

# CherSoft

**Henry**

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**COM Interface Documentation**

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**CherSoft Ltd  
The Point  
Rotherham S60 1BP  
[www.chersoft.co.uk](http://www.chersoft.co.uk)**

## **Amendment Control**

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## Henry COM Interface

Henry supports a number of COM interfaces that allow other applications to use Henry's functionality, for example:

- opening existing overlay and route documents
- reading information about individual overlay points, waypoints and route legs from these documents
- creating new overlay and route documents

A useful application for this can be importing routes into Henry from other sources (database, Excel spreadsheet etc.) We supply one such application with Henry – the Import / Export tool which allows you to extract and insert overlay data from/to Excel and csv files.

### Overview

To use the COM interface you start with an instance of the Application class. For example in C#:

```
Henry.Application henryApp = new Henry.ApplicationClass();
```

From this you can get to the sorts of objects you want to deal with. For example to get all the route documents currently open in Henry:

```
foreach (Route rt in henryApp.Routes)
{
    string title = rt.Name;
    // TODO - something interesting with this rt
}
```

Then for a particular route, you can find all the waypoints

```
foreach (Waypoint w in openRoute.Waypoints)
{
    double latitude = w.Latitude;
    double longitude = w.Longitude;
    // TODO - something interesting with this w
}
```

### Reference

#### Application

The starting point for using the COM interface is to create an instance of this class.

BoundaryDocuments	Returns a collection of open boundary documents.
Overlays	Returns a collection of overlay point documents.
Routes	Return a collection of open route documents
ShipDocuments	Returns a collection of open ship documents.
Visible	Show or hide the application

#### *Diagnostic methods*

CreateSupportMailMessage	Generate a support email to send to CherSoft
Comment	Obtain the version comments.
DongleState	Determine if a dongle is active or not.
ModuleDepenancies	Obtain a list of modile dependencies
RegistryEntries	Obtain a dump of the registry entries.

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## Base Classes

### IOlydoc

This class represents a Henry document. Its interface is used for every document type (boundary, overlay point, route and ship documents).

Activate	Activate the document window
Close	Close the document and optionally save changes
FullName	Obtain the full path of the document's file.
Name	Obtain the filename and extension of the document's file.
NewWindow	Create a new window of the document
Notes	Obtain or set document notes
Parent	Obtain the Henry application object
Path	Obtain the drive and directory containing the document's file.
Print	Print this document
Save	Save the overlay document
SaveAs	save the overlay document in a different file
Saved	Obtain flag indicating if the document has been saved
Title	Obtain the caption used for the document (without modifiers such as "[read only]", "*" or ":n").

### Point

This class is used to represent overlay points directly but is also the base class for boundary and ship objects.

Label	Obtain or set an label for this point.
Latitude	Obtain the latitude (WGS84, decimal degrees) of this point ( <i>centre of boundary</i> ).
Longitude	Obtain the longitude (WGS84, decimal degrees) of this point ( <i>centre of boundary</i> ).
ShortNote	Obtain or set a short note.
LongNote	Obtain or set a long note.
AllowDragging	Enable or disable dragging of this point with the mouse.
SetPosition	Set the latitude and longitude of this point. Should not use with boundary objects.

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### BoundaryDocuments

This class contains a collection of BoundaryDocument, i.e. all the boundary documents currently open in Henry. You get an instance of this class from the Application object.

Item	Get a specific boundary document.
Count	Obtain the number of boundary documents in the collection.
Parent	The Henry application instance.
Add	Create a new boundary document.
Close	Close all boundary documents.
Open	Open a boundary document.

### BoundaryDocument

A boundary document can contain several Boundary objects. Derives from IOlyDoc.

Boundaries	Obtain the collection of boundaries.
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### Boundaries

A collection of Boundary objects.

Item	Get a specific Boundary from the collection.
Count	Obtain the number of items in the collection.
Add	Add a new Boundary to the collection.

### Boundary

Derives from the Point class. The point defined by the class is the centre point.

Vertices	Obtain the Vertices collection.
BoundaryType	Obtain the boundary edge type (great circle or rhumb).
Change	Modify the vertices and boundary type.

*You should not use the Point base class method SetPosition on objects of this type.*

### Vertices

A collection of Vertex instances that define a Boundary.

Item	Get a specific vertex from the collection.
Count	Obtain the number of items in the collection.
Add	Add a new Vertex to the collection.

