



1.1.0

Documentation
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I. WHAT IS GEAR ?

a. Presentation

GEAR is an open source project to provide a complete and production quality tool set for rigging and animation inside Autodesk Softimage. It includes a lot of tools to ease the rigging and animation process.

The main focus on this first version is the rigging part. We wanted to be able to create and maintain production quality rigs easily. A couple of tools also been created to ease the rigging process, helping the manipulation of envelopes, shapes, weightmaps...

Anyone should be able to built custom rig using GEAR. It has been designed to be flexible and easy to use. Even non-riggers can create advanced rigging and animate them easily. But the system is also open to further development so TDs can create their own components and use them inside of the GEAR Rigging System. Also everything is