

Type

Details

LEG

Horton school to Brackenbottom

LEG

Stile over wall

LEG

Gate to Pennine Way

LEG

Pennine Way

Start of boulder field

USER MANUAL



Enabled
by



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CREATING ROUTES

THE BASICS

A route in grough route is simply a series of nodes, which will be connected in order with straight lines to represent your route as a whole. The application uses the following terms when creating routes:

Node A node is a point in the route of any type, and may be displayed on the map in any number of different ways depending on its type. Most nodes are either points or waypoints (with notable exceptions), and can be changed between the two types as desired.

Point A point on the route is usually insignificant in every sense other than it represents a change in direction. Points are shown by small dots on the map, and while metadata can be assigned to points, it is neither required nor common that this be done.

Waypoint A waypoint is a point in the route which is deemed to be significant, and marks the start/end of legs in the route. You should therefore add a waypoint when the journey reaches an important change, or

the location is in some way important. Waypoints are automatically created at the start and end of a route.

Leg The section of a route between two waypoints is considered to be a leg. You should create a new leg when the terrain changes or once you've reached a point in the route that would be easily and definitively identifiable, such as a triangulation pillar. A new leg is created by inserting a waypoint.

Free end The free end of a route is the location of the last node in the route – where the route is logically extended from.

Data table At the bottom of the screen, underneath the map area is the data table. This table is specific only to routes, and allows you to manipulate and work with individual components of a route, showing route card style information that is updated automatically 'on-the-fly'.

To create a new route, click the 'Start new route' option in the route pane on the left-hand side. Alternatively, an option is provided in the context menu, ordinarily brought up by right-clicking (this may vary on some browsers or operating systems) an area on the map.

A route will be created at the position of the mouse (either where you clicked, or where the context menu was created) and initially will have only one waypoint, marked by a green flag. This is the start of your route.

Extending the route from here is simple – click a point on the map and a node will be created. The nodes will be joined by a semi-transparent line representing your route. You can continue to add nodes until you reach your destination. As you add nodes, grough route will analyse your route 'on-the-fly' and if desired, you can permit grough route to help you by creating waypoints, or by following sections of other routes marked on the map.

Once you have completed your route (or to ensure no data loss) you can save your route using the keyboard shortcut (see keyboard shortcut section for details), the disk icon on the map toolbar, or by clicking 'Save route' in the route pane on the left-hand side of the application. Loading will be carried out automatically next time you visit the area.

NOTE If you find nodes are not being added following a click on the map, this may be due to one of the following:

- No route is loaded and active. To check a route is loaded, expand the route pane on the left hand side of the application. If an option is given to start a new route then no route is active.
- The point on the map is too far from the free end of the route. The free end of the route is the location of the last node in the route. When you click on the map, grough route ignores clicks it believes may be accidental if they are too far from the free end of the route. If this proves to be problematic, you can adjust the distance in the user preferences.
- You do not have permission to edit the route which is currently active. You can check the 'permissions and sharing' pane under the route heading on the left hand side to check the permission settings on the route. Ordinarily if you do not have permission to edit a route, you will be presented with a dialog offering to create a personal copy of the route, specific to yourself, if you wish to make changes. You can close the route and reload it to be given this dialog again, or click 'create duplicate copy' in the route pane on the left-hand side of the screen.

ASSISTANCE IN CREATING ROUTES

grough route is designed to make creating routes as easy and intuitive as possible, so we've added some features we think you may find useful and will probably be adding more in the future.

UNDO AND REDO

When creating and editing routes, it is inevitable that some mistakes will be made. The application stores details about the last 200 actions carried out, and can reverse these actions. Once an action is reversed, you can re-do the action again.

Not every change you make to a route or a point of interest constitutes an action. Changes to metadata which are specific to the entire route – such as the tags, description, date and time and most other fields in the left hand pane – are not tracked by the undo system. Changes to metadata, positioning and naming of nodes however do constitute an action. Some operations performed on a route may perform

multiple actions – such as node pairing, or the addition of a node which is subsequently converted to a waypoint – in which case the actions are grouped and performed together when undoing. Be careful that occasionally, such as when pairing an entire route, more than 200 actions may be performed, in which case the undo button would not be able to undo the entire action (but would go as far as possible, in this case removing some of the paired route). Only 200 actions are stored to ensure grough route does not run too slowly or consume too much memory.

NOTE As a rule, only changes made to nodes can be undone or redone. Changes to an entire route's metadata cannot be undone, nor can operations such as deleting a route. Once a route is closed, the undo/redo data is cleared, you will not be able to return to the route at a later date and undo/redo.

