



Panasonic CF-U1

TOUGHBOOK

Windows 7 desktop environment showing a GIS application. The application window has a title bar that reads "Carto.com 1288 (Carto) - TOUGHBOOK". The interface includes a menu bar (File, Edit, View, Layer, Settings, Plugins, Tools, Format, Database, Help, Help), a toolbar, and a main map area. The map shows a golf course with green and yellow overlays. A left sidebar contains a tree view with folders like "GPS Location" and "Carto.com 1288". A right sidebar shows a "Layers" panel with items like "Data Layer Line" and "Data Layer Point". The taskbar at the bottom shows the Start button and several application icons. The system tray on the right shows the date and time as "9:17 10/2/2013".

Full QWERTY keyboard with function keys (F1-F12), ESC, PgUp, Home, End, and other navigation keys. The keyboard is integrated into the bottom half of the device's bezel.

A helping hand

Golf Course Consultant Ian Phythian explains how a Geographic Information System (GIS) can assist many aspects of day to day greenkeeping, from irrigation to health and safety

Have you ever wondered where your drains, irrigation, utilities actually are? You should know their correct locations - virtually everything else at a golf club is documented so why not everything on and under the golf course itself?

When contractors have left your golf course has the work been accurately documented? Technology can be a huge turn-off for some but it can make a big difference at your club even with the minimum of time and effort.

There has never been a better time to use technology as a helping hand out on the course - and in any weather. GIS (Geographic Information System) is software that belongs out on the golf course where it matters. When set up correctly you will be amazed what can be achieved when combined with GPS (Ground Positioning System).

GPS uses satellite technology to fix a position anywhere on earth. There are many software systems for greenkeepers that help with many aspects of modern golf course management, but there are few



The Glamorganshire Golf Club

“GIS offers a central hub of golf course information that outlasts any greenkeeper or committee”

that focus in on the most important asset - the physical golf course.

What differs with GIS is when combined with a rugged GPS tablet it offers a true field-to-base solution for greenkeepers to tackle head on many problems and tasks out on the course. When it rains you go out with it and plot surface water GUR. When you install that drain or irrigation go out and get dirty with it and plot the trench. When you re-contour that cutting template go out and plot it because it now has a different area value! Ask your golf

club for any old paper maps, plans or data that can be imported into the GIS, turning paper to data.

There are many instances where GIS can be a very practical tool for the modern greenkeeper. What your golf club will like about GIS is that it offers them a central hub of golf course information that outlasts any greenkeeper or committee, therefore offering consistency for your golf club's sustainable future.

For example your trade contacts, course guide companies, drainage and construction contractors and architects may already be using

about the author



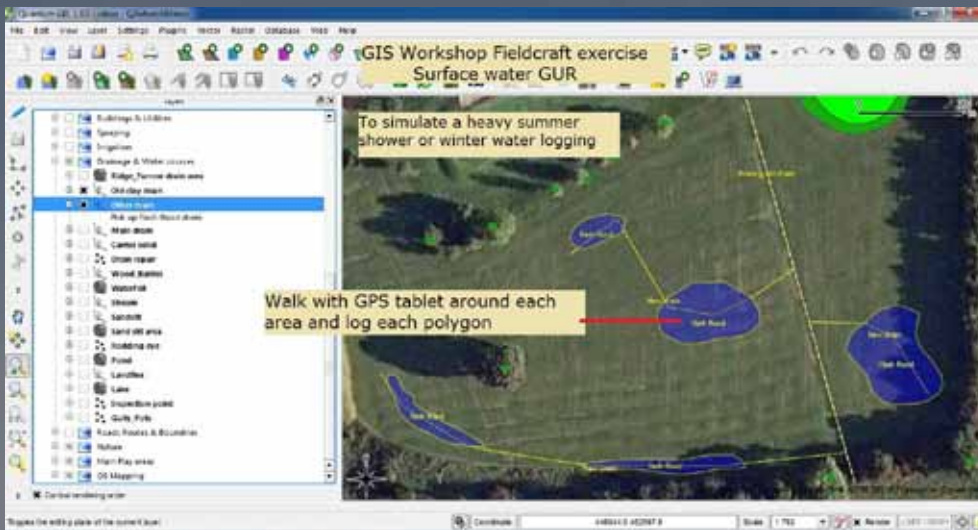
Ian Phythian has worked in greenkeeping for 15 years and golf course construction for five years. He has worked abroad as a greenkeeper and more recently has been involved in promoting awareness of GIS technology for the golf course industry.

For a free consultancy you can contact Ian Phythian golf course GIS Analyst on 01482 669913 or 07983 815671 gipsystem@gmail.com

GIS at Glamorganshire

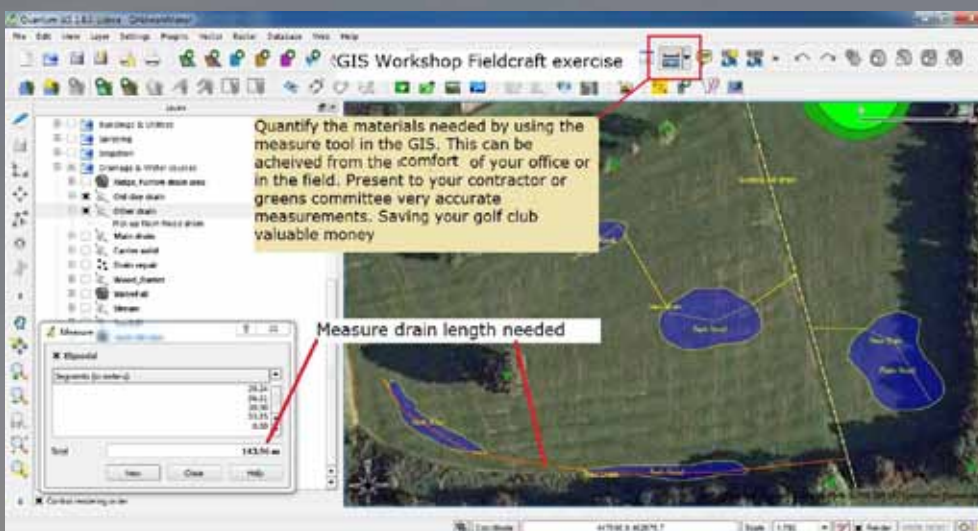
Following last year's heavy rainfall, The Glamorganshire Golf Club (above) explored GIS to help them document their course, and plan their extensive drainage extension and upgrade programme. Course Manager Mike Williams said:

“We began by installing the freeware system which mapped the contours of the course, and then approached a surveyor with this data to discuss the location of drainage solutions. We're likely to take it to the next stage which involves plotting drainage sites using

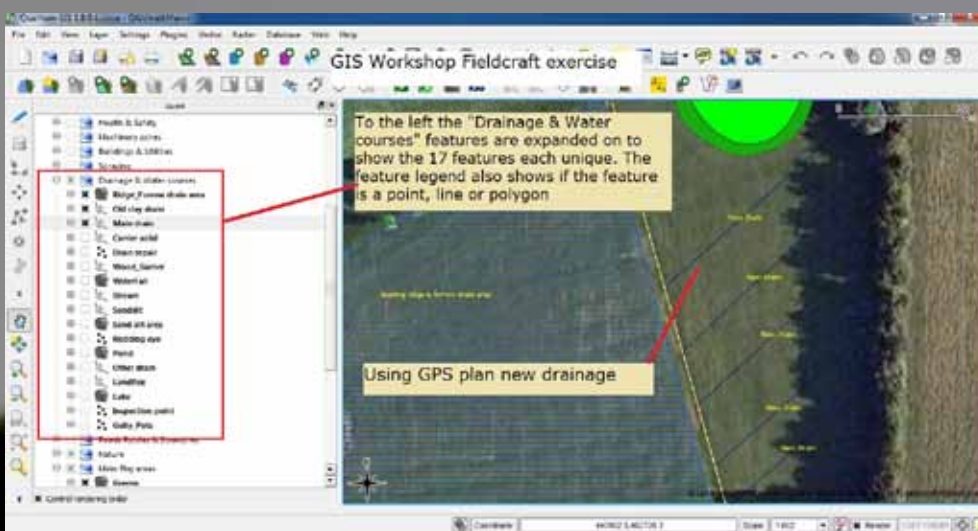


Find it –
 With 'GIS fieldcraft' you can log all the surface water in real time to all your cutting templates even the greens. You can even geo-tag the problem area with the built in cameras or your geo-tag function on your mobile phone. Either option will show the location of the image in your GIS. Saved as a layer in your GIS you have exposed and documented important intelligence of your golf course.

Measure it –
 You can use the measure function to accurately measure distance and area in metric.



Fix it -
 This will empower you to quantify materials and look at tapping into existing drainage nearby that is in the GIS for your team or a contractor to look at.



The GIS is very good at organising the various feature groups I like to call modules. I have named up to 25 other modules to cover every aspect of greenkeeping using GIS - importantly they are GPS active.

GIS and GPS and may welcome the opportunity to offer your golf club extra by sharing data - reading off the same hymn sheet if you like. This could open up all sorts of data transparency and sharing opportunities. This can only be beneficial for you and your golf club. The result - using GIS will equate to saved time and money in the future for your golf club. Here are some of the key benefits of GIS:

Adaptable

GIS can be set up for 9-45 holes.

Health & Safety

Locate all your risk assessment areas like using GIS to plot wet and dry routes for your machinery fleet.

Professionalism

Using GIS you have your golf course literally in your hand, take it to your meetings.

Accurate

Updated area values for all your cutting templates. *Geo tag* photographs (fixing the image to a location) then display them in their correct location on the GIS screen.

Output

Produce a detailed print out of your entire course. Useful for Golf club owners, secretaries, greens chairman, course managers, greenkeepers and trainees.

Do you have a course policy document?

Golf club officials are considering GIS as part of a course policy document so the GIS can be the central hub to all activities present and future regarding the golf course infrastructure and an archive source.

Smooth transition of office

Imagine your course manager leaves, if not documented much information about the course goes too. Using GIS this results in a smoother transition of office saving valuable time.

Central hub of information

Now is your chance to collect old paper to data maps, install them into the GIS system, and start to move forward with all the previous data viewable in one safe place! GIS will become your single most important data map over time.

Total field-to-base solution

Plot surface water, find it, log it, measure it, and drain it, save money.

Professional integrity

Accepts industry standard survey grade data. GIS has the integrity to handle your golf club's future.

Environmental benefits

We are experiencing frequent extremes in the weather. The golf course infrastructure is expected to cope at both ends of the spectrum. Irrigation needs to be documented for repairs and maintenance. Drainage needs to be located for maintenance and for adding new drainage too. GIS with GPS enables you to do this.

The Environment Agency have a DataShare scheme which is GIS friendly enabling you to access various datasets such as gas, water, electric grids and up to date flood risk areas for the whole of the UK.

This information could be critical for your golf club, especially if your location is near water.



Ordnance Survey Open Data free Mapping

Ordnance Survey Open Data is free of charge to order by post or to download from their website. This mapping data covers the UK and provides the background mapping layers including, every lake, stream, building, forest, road vector layers as well as the familiar OS street level maps in different scales.

Rob Andrews from Ordnance Survey said: "OS OpenData allows free access to a range of detailed Ordnance Survey datasets.

The accurate and up to date products provide an ideal mapping backdrop for users to plot additional features, including drains, greens, bunkers, tee positions and access points.

Through OS OpenData users can also access a new terrain dataset which accurately displays the 3D landscape of the land."

Quantum GIS

There are many GIS to choose from ranging from expensive professional systems to low cost and even 'freeware' systems that have the same professional integrity to accept survey grade data.

One such freeware is Quantum GIS.

With no download and licence issues to worry about this is the perfect introduction into GIS.

