

Handling Note for Contour Survey Simulation

Overview

The simulation is a Java Applet that runs inside your WWW browser. You do not need to install anything onto your machine to use it, other than to have a Java capable Web browser (all recent browsers are) and an Internet connection.

The Applet allows you to simulate a Feature Survey, or Contour Survey, starting with an area to be surveyed, with pre-defined permanent and pre-surveyed benchmarks. You need to place your spotheights, breaklines and make your measurements. You also need to derive a Digital Terrain Model (DTM), which is also known as a Triangular Irregular Network (TIN), of your survey and then subsequently plot the contours over your surveyed area. You can also perform statistical analysis on any point you derive by survey to gain insight into the coordinate precisions that are associated with this type of survey. Happily, these difficult operations have been automated, you only have to press the button once you are ready. You will be required to submit your results, once you are happy with your contour plot, for the purposes of assessment.

The simulation allows you to practice your measurement and breakline placement, giving you the opportunity to see what effect your actions will have on the final contour plot. The more intensive operations such as building TINs, contour plots, etc. have been automated so that you can concentrate more on placement and your survey in general.

Specific Instructions

Placing Points

You can place your spot heights either by selecting the point tool and clicking anywhere within the area on the display, or by making measurements (which automatically creates a point if you make a measurement to a point that does not exist).

Placing Breaklines

Breaklines have a start point and an end point. By selecting a start and an end point, you place a breakline between those two points. If no point exists where you click, then a new point is created for you.

Deleting Points

You can delete points, breaklines and whole measurements. Deleting a point deletes any measurements or breaklines connected to it. Deleting a breakline or measurement does not delete the point that they were connected to. A measurement is deleted by clicking on its angle arc, while a point is deleted by clicking on the point icon and breaklines are deleted by clicking on the red breakline itself.

Making Measurements

Making a measurement reflects (to a practical extent) what you would do in the field. You select your mark to setup over (by clicking on one of the predefined points), make a reference sighting to a permanent mark (by clicking on one of the permanent marks), then sighting to your spot height points (by clicking where you want to measure to). If no spot height exists

where you click to, one is created for you. To complete measurements from the mark you are setup over, you must sight back to a second permanent mark. You cannot setup over any other marks until you do this.

Calculate

It is possible to perform statistical analysis on a point, by selecting it and clicking the calculate button. This sends the current survey data to a server which runs it in TDVC and returns the results. The result is displayed in the data window, and an error ellipse is displayed around the selected point, demonstrating its precision of coordination. By using the slider bar, you can adjust the size of the displayed error ellipses for better viewing.

Submit

The current state of the Applet, along with your important details, are sent to the server where it is redirected to the assessor/s.

Final Note

The Applet communicates with a Server application, which performs the TDVC analysis and performs the submissions. Normally the operation of the Server is not an issue, but if for some bizarre reason the Server has shut down, it can be restarted over the WWW. Ask the demonstrator if you need to restart the server.