As in most applications, you can undo and redo actions using the keyboard shortcuts *Ctrl+Z* and *Ctrl+Y* respectively. When editing a text field such as a description, these keyboard shortcuts will change and instead will undo and redo changes made to the text field. Alternatively, you can undo and redo using the left and right arrow buttons on the map toolbar. These buttons will turn grey if there are no actions stored that can be undone/redone.

AUTOMATIC WAYPOINT CREATION

Users commonly wish to insert waypoints at strategic points such as major changes in direction where a navigational decision would have to be made.

As you add nodes to the free end of a route, the change in direction and distance from the last waypoint will be computed, and if it satisfies your criteria, the point will be promoted to a waypoint automatically. There is of course, nothing to stop you reversing this automatic change.

The criteria can be set in your user preferences, effectively determining how sensitive to a change of direction the system is, and the minimum length for a leg.

NODE PAIRING

To avoid unnecessary work when creating or editing routes, we've added a feature allowing you to 'trace' sections of your route again, or any other routes visible on the map – this is known as node pairing. Node pairing places the paired nodes on top of each other, but they will appear slightly to the side, making it clear that the nodes have been paired and allowing you to see both routes clearly.

The feature is available in both directions of routes, and is triggered by clicking on a pre-existing node that you wish to pair with, and then if you wish – click another node elsewhere in the route and the nodes in between will be paired.

If pairing is likely to take some time (due to the intensive calculations and requests to the central servers for elevation data) a message will be displayed warning you beforehand. The proposed route which would be traced will be shown under the warning window to prevent you accidentally pairing a route in the wrong direction.

If you wish to turn around a route and retrace your steps, you can start a pair chain by clicking the penultimate node on the route, or by clicking "Start reversing route" in the left-hand pane.

If you wish to combine a number of different routes, then using the node pairing facility or the append route (join route) tools is recommended. This allows routes to be created with deviations along alternative routes for example, in a similar way to software which some people may already be familiar with, where routes are formed from composite tracks.

EXAMPLES Node pairing can be used in the following situations:

- If your route reaches a path which has been traced by another user or yourself previously, then you can pair nodes to follow the data already present. Click the node at which you want to begin a chain of node pairing, and then on the node where you wish to end the chain. If you want only to cross the pre-existing path, then you can click once to pair with a single node, and then click on the other side of the path to continue plotting your route manually.
- If your route is a circuit, then clicking on the start once within a short distance of it will pair with the start to create a full circuit. There would however, be nothing to stop you from continuing to extend the route further, it will not be considered 'closed' and you can continue to extend the route accordingly.

NOTE The processing required calculating pair locations can be quite intensive when pairing a large number of nodes. A ‘please wait’ message will be displayed, but your browser may become unresponsive while the pairing is carried out. Some browsers (such as Mozilla Firefox and Internet Explorer) may display a message warning that a script is taking too long to run, you should opt to continue running the script – stopping script execution may stop the application from working. The calculations are carried out in stages, and progress will be shown every 25 nodes under the “Please wait” message.

SPLITTING AND COMBINING ROUTES

Routes can be split or joined together. This may be necessary for example, where a number of tracks have been imported from a GPS device and where signal loss has occurred, the track has been broken and resumed at a later point in the day – in such circumstances it would be possible to merge the two routes and manually fill in the path taken between them.

SPLITTING A ROUTE IN TWO

When a route is active, and you have permission to make changes – an option will be presented on the context menu (usually brought up by right-clicking) to split a route.

It is worth noting that splitting a route at the location of a point (as opposed to a waypoint), will introduce waypoints at the start and end of the resultant routes, and as such if the two routes were then combined again, they would not be an exact match.

This process may take some time, as each of the nodes will be processed in turn and moved to the new route. Following the splitting process, it will be necessary to save both routes to the server if you wish to retain them both. The majority of the details will be copied from the original route to the resultant routes, with the exception of data that would no longer be applicable – such as the time of departure, which would no longer apply to the second route.

JOINING/MERGING/COMBINING ROUTES

While it is a simple process to create a pair chain along the entire length of a route, if you wish to append an entire route to another route, then the 'append route' option is most appropriate.

If you wish to append a route in the opposite direction to that which it currently exists (from finish to start) however, then you should make use of the node pairing options, which will make allowance for leg descriptions and other details no longer being valid in the opposite direction.

When a route is active and you have permission to make changes to the route, clicking on the start of another route presents a window with two options. You can append a route, or append a route and delete the original. It will not always be possible to append a route and then delete it, if you do not have permission to delete the route which is being appended. Where you do have permission, the original route will be appended to the route with which you are currently working, and the original then deleted from both the client-side and the server – you should use this tool with care.