### Vertex

Represents a single node of a Boundary. This class is slightly complicated by the fact that boundary edges can be great circle or rhumb. When the edge is great circle, the IsArc property is true and the ThirdPointOnArcLat and ThirdPointOnArcLon properties can be used to determine a third point the edge from this point passes through.

Latitude	Obtain or set
Longitude	Obtain or set
IsArc	Obtain or set
ThirdPointOnArcLat	Obtain or set
ThirdPointOnArcLon	Obtain or set

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## Overlays

A collection of the Overlay point documents currently open in Henry. You get an instance of this class from the Application object.

Item	Get a specific overlay point document.
Count	Obtain the number of overlay point documents in the collection.
Parent	The Henry application instance.
Add	Create a new overlay point document.
Close	Close all overlay point documents.
Open	Open a specific overlay point document.

## Overlay

This class represents a document containing overlay points. Derives from IOlyDoc.

Points	Return a collection of all the overlay points in the document
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## Points

Item	Get a specific overlay point from the collection.
Count	Obtain the number of items in the collection.
Add	Add a new overlay point to the collection.

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### Routes

A collection of the route documents currently open in Henry. You get an instance of this class from the Application object.

Item	Get a specific route document.
Count	Obtain the number of route documents in the collection.
Parent	The Henry application instance.
Add	Create a new route document.
Close	Close all route documents.
Open	Open a specific route document.

### Route

A route overlay document. Unlike the other document types, a route document can contain only one route. Derives from IOlyDoc.

BatchMode	Flag to allow lots of waypoints to be added efficiently.
Reverse	Change the direction of the route so that the end waypoint becomes the start.
Routelegs	Returns a collection of route legs the route contains
RoutelegWidth	Obtain or set the width of the route legs.
Waypoints	Returns a collection of the waypoints the route contains

### RouteLegs

A read only collection of RouteLeg instances. To create more route legs, you of course need to add more waypoints to the route.

Item	Get a specific route leg.
Count	Obtain the number of route legs in the collection.

### RouteLeg

Type	Obtain or set the route leg line type (great circle or rhumb)
Length	Obtain the distance in nautical miles
InitalBrg	Obtain the true bearing at the leg's start point
FinalBrg	Obtain the true bearing at the leg's end point
StartWaypt	obtain the starting waypoint
EndWaypt	obtain the end waypoint

### Waypoints

A collection of Waypoint instances within a route document.

Item	Get a specific waypoint
Count	Obtain the number of waypoints in the collection.
Add	Add a new waypoint to the collection.

### Waypoint

Derives from the Point class.

PreviousLeg	Obtain the route leg leading to this waypoint
NextLeg	Obtain the route leg leading away from this waypoint
RouteID	The id of the route this waypoint belongs to

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### ShipDocuments

Class containing a collection of ShipDocument, i.e. all the ship documents currently open in Henry.

Item	Get a specific ship document.
Count	Obtain the number of ship documents in the collection.
Parent	The Henry application instance.
Add	Create a new ship document.
Close	Close all ship documents.
Open	Open a ship document.

### ShipDocument

This class represents a single ship document in Henry. A ship document can contain several ships. Derives from IOlyDoc.

Ships	Obtain the collection of ships within the document.
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### Ships

Collection of Ship instances within a single ShipDocument

Item	Get a specific ship from the collection.
Count	Obtain the number of ships in the collection.
Add	Create a new ship.

### Ship

Derives from the Point class.

Beam	Obtain or set (metres).
Course	Obtain the ship's true course over the ground in degrees.
DistFromBow	Obtain or set the distance from conning position to bow (metres).
DistFromMidline	Obtain or set the distance from the conning position to the midline (metres, positive value for starboard, negative for port).
Draught	Obtain or set (metres).
Heading	Obtain or set the true heading in degrees.
Length	Obtain or set (metres).
OwnShip	obtain or set the flag to indicate if this is the "own ship"
PositionLastUpdated	Obtain the last time the position was updated.
SetVelocity	Set true course (degrees) and speed (knots) over the ground.
Speed	Obtain the ship's speed in knots.

Additional Ship properties to support C-Sat

DNID	
Email	
Inmarsat	
MemberID	(1 to 256)

### OwnShipState

A short cut class to make creating an email message about an own ship's state easier. It has just one method.

SendMail	Send an email to a specific address containing details about a ship's position, velocity etc.
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