

SkyDemon VFR for the iPad

Steve Copeland is highly impressed by SkyDemon's flight planning and navigation app

It does not seem long ago that I was using a Garmin 96XL GPS with its simple display and small screen. Over time we saw the 196 followed by 296, 496 and even the current 7 series and the touch screen navigators. In less than a decade we have probably seen more navigation tools as aviators than we have done in the previous fifty years.

These days pilots are looking at leveraging technology, the holy grail being a device that gives us everything from email and movies to flight planning and navigation in a single package. The arrival of the Apple iPad has the potential of delivering this holy grail and aviation software developers have been quick to embrace the platform, developing a plethora of applications that give us the desired pre flight planning, weather briefings, PLOGS, weight and balance – the list just keeps going. So it was inevitable we would see navigation applications being built as well. This brings me to my point eventually, a review of the latest application to hit an Apple touch screen near you, SkyDemon VFR.

SkyDemon as an application has been with us for a while in the guise initially of a PC-based application and then as slightly cut down web-based flight planning tool. Moving it to the iPad has allowed the creators not only to provide flight planning but to also make use of the iPad's built-in GPS (or an externally connected unit) to both plan and execute the flight.

This is something they seem to have managed with impressive

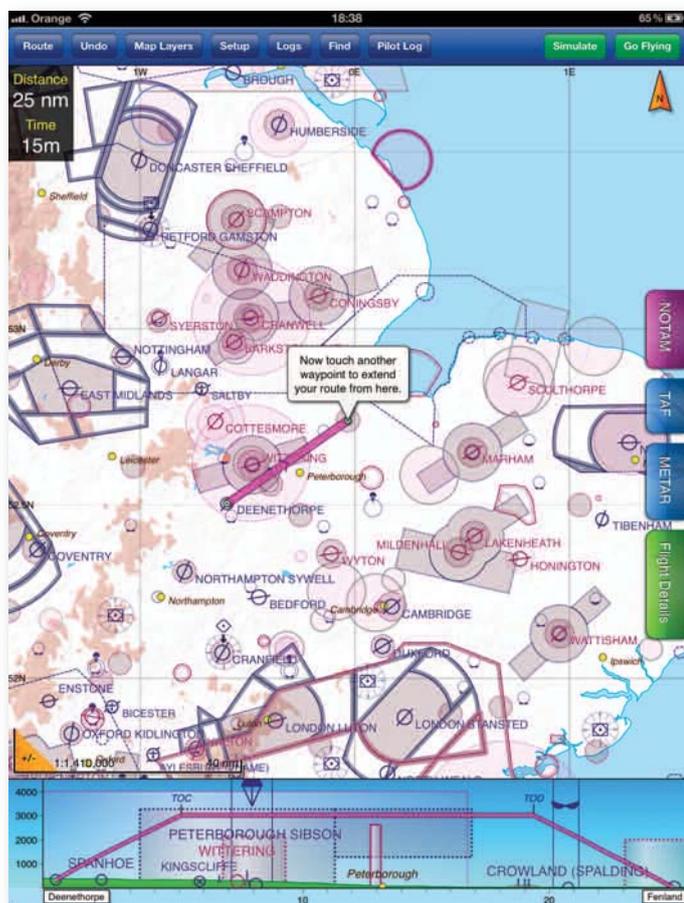
results. Being an ardent Apple OS X user I had never experienced the PC version of SkyDemon, so I came to the iPad version with no preconceptions.

Opening the app first time you encounter a slight hurdle in that you need to have created a user ID and password on the website in order to use the app. This was not the most intuitive process but with a little help from the author I managed to sign up for a trial account and get the application to launch. On opening you are presented with a very sleek interface – in fact I would probably steal an Apple term and call it gorgeous. The main screen has a map depiction which I discovered can be configured to display in a number of formats including standard UK CAA format and SkyDemon's own layout. Along the bottom of the screen is a profile view and along the right are a number of simple tabs that cleverly give access to NOTAM, TAF, METAR and Flight Details.