If you are prompted to append a route and do not wish to append the entire route – you can cancel the dialog and pairing operations will work as normal.

PROPERTIES, METADATA AND CHARACTERISTICS OF NODES AND LEGS

While grough route attempts to make planning and working with routes as simple and automated as possible, you may find it preferable to refine some details of individual parts of the route to allow for better estimates of timings, or simply to provide additional details which you believe to be useful information.

You can access the properties for a node or a leg by right-clicking the node/leg on the map or in the data table at the bottom of the screen, and selecting "Open properties". Some properties can also be edited using the data table, whereby the properties for a leg are shown and edited when the table is collapsed, and those for nodes are shown when a leg is expanded. You can expand and collapse legs in the table by clicking the arrow on

the left-hand side of the table. Different pages of properties are provided in the properties window, which can be switched between using the bar at the top of the window.

All of the properties are entirely optional.

An additional tool is provided in the properties window, allowing for a quick calculation of the distance, ascent, descent and time between two points on the route.

You can also use the context menu for a node, or hover over a node on the map to see a brief summary of the location details – including the latitude, longitude and National Grid reference for the location. If you use the data table to invoke this option from the context menu, the map will jump to the node.

PROPERTIES OF NODES (POINTS AND WAYPOINTS)

Only two properties are available for an individual node in the route – these options are the same for both points and waypoints.

Name A node can be assigned a name, which will show up in capital letters at the top of the properties window – and can be edited by clicking it. The name for a node will also show in the data table when a leg is expanded. When exporting a route card, if a name has been defined for a node then this will show above the grid reference as a description of the start point for a leg.

Stoppages You may need to stop along your journey for a number of reasons, so nodes allow you to define a period of time during which you will not be moving. The time is defined as a number of minutes, though is not limited to integer values, and can go beyond 60 minutes. The stoppage time (or rest time) can be used to insert a pause in progress along a route at a specific point, for example recuperating or stopping for lunch or an activity. If a node has stoppage time assigned to it, the row in the data table for the node (when the leg is expanded) will show a clock symbol next to the time. Hovering the mouse over this symbol will show the duration of the stop.

PROPERTIES OF LEGS

A number of different options are available to be edited for a leg in a route – a leg represents between two waypoints.

Name	A leg name should be a description of the entire leg, and usually describes the terrain or the majority of the undertaking between the waypoints. Good examples of leg names would include 'metalled path to farm gate' and 'A192 to footpath start'. The name of a leg shows on an exported route card, in the details column.
Description	A description of a leg should go in to more detail about the specifics of individual aspects of a leg. The description field is commonly used for routes along historical and famous routes for example, to detail things to look out for or provide context and background – this information is not fundamental to the route or navigation, but would be of use to some people. The description of a leg shows on an exported route card, in the details column, but unlike the name of a leg this will show in italics.
Escape route	When leading an expedition or planning a route which will be undertaken as part of a larger group, it may be necessary to plan for a quick or safe escape route to a road, base or easily accessible location. This property will show up on an exported route card for a route.
Terrain	A description of the terrain underfoot on a route, or the type of surface, allows you to refine the normal Naismith calculations for estimating the time which the route will take. A number of terrain types are provided in a drop-down box, the speeds for which can be set in the user preferences. When changing this property, it may take a short time for the route to be re-calculated with a new timing. If this property is not defined, then timings will fall back to the default speed of travel. Naismith rules on ascent and descent will be applied to these timings all the same.

COMPARATIVE ANALYSIS ON ROUTES

The analysis page of the properties window allows for quick calculation of statistics. Statistics shown are between the selected waypoint on the route bar, and the node for which the properties window represents – for example the properties window for the start of a route shows statistics describing between the start of the route and the selected waypoint.

The route bar is shown at the top of the analysis page, with selectable waypoints shown as circles along the bar – which represents distance from the start of the route. To select a waypoint to compare with, click on the circle that represents it on the bar. The name of the waypoint will be shown below, along with the distance, ascent, descent and estimated time it will take on the travel between the two points.

MANAGING ROUTES

Routes are stored to the grough route servers, then loaded dynamically as and when required. As you move around the map a request is sent to the grough route servers requesting any routes not currently loaded. There may be a short delay during this process. You may experience a short delay in an area which contains many routes, while they are rendered on screen – a waiting screen will show in this case.

A route may be loaded in to the grough route application but is not necessarily visible on the map depending on the selected 'Route visibility'. This allows you to declutter the map and improve performance if you need to.

