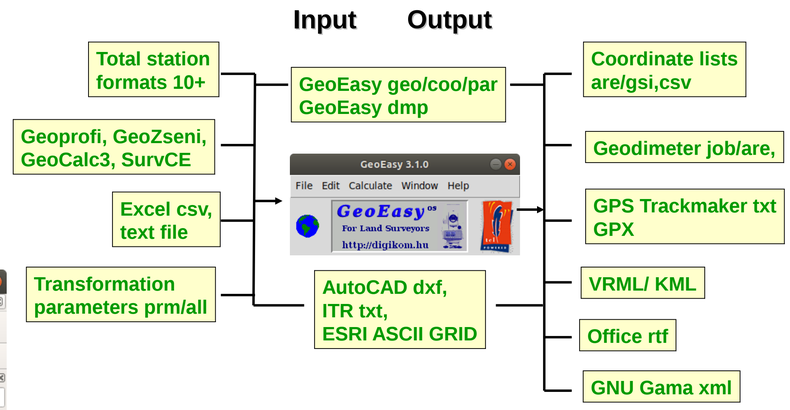
Exported (DXF) points in LibreCAD



Downloads 2017 October - 2019 October

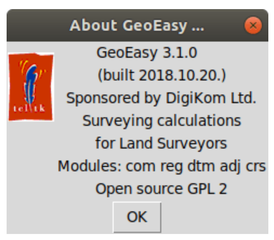


Connections to other programs through data sets



OS software used

- Tcl/Tk (https://www.tcl.tk/)
- GNU Gama (https://www.gnu.org/software/gama/)
- Triangle (https://github.com/MrPhil/Triangle)
- Proj cs2cs (http://proj.org)
- NSIS (http://nsis.sourceforge.net/Main_Page)
- Freewrap (http://freewrap.sourceforge.net/)
- Bash-deb-build (https://github.com/BASH-Auto-Tools/bash-deb-build)
- Rst2pdf (https://rst2pdf.org)

Let us develop GeoEasy together!

Source code available on GitHub (https://github.com/zsiki/GeoEasy)
Report the errors you found in issue tracker (https://github.com/zsiki/GeoEasy/issues)
Extend and correct the documentation (https://github.com/zsiki/GeoEasy/doc)
Help other users (https://github.com/zsiki/GeoEasy/wiki)