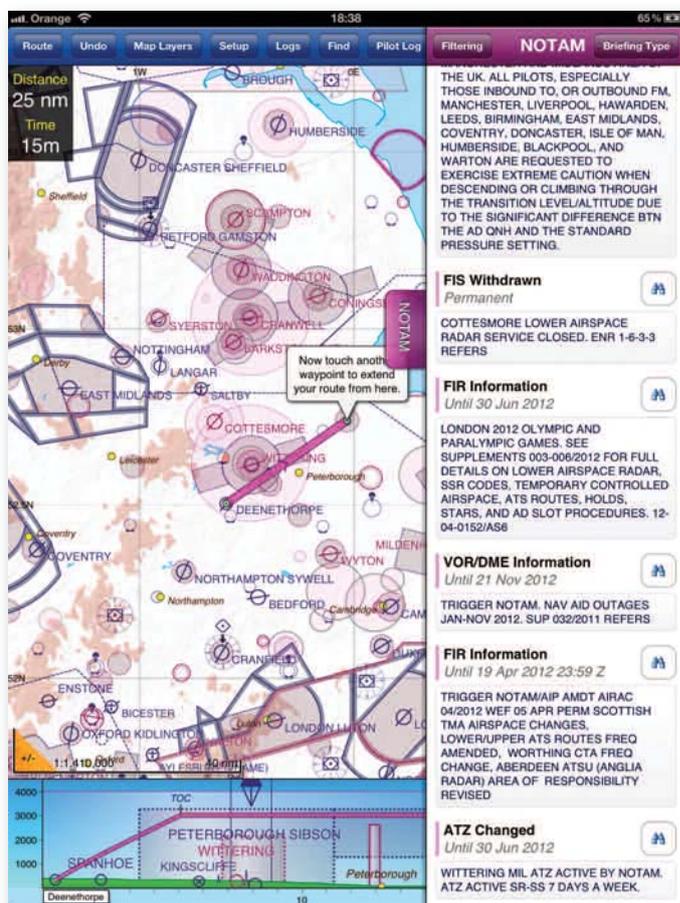
Creating a route can be achieved either by clicking on the route tab and entering the desired waypoints in a list or by touching a start point and then tapping and 'rubber banding' to add chosen waypoints. You can also use a combination of both methods to create and amend the route. This is an amazingly simple method of entering and manipulating the route data and makes great use of the iPad's interface. It took me a couple of minutes to create a route from my home base to Le Touquet, running through the corridor between Luton and Stansted, over Brookmans Park and Lambourne and down through Lyd. Choosing waypoints from the database is simple; you can use the ICAO code or a just type the name. SkyDemon had no problem in finding any of the waypoints I needed nor inserting the turn points I needed in rubber band mode.

Once the route is created you can review it on the Pilot Log tab

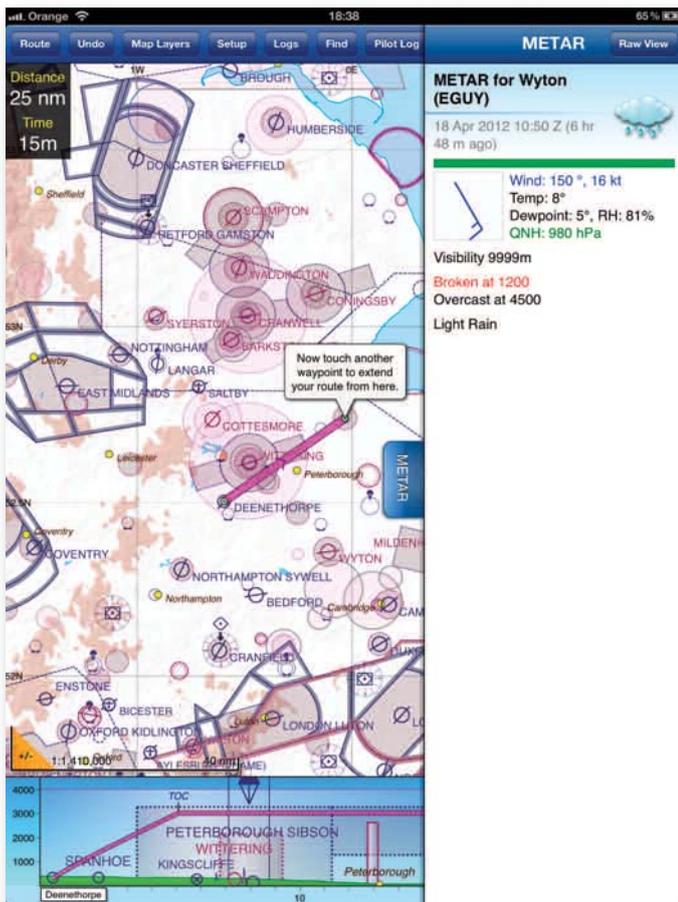
Route is laid out as a magenta line with time and distance windows



