

Open 3D Projects

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Abstract: *Many professionals and 3D artists consider Blender as being the best open source solution for 3D computer graphics. The main features are related to modeling, rendering, shading, imaging, compositing, animation, physics and particles and realtime 3D/game creation.*

Keywords: *3D computer graphics, open source*

1. Introduction

Blender Institute is located in Amsterdam, the Netherlands. Open Projects are created by using 100% open source or free software and “the end result will be published under an open license, free for everyone to re-distribute, re-use or publish. Typically we'll use the Creative Commons (attribute) license for it”.

The institute primary goal is to “coordinate and facilitate Open Projects related to 3D movies, games or visual effects”.

The main studio room is fully equipped for the projects in the 3D field, like movies, games and visual effects (Figure 1).



Figure 1 – The studio room

The Open Project business model consists of four dissimilar components, like described in Figure 2.

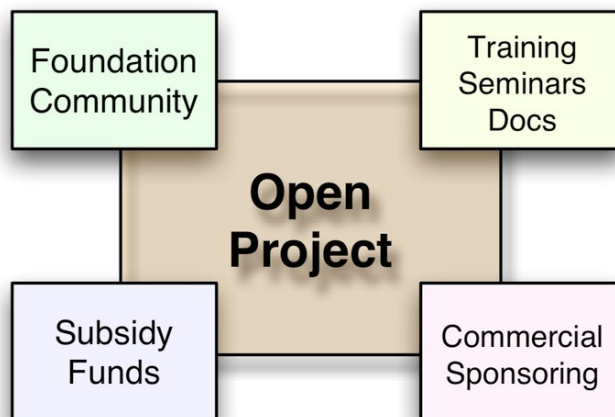


Figure 2 - Open Project business model

The four financing components are the following:

- commercial sponsoring – is coming from companies that have benefits by using the free content;
- education – trainings, workshops, seminars, books and documents
- subsidy funds – are recompensing the public benefits coming from institute projects
- own funding – used to finance in advance the current projects

The same resources can be shared by multiple projects, as presented into the Figure 3.

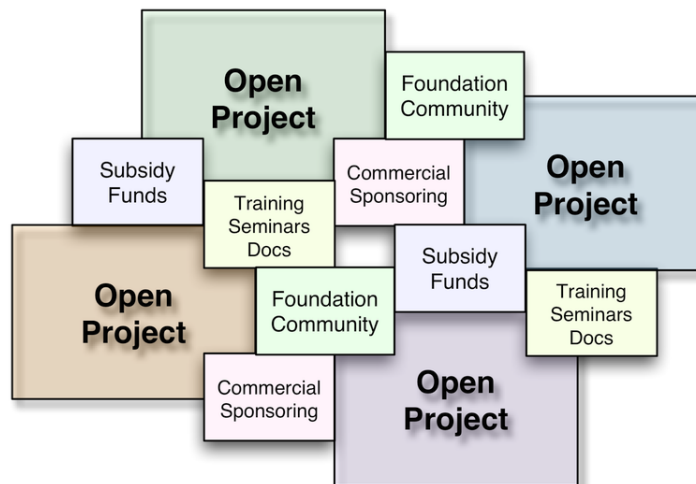


Figure 3 – The resource sharing

The own part funding of the Blender Institute is actually coming from the Blender Foundation, a non-profit organization that aims to “give the worldwide Internet community access to 3D technology in general, with Blender as a core” and to “maintain and improve the current Blender product via a public accessible source code system under the GNU GPL

license”.

2. Open Source Projects

The main open source projects are described below. They were created with the aim of “validate and improve the 3D open source content creation pipeline with Blender”.

- *The Elephants Dream* is the first open project developed by the Blender Institute. It is actually a movie about two characters exploring the surrounding world composed by machines
- The second open movie was called *Big Buck Bunny (Figure 4)*, started in October 2007 and released on April 2008. It is about “a giant rabbit finds his happy sunny morning walk being disturbed by three rascal rodents. In a comical grand finale he gets even with them.”.
- *Frankie!* is an Open Game launched on September 2008 where “the player controls evil rodent Frankie, who explores the forest seeking for other animals to harass.”
- *Durian* is another Blender open movie project that will be released in 2010.
- *Blender* is a powerful open source tool to be used for 3D graphics. The main Blender features are related to the following areas:
 - Animation
 - Rigging
 - UV unwrapping
 - Physics and particles
 - Modeling
 - Rendering
 - Shading

- Imaging and compositing
- Realtime 3D/Game creation (Figure 5)



Figure 4 – Big Buck Bunny, screenshot

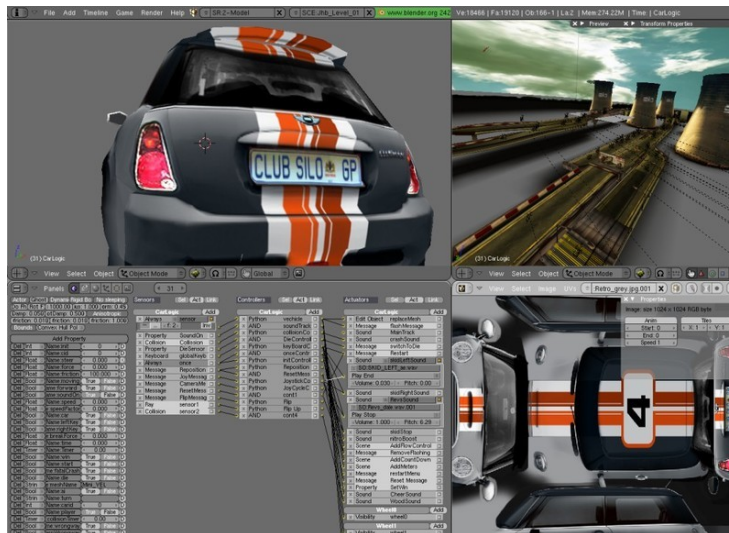


Figure 5 – The Game Creation Engine

Conclusions

Free software describes the need of software freedom for the computer users. The term evolved lately to the open source concept of today that is intensively used in many fields including the 3D computer graphics.

Blender is a powerful tool dedicated to 3D graphics (images, movies, games). It is competing on the same market with some well know and used applications, like Autodesk 3ds Max, Maxon Cinema 4D, Carrara, Softimage XSI Foundation and Autodesk Maya.

Many market studies are actually indicating Blender as being "the best free all around solution".

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