

How does it work ?

It is a simple script which reads the information from the VATSIM servers, figures out where the nearest airport is and how far you are from it, and how fast you are currently travelling.

If these are within limits (currently < 2km from the airport and < 20kts) then it decides you have landed, and displays a code like the one below which are sent to the organiser.

1497648.PAULROBSONEGSV.EGGW.0930.131854.982

This contains the basic information, separated by full stops. The VATSIM ID Number, Name, the Airport landed at (Luton) the Time 13:18:54Z on 30/09. The last digit is a check so that it is not possible to simply change the time.

If you are moving too quickly or too far from the airport then it displays a warning message explaining the shortfall.

The basic idea is that two entries should be recorded for each leg ; the first just before taking off and the second just after landing.

The VATSIM data is updated every 15s so this is an error of +/- 7.5s or +/- 15s for the pair.

As with FSEconomy it measures point to point in practice, not how you get there. For example, one way to get to zero knts at the airport very quickly is to simply smash the plane into the middle of the runway. VATSIM does not detect this, other than by continuous monitoring of the flight which isn't practical.

There is a database of about 4,400 airports which may not include all of those in the competition, especially small airports, and those that are there need to be checked for accuracy, which can be done directly or using Google maps.

Issues regarding the race

As it is a script it can be decoded and fake results put in. I can obfuscate the code to hide it, but if someone is sufficiently determined they can cheat. Even with a Windows logger you can still cheat if you want to ; you could write your own SimConnect.Dll and feed the logger anything you like.

I think we can accept the basic honesty of club members ; the club is more friendly than competitive (e.g. there are very low requirements for flying to remain a member).

It is also possible to manipulate the simulator itself, by simply moving the aircraft to where you want to go, which is pretty trivial in X-Plane. One could monitor the whole flight, and I did consider a central monitoring model – I run a script on a PC which tracks any flights by a member on VATSIM over the period, but this is simpler.

Safety issues

People have raised the issue of safety. It would be possible, for example, to write a script which scans someone's documents looking for anything interesting and emails them to me.

This would normally be dealt with by open sourcing the code so anyone can see it. It actually is, but nobody knows it's there. The problem with making it open to everyone is that if you get the code you know how to cheat the system.

One way to set someone's mind at rest would be for someone else to read through the code (there's not a lot of it), there are several developers one of whom could read it to check it does only what it says it does.

It is not a virus risk per se because it is a Python script, not an executable, which also makes it portable, and it doesn't rely on the simulator at all, it will work on anything that connects to VATSIM.

Testing

At the time of writing this hasn't been tested on Windows, but it will be and there's no reason why it shouldn't work identically.

The only prerequisite is Python 3, which is a well known and established scripting language and is available from here <https://www.python.org/> and is available for all platforms. No technical knowledge is required.

The code and source is stored here <https://github.com/paulscottrobson/cix-logger/>, the files can be downloaded by clicking on the code button but the only one actually required is cixlogger.pyz, the rest is source or notes.

The program can be run from a Command prompt by going to the directory and running `python cixlogger.pyz 123456` in the window where 123456 is the user ID (anyone can access anyone's flight data if they know their user ID).

This is slightly fiddly compared to a GUI app but that brings different complications. I will write a better set of instructions if this is used.

The best place I've found to test it is <https://vau.aero/fsmap/?osm> because clicking on the aircraft icon gives you the Vatsim ID in the top right. Most other VATSIM Maps do not.

General Testing

The best way to test it would be by doing a dummy run on a Tuesday night (or any other), people getting set up over Teamspeak if they need assistance, and recording before taxi and after parking times and sending them (probably to me !) just so I can check it works.

Paul Robson

30 September 2021