Comprehensive NOTAMs appear down the side of the chart



TAFs and METARs are available at the push of a button



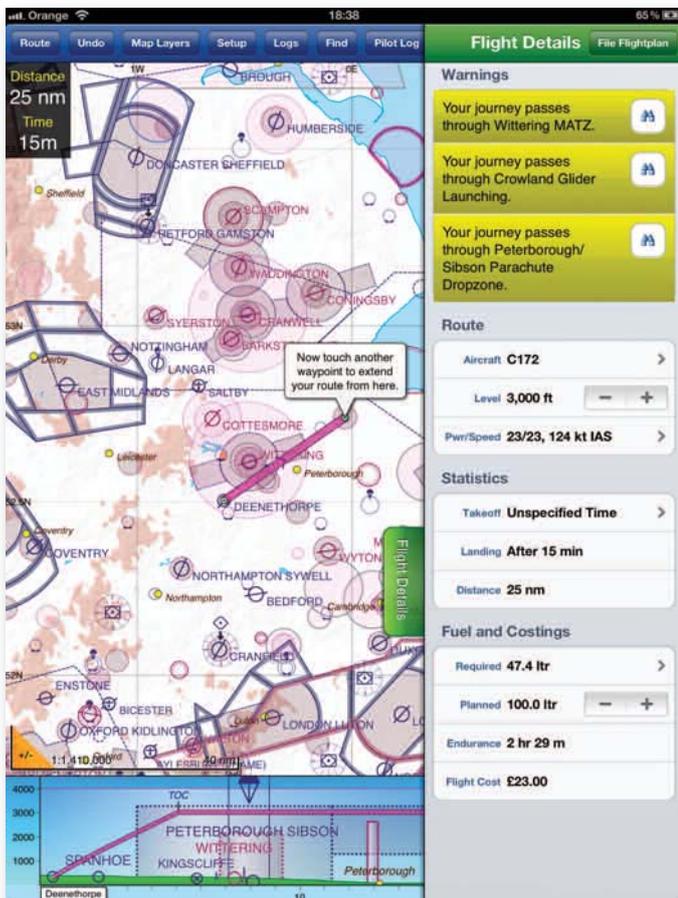
which gives a table with each leg including length, time, MSA etc and totals for the entire route. Listed below this is a 'smart' sheet of all of the frequencies that the application thinks you may encounter on the trip.

Returning to the main navigation screen, the route is laid out on the map as a magenta line with the planned time and distance up on the top left. Returning to the tabs mentioned earlier, clicking on the NOTAM, TAF or METAR tabs now presents you with all the latest weather and NOTAM along the planned route and the flight tab gives you warning on airspace and terrain along the planned route. This tab also gives you access to the aircraft details section where you can create a comprehensive profile for the aircraft that you are using including speeds, fuel flows, service ceilings etc. This data is used in both the planning section for the PLOG and the Flight Plan Filing section. With the advance purchase (via the website again) you are able to purchase flight plan filing credits and actually file your flight plan from within the application. This is unfortunately limited to VFR flight plans at the moment, but nonetheless is a very handy feature allowing you to create and file a complete plan from pretty much anywhere. iPad owners with the 3G/4G units can easily create and file a plan while sitting in the aircraft.

