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Contact: Dr Martin Schweiger
Department of Computer Science
University College London
London WC1E 6BT, UK
www.cs.ucl.ac.uk/people/M.Schweiger.html
orbit.medphys.ucl.ac.uk

London, 8 June 2010 – Orbiter 2010 Space Flight Simulator released

Orbiter Space Flight Simulator, 2010 Edition has been released to the public today. Orbiter enables users to experience the challenges and views of space flight in real time from a pilot's perspective. Orbiter aims at both realism and immersion, and demonstrates that even complex physical concepts can be fun to learn.

During the nearly four years of development since the previous release, a range of features have been introduced to make the space flight experience for users even more exciting.

Among the new features in Orbiter's physics engine are two new atmosphere models for Earth, replacing the limited model of the 2006 Edition. The new models extend to significantly higher altitudes of 2500 km. Micro-drag for objects in low Earth orbit is now much more realistic and adds new challenges to maintaining orbit stability.

Support for simulating planetary axis precession has been added. This feature allows precise modelling of planet orientations over longer time ranges without the need for modifying configuration data, and improves the accuracy of recreating historic missions. The ability to simulate solar radiation pressure effects not only adds more realism by adding an additional source of orbit perturbations, but also opens the way to experimenting with solar sails as a futuristic propulsion method.

Among the improvements of the graphics engine is the ability of rendering planetary surfaces at much higher resolution, making the views in low orbit even more spectacular. An extensive reworking of Orbiter's render engine now allows the connection of external graphics engines to the core simulator, paving the way for new effects like terrain modelling or self-shadowing. Several open-source Orbiter external graphics engines are now in development, including OpenGL and DirectX 9 implementations. It is also now possible to run the Orbiter core in a pure server mode without any graphics client attached.

Orbiter now supports an embedded scripting system which can be used for a multitude of tasks – from fast definition of new spacecraft and instruments, to implementation of autopilots and feedback systems, and interactive tutorials and challenges.

Orbiter is free for personal and non-commercial use and can be downloaded from orbit.medphys.ucl.ac.uk. In addition to the core simulator software, users have a choice of hundreds of add-ons created by members of the growing community, ranging from historic Apollo and Space Shuttle missions to futuristic space plane concepts, new instrumentation and tutorials.