ROUTE TAGGING

Before you can save a route to our servers you must add at least one tag to the route. Depending on the nature of your route, the points through which it passes and the region – some tags may be added automatically. The grough route system opts to tag routes rather than name them to allow for brief but descriptive phrases to be

associated with routes – these are tags – which are then indexed and facilitate searching. If you choose to share your route with other users of the system, then avoid using tags which are specific to yourself and retain this information for private sections of the metadata (grough route allows you to complete some fields which will never be shared with any user other than yourself).

The following are examples of good tag names:

- Wainwright
- Yorkshire Three Peaks
- Pen-y-ghent
- Scramble
- West Highland Way

In many cases, you will hopefully find that appropriate tags have been added automatically. When users give their routes appropriate and helpful tags, the grough route system becomes much more useful to everyone.

PERMISSIONS AND SHARING

As much as possible, we'd like to encourage users to share their routes with other users of the system. However, if you believe the route would only be of use to yourself, would conflict with other routes already shared, or contains details and information that would be unsuitable for sharing – then you should ensure your routes are set to private.

Permissions can be set to any one of the following:

- **Private**

Private routes do not appear for anyone other than the original author, cannot be saved by anyone but the original author and cannot be copied by other users. Private routes will be indexed like all others, and will show up in search results for the original author only.

- **Shared read-only**

This is the default sharing setting, allowing for full access for you, and read-only access to all other users. Read-only access allows users to make a copy of your route that they can edit for themselves (which will be set as private by default, to prevent overlapping routes), or they can load your route in its read-only state for printing or downloading to a GPS device etc.

- **Shared editable**

This is highly discouraged as it potentially leaves your route open to editing, deletion and vandalism by any user of the system. This setting is only provided as a temporary solution for allowing teams to work together on a route over a short period of time. Some fields such as the list of participants and the date and time will not be shared, even on this setting. This means however, that these fields will be overwritten if another user saves your route from their account.

ROUTE PROFILES

Route profiles allow you to analyse the route as a whole. To open the route profile window, ensure a route is active and click the route profile button on the map toolbar.

The X axis is horizontal, and the Y axis is vertical. The X axis represents progress along the journey. Units used match those defined in the preferences.

The chart can be plotted using different data:

- **X Axis**

Distance *Measured from the start of the route*

Time *As estimated using Naismith rules*

- **Y Axis**

Elevation *From internal elevation grid or as recorded from a GPS device*

Gradient *Gradient as decimal (same as angle except units)*

Angle *Angle in degrees (same as gradient except units)*

Speed *Estimated using Naismith rules or recorded by a GPS device*

METADATA AND CHARACTERISTICS OF AN ENTIRE ROUTE

grough route can store much more than the positions of points on your route, either as metadata to help describe a route, or further details such as the type of terrain or a time allocation for rests.

ROUTE METADATA

In addition to those fields already described earlier (such as tags and permissions) in the route pane on the left-hand side of the screen, the following options exist:

- **Details**

A simple and brief paragraph describing your route could prove very helpful. You can use this for details that typically wouldn't be appropriate for the tags on a route – but this field is also indexed for searching.

- **Date and time**

This field is entirely optional, but if you do enter a date and time at which you want to start your route, it can be used along with leg timings to estimate the time at which you'll finish your route (and this can be shown on a route card, for example). This field is saved along with a route, but is only available to the route's original author, irrespective of the sharing option. If other users open your route the field will be empty.

- **Statistics**

Opening this pane will provide a simple table of brief statistics on your route, and will be updated automatically as you make changes. Remember that these statistics apply to the whole route, and those in the table at the bottom of the screen are specific to an individual leg or between two nodes (when the table tree is expanded).

NODES AND LEGS

As you create your route, a table at the bottom of the screen displays details finer details for components of your route.

The table works as a tree list, and allows you to expand a leg to display the points and waypoints that form the leg. Be careful to remember that a leg stretches from one waypoint to the next, and that the distances and other statistics shown in the table are from the node before, to the node the row represents. Therefore the leg distance is the sum of the distances from the second row of an expanded leg to the first row of the following leg.

Bearings shown represent in this table represent the grid (OSGB36 – the 'national grid') north bearing from the node the row represents, to the following node (different to distances).

PRINTING

ORDNANCE SURVEY MAPS

grough route allows you to print one or more pages of A4 or A5 paper that cover the entire length of a route, or show the area you currently have viewed on your screen. Much of this process is automated.

Different web browsers handle printing differently, full details for which can be found on the grough route website under '*Browser compatibility*', which will be updated on a regular basis as browser support changes.

If you experience problems printing in one specific browser, it may be necessary to print using a different browser, Internet Explorer 7 or Mozilla Firefox are both used in-house for development by grough staff. Problems with printing should be reported to the support department at grough, who will try and amend the software where possible.

When printing a route, other routes or points of interest which may be visible on the map prior to printing, will not be printed. The path of your route will be highlighted with a translucent colour as to prevent obscuring detail, with waypoints represented as a translucent circle.

Map printing is subject to terms and conditions as defined in the grough route '*Subscription Agreement*'. If you wish to use printed maps from grough route for commercial purposes, or mass-produce maps then contact the grough team to be put in contact with the right people. You may be required to pay royalties to Ordnance Survey.

If you wish to print at sizes larger than A4 then please contact the grough route staff to see if an arrangement can be made. Please note that such sizes fall under different agreements with mapping providers, and may therefore require additional payment.

Only Ordnance Survey 1:25,000 and 1:50,000 scale raster mapping can be printed from the grough route system.

Depending on whether or not a route is currently active, different print options will be provided in the 'Print & Export' pane on the left hand side. The differences are described below:

AREA When no route is loaded in the application, the print map option prints a map centred in the same location as the map area within the application:

- The scale of the outputted map can be selected in the scale drop-down menu. The only options available at present are 1:25,000 and 1:50,000. Both of these will respectively print those maps at the correct scale, matching the printed products available in shops.
- The ISO paper size can be selected – currently a choice between A4 and A5.
- The chosen page margin will apply to all sides of all pages printed. When you proceed with the print, details of what you should set your browser's print option margins to will be listed.
- An option is provided to print the page in either landscape or portrait orientation – regardless of the chosen orientation, you should always set your browser's print settings to landscape. The page will be rotated by the grough route system where necessary.

ROUTE Some additional options are available when printing a route:

- The scale of the outputted map can be selected in the scale drop-down menu. The only options available at present are 1:25,000 and 1:50,000. Both of these will respectively print those maps at the correct scale, matching that of standard products (Ordnance Survey Explorer and Landranger maps).
- The chosen page margin will apply to all sides of all pages printed. When you proceed with the print, details of what you should set your browser's print option margins to will be listed.
- The ISO paper size can be selected – currently a choice between A4 and A5.
- An option is provided to force all the pages of the route to a specific orientation. Regardless of your chosen setting here always set your browser's options to print in landscape – grough route will turn the pages automatically. If you set the orientation to automatic (recommended) then the most efficient method of fitting the route on a page is used.
- The 'Outline' button shows the outline of pages with a thin red line, and shades the area (when supported by the browser) to allow you to see which sections of mapping will be printed. The outlines will be removed automatically when you close the print options or the route.

ROUTE CARD

Route cards contain summary information on a route and the legs from which it is formed. Different people use route cards for different purposes, but we highly recommend that people embarking on a route print a copy of a route card to leave with a person who would take responsibility should you fail to return from your route at the time you were expected to.

Timings and estimated times of arrival shown on route cards are only as good as the data used to generate them, such as the walking speeds and the Naismith rules set in the user preferences. If in doubt, we recommend that you err on the cautious side and use conservative speeds and settings. You should never rely on estimated speeds for safety.

Route cards are also commonly used with led expeditions, or to create a simple summary of the basic details for the route that can be submitted for approval, or left with a third party for safety.

Estimated time of arrival is only shown where a date and time for departure on a route has been set, and participants are only listed if the information has been entered to the route.

To export a route card from grough route, click *'Export route card'* or *'Print route card'* in the *'Print and export'* pane on the left. The information will be compiled and a route card should be presented in a new window, which you can choose to print. On some browsers, the route card may appear in a new tab and may not immediately be obvious.

The *'contact details'* area permits typing, if you wish to fill this section in before printing your route card. All other data on the card will be sourced from the route itself.

EXPORTING DATA FROM A ROUTE

ROUTE PROFILE

An elevation profile (elevation against distance) can be exported as an image from grough route using the *'Export route profile'* option in the *'Print and export'* pane on the left-hand side of the application. Waypoints will be shown on the profile with a small circle. The larger image may allow you to see additional detail that is not shown in the normal route profile within the application.

A window will be created once the export has been generated, allowing you to download the file by clicking the *'Download'* button.

GPS DEVICES AND FILE FORMATS

You can export an entire route from grough route to a Garmin GPS device, or to a GPX file easily. The exported file will contain location information on each point in the route, and the name of the leg – allowing the route to be worked with in another application, or allowing a GPS device to show the route which is to be followed.

GARMIN GPS DEVICES

When choosing to export to a Garmin GPS device using the options available under the 'Print and export' pane on the left-hand side, a window with further options will be presented. The application will search for connected GPS devices, and if some are found these will be listed in the window. If no GPS devices are found, or if the Garmin Communicator API plug-in has not been installed in the browser, then you will be unable to proceed using this method.

The export window also allows you assign a name to the route, which will be used to describe the route on the Garmin GPS device – by default this will be created using the names of the tags in the route. The final option allows you to select whether you'd like the exported route to be a route or a track. These two types are handled differently by GPS devices, and it is broadly down to individual preference as to which format to use, though traditionally exported routes would be expected to use the route format.

GPX FILE FORMAT AND OTHER BRANDS OF GPS DEVICE

Not all types of GPS devices are supported by the Garmin Communicator API plug-in, or you may wish to work with the route in another piece of software, or to run it through conversion software prior to sending it to a GPS device. Alternatively, with a modern mass-storage mode GPS device from Garmin, you may wish to simply copy the file to your GPS device rather than use the Communicator plug-in. In any of these situations, you are advised to use the 'Export to GPX file' option.

GPX files are an industry-standard way of transporting data about routes, tracks and waypoints using an XML file format. If your device or software does not support GPX files, you may find that alternative software exists which allows you to convert between your desired format and GPX.

Once you have selected to export to a GPX file, a further prompt will be presented, asking whether you would like to export the route as a route or a track in the file. This is down to personal preference, but traditionally an exported route would be in the route format – different software and devices will treat the two types differently.

After selecting a type, the file will be generated and you will be presented with a new window allowing you to download the GPX file.

IMPORTING

grough route allows you to import routes and points from GPS devices and other types of software using one of two methods. The software will either interface directly with Garmin GPS devices, or will allow you to import from GPX files. GPX files are capable of storing routes, track logs and waypoints, which can be turned in to routes in the grough route system.

GPS DEVICES AND FILE FORMATS

Importing directly from a GPS device or from a file uses the same interface and window, which is accessed using the “import” option in the “route” pane on the left-hand side of the application. You are only able to open the import window when no route is active or loaded.

A window will be presented with a table for brief summary information on the route to be displayed in, and two buttons at the top allow you to select the source for the import.

GARMIN GPS DEVICES

If you select to import from a Garmin GPS device, then a new window will be created, and a search for connected devices will be carried out. If the Garmin Communicator API plug-in is not installed in your browser, then an error message will be displayed and you will be unable to proceed. If no devices are found, then a message will be shown and you will also be unable to proceed.

Where devices are found, data will be imported on the routes and tracks stored on each device in turn, and then added to the table in the import window for you to select which data you would like to import. Once the import process is complete, you

are then able to close the window which was created if you have no further work to carry out using the GPS device.

GPX FILE FORMAT AND OTHER BRANDS OF GPS DEVICE

Selecting the import from file option will create a new window allowing you to select a file to import from. The file will be uploaded to the grough servers, and if the file could not be parsed for information then an error message will be displayed – the file must be in GPX format. If the import is successful then the contents of the file will be added to the table on the import window and the file selection window will be closed.

grough does not keep copies of the original files which are uploaded, and will remove them as soon as the import process is complete.

The routes and tracks found on the import source will be listed in the table. Routes are normally described by a name, whereas tracks are normally described by the date at which recording began. The number of nodes recorded in a route or track is also shown, to distinguish between tracks that may have been created by turning on a device in an area where it had no signal, and other anomalous data.

You may find that where a GPS device has lost the signal, as would be common in urban or wooded areas, the track has been split in to more than one section. In this case, the best way forward is to import both sections of the track and then join them manually – see the section on joining routes for more details on how to do this.

The import process works the same regardless of the source for the data, in both cases a number of refinement algorithms will be used on the data, attempting to best match it to the formats used by grough route. Where no movement is evident at the end of a route/track or at the beginning, then the data will be automatically discarded. Where several recordings appear to show no movement in the middle of a route/track, then only one node will be added and a rest time will be added to show that no movement occurred during that period.

Nodes are only imported if they are sufficiently distant from the last node, so you may find that your imported route has fewer nodes than were shown in the import window's table. Waypoints will also be inserted in your imported route, using the same criteria as if the route has been manually created using a series of clicks on the map.

Once imported, additional data is shown where present, for example when imported data contains elevation or timings, then the route profile tool will show both the estimated time and speed from Naismith rules, and the actual times and speeds from the imported data. If you then make changes to the route, this data will be erased, as it would no longer be representative nor accurate.

SEARCHING

Attributes and details for some items and data displayed over the map are indexed and can be searched. In addition, grough provides some national databases which you may find useful.

USER-GENERATED CONTENT

Routes and points of interest are both indexed, and can be searched using the respective options in the search pane on the left-hand side of the application.

All routes and points which are shared on grough route will be searched, and in addition, any private routes or points you may have stored will also be searched – but these would only show in search results for your account. Only the tags and description for a route will be searchable, you cannot search in the names of legs or node names. Only the tags, description and name for a point of interest will be searchable.

As with many search engines and other tools, you can use modifiers with your search commands to ensure accurate results, the following are supported:

- Double quotes for an entire phrase to be matched
- A minus (-) sign preceding a keyword to exclude results matching that keyword
- A plus (+) sign preceding a keyword to only show results which have that keyword

Common words which contribute no context (“and”, “or”, “to” etc) are not indexed, and only words of 3 or more characters are indexed.

Search results will be shown above where the keywords were entered. Where a result is shown, you can click on the name of the result to jump to the point of interest, or to the start of a route. Take care that if you jump to the start of a route and find it is not visible, then the data may still be loading or you may have the view filtered using the view options. See the view options section for more details.

Hovering over the name of a route search result will show additional details on the route, such as the length, ascent, descent and the description.

ORDNANCE SURVEY GAZETTEER AND TRIANGULATION PILLARS

Two databases have been provided by grough to help make using grough route easier.

A database of triangulation pillars in the UK, and their names as determined by Ordnance Survey have been added as points of interest. If you find any errors in the names given to these triangulation pillars, then please contact grough and we will rectify the problem. Additionally, if you find that any triangulation pillars have not been added as points of interest, then contact us and we will add them.

The Ordnance Survey 1:50,000 scale Gazetteer is an index of all the text describing distinctive locations that is shown on the 1:50,000 scale mapping – this is likely the best way to find hills, towns or features with unique names such as famous pot holes and caves.

USER PREFERENCES

Some aspects of the way grough route performs can be manipulated and defined using the user preferences. You can access this window by clicking ‘Options’ in the top right of the window. The preferences are split across multiple sub-pages, which are described below.

The options will be saved when you close the window, as well as recalculating any currently active routes or points of interest (for example, changing the units to miles from kilometres).

GENERAL OPTIONS

The main options to customise the way that data is displayed and formatted within grough route appear in this section. Additionally, here you can set criteria for the assistance that grough route provides in creating routes – such as automatic waypoint creation.

Hovering over any of the options with your mouse should display a detailed description of the field.

NOTE The general options apply globally across the application – for example the units or format for Ordnance Survey grid references will also apply to exported route cards from the application.

TERRAIN SPEEDS

A number of terrains are used within grough route to describe different legs and components of a route. This page allows you to set the speed at which you would be expected to travel on each of the terrains on flat. Please note that Naismith rules would be applied on top of these terrain speeds.

A default speed for when no terrain type has been defined can also be set.

NAISMITH RULES

A number of Naismith rules can be defined here, based on the number of minutes to add (or subtract, by using a negative number) for a certain amount of ascent or decent (by using a negative number) where the slope lies between two angles (the angles should always be positive).

The default settings for Naismith rules are taken from literature, and add time for ascent, subtract time for shallow descent and add time for steep descent.

Any number of rules can be entered, but the more rules need to be processed, the longer route calculations may take.

POINTS OF INTEREST

Points of interest work in a similar way to individual nodes on a route, but are a single entity in themselves that define a location and describe it. You can only work on a route or a point of interest at once, you cannot have any more than one item, or two items of a different type, open at the same time.

It is not possible to associate points of interest with a specific route; you should instead opt in favour of placing points of interest which are not specific to a route. If you wish to make notes about specific points on a route, or instructions which should be followed – then you should make use of the metadata properties available for route nodes.

ADDING A NEW POINT OF INTEREST

To add a new point of interest, you can select the *'Add new point of interest'* option, in the *'Point of Interest'* pane on the left-hand side of the application, or create a new point using the context menu for the map (usually brought up by right-clicking the map).

You can place a point of interest over the top of a node on a route, but please note the point of interest will always appear on top of the route detail – and it may be necessary to filter the view to remove points of interest if you then wish to work with the route underneath.

DETAILS AND DESCRIPTION

Before you're able to save a point of interest – you must give a point of interest tags and also a name. The description is optional.

Tags work in the same way as with routes (see the routes section for more detail), and should be a series of brief phrases or words that describe the point of interest. Tags

should be relevant to the point, and valid regardless of context (ie. should make no references to routes or personal matters, unless they are not shared).

In contrast to routes, points of interest also require a name. This is similar to assigning a name to a node on a route. The name for a point of interest should match the name of the feature which the point represents.

Take the following example, for **the summit of Ingleborough**, in the Yorkshire Dales:

- Name: Ingleborough
- Tags: Ingleborough
Summit
Triangulation Pillar
Yorkshire Three Peaks
Yorkshire Dales
- Description: The summit of Ingleborough, which is one of the Yorkshire Three Peaks. The summit is a plateau with a small shelter near the trig point.

The name, description and tags for points of interest are indexed and can be searched. See the section on searching for more details.

TYPES OF POINT OF INTEREST

Points of interest are shown on the map using a symbol, which varies depending on the type of point of interest. All point of interest symbols are shown as a black square, with a white border and a white symbol. The entire symbol is slightly transparent, allowing some detail below to be seen

A number of types and symbols exist, that should cover most situations – however, should you come across something you would like to add to the map that has no clear or obvious choice of symbol, then please contact the grough team and we may be able to add a new type.

USING POINTS OF INTEREST IN A ROUTE

While points of interest and routes are essentially separate entities – it is common that routes pass through points of interest. In this case, clicking on a point of interest when working with a route will add the point of interest to the route. The name of the point of interest will be added as the name of the node on the route, the node will be turned to a waypoint, and the tags for the point of interest will be added to the tags for the route (with some special exceptions to this rule, such as the tag ‘*Triangulation pillar*’).

No permanent link between the point of interest and the route is created in this situation – in case the route or point of interest is deleted at a later date. As such, any updates which are made to the point of interest will not be reflected automatically in the route.

TOOLS AND VIEW OPTIONS

While not part of the core functionality of grough route, a number of tools and options are provided to make working with grough route slightly easier.

TOOLS

TOOLS PANE

The tools pane in the left-hand side of the application allows you to show the positions under the mouse cursor, either as WGS84 latitude and longitude, or as a grid reference (Ordnance Survey National Grid, OSGB36). When first opened, these panes will display blank figures until the mouse is moved over the mouse area. The rate at which these fields update is dependent on the browser – moving the mouse fast may cause the updates to be temporarily suspended in some browsers.

While the position under the cursor may be shown to a high resolution (such as five decimal points in latitude or longitude, or to a metre in a grid reference) the mapping itself, and the conversions which are used internally mean that this is not dependable. Depending on the area of mapping and the current zoom level, one pixel of mapping may span more than a metre on land.

ROUTE LOCKING

When working with a route, editing can be temporarily locked to prevent changes such as extending the route with accidental clicks.

To lock a route, click the padlock on the map toolbar. A closed padlock button locks the route. An unclosed padlock unlocks the route.

In cases where you do not have permission to make changes to a route, the route locking button will ask you if you would like to create a copy of the route instead – which would then permit editing. In this case, the icon shown for the button will be a padlock with a line to represent breaking the lock.

The lock status is saved along with the route. If you attempt to make a change to a route which is locked, you will be presented with an option to unlock the route.

KEYBOARD SHORTCUTS

A number of keyboard shortcuts are provided to allow some operations to be performed easily. Different browsers handle keyboard shortcuts differently, and in some cases shortcuts such as Ctrl+S may not work as expected. Some operations have therefore been given alternative keyboard shortcuts.

Ctrl+S or <i>Ctrl+Alt+S</i>	Saves the currently loaded item (route or point of interest) to the servers.
Ctrl+W or <i>Ctrl+Alt+W</i>	Closes the currently loaded item (route or point of interest), and first prompts to save to the servers if necessary.
Ctrl+Q or <i>Ctrl+Alt+Q</i>	Zooms the map in one zoom level.
Ctrl+W or <i>Ctrl+Alt+W</i>	Zooms the map out one zoom level.
Ctrl+Alt+C	Toggles the route profile window.
Ctrl+Alt+T	Shows Ordnance Survey 1:25,000 scale mapping.

Ctrl+Alt+F	Shows Ordnance Survey 1:50,000 scale mapping.
Ctrl+Alt+O	Shows Ordnance Survey 1:250,000 scale mapping.
Ctrl+Alt+A	Shows aerial imagery.
Ctrl+Z	Undo the last action carried out.
Ctrl+Y	Redo the last action undone.

VIEW OPTIONS AND FILTERING

The view options and filtering of routes and points of interest is currently being changed. This section will be completed once the amendments are finalised.

DRAFT



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