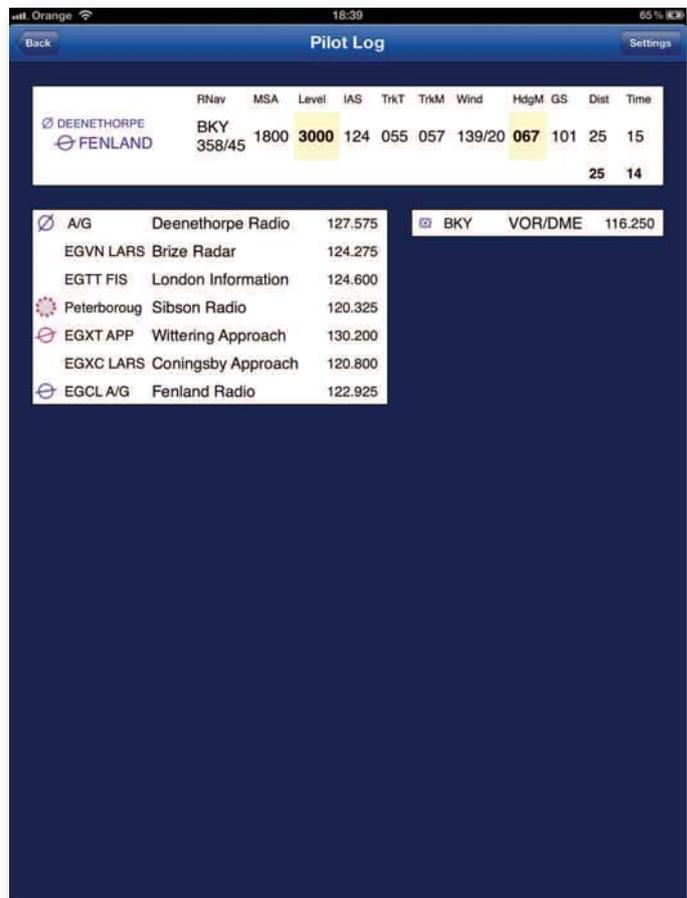
Once all the planning is complete you have the opportunity to simulate the flight. This gives you all the speed, height track etc data as if you were actually flying and also gives all of the airspace and terrain warnings. This is a really handy way to familiarise yourself with the interface and as a sanity check to make sure your plan does not infringe airspace etc.

Now it could all end here unless you have opted for the navigation upgrade pack which is chargeable and again available only via the website. This upgrade option then takes the application from a planning tool to a fully fledged in-flight navigator. Clicking on the 'go flying' tab positions the little on-screen aircraft to your current position and displays distance, bearing, speed and ETA to your next waypoint. As you approach

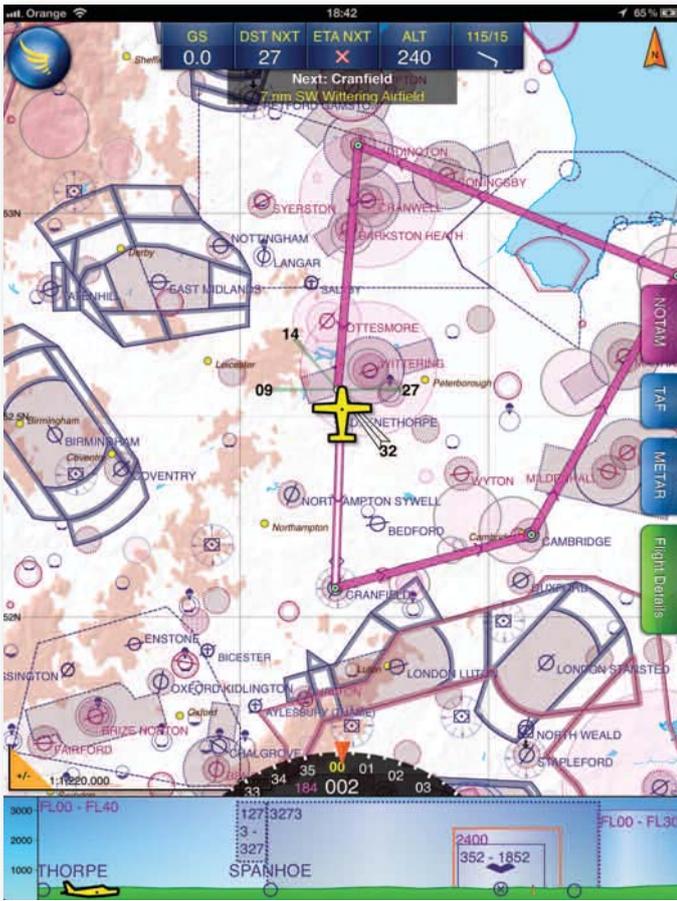
Available data includes fuel consumption and cost of flight



Smart sheet lists all the frequencies it thinks you might need



Usefully, the app gives you the opportunity to simulate the flight



airspace, danger areas etc. a pop-up warning appears on the screen which can be dismissed easily with a tap on the tab. In the top left of the screen is also a SkyDemon custom button. Tapping on this gives you access to the PLOG, en-route frequencies page as well as the 'stop navigation' option and the flight planning page. A handy DI display is shown at the bottom of the map screen with a heading bug to show you the desired heading. This is a nice touch that helps you fly more accurately than just trying to follow the magenta line.

There are a multitude of other configuration options available to fully customise the interface to the individual needs. I could write pages on what each of these do that would read like an instruction manual. Suffice it to say that it seemed to cover pretty much everything you could think of!

So moving on to the important question, what's it actually like to use in the aircraft? The biggest hurdle I encountered was actually finding somewhere to mount the iPad and see the display. I tried it on my lap and on the seat next to me before finally settling for a ram mount and sticking it to the windscreen. This allowed me to mount it out of the way of the primary instruments but still see it clearly. Power was also an issue as with the internal GPS running all the time the battery life became a real concern. I found a fully charged iPad would do around 3hrs with the GPS and screen on full-time. Not bad but not ideal. A 24v cigar charger solved this problem. I used the unit in my Cessna and in one of my twin turboprop work aircraft and with the unit mounted on the ram mount had no issues with GPS signal or visibility. I would however think that someone with a low wing bubble type canopy is going to struggle to see the display. One of the iPads failings is its ability to be read easily in direct sunlight.

I did not have any issues with GPS signal loss on any of the flights that I did during testing and used both the internal GPS and an external Bluetooth unit.

In flight the large iPad display and the well designed

SkyDemon interface are a joy to use. The display is simple and clear with little clutter and easy to access data. The airspace and other warnings were given in plenty of time even at turboprop speeds and appeared to work without problem.

Overall I found the application a real joy to use. It is well thought out and clearly the designer's flying experience has helped him to understand the needs of his target audience. Of particular note is the company's impressive customer support. This is not only provided by normal means but via a flying forum. I asked a lot of questions at very odd times and the response was always helpful and often almost instantaneous. What I also found most surprising and refreshing was the author's willingness to listen to the suggestions of the users and make changes rapidly. My own suggestion of including totals on the PLOG page was incorporated within days. Something the competitors could learn a lesson from!

I do have a few minor gripes, firstly on pricing; the initial purchase of the app is quite high and made higher by the addition of the navigation module. The price point does not seem to deter most buyers but I do wonder if it might not hook more if it was cheaper. Secondly, the need to visit the website to create an account or to add services rather than in app configuration and purchase seems to be very counter-intuitive for an iPad app, especially when the website is not one of the easiest to navigate that I have visited! Finally whilst this is a VFR app, it does have the ability to put in IFR waypoints and this is something I do even when on an IFR airways flight, so having the ability to file an IFR flight plan well is a must!

Gripes aside, my overall impression of the application is that it is well designed, easy to use has a stunning interface truly leveraging the most from the iPad's design. I think it is a natural addition to the iPad owning pilots toolbox. With current pricing SkyDemon may struggle to attract the users of other aviation GPS units into the camp, but who knows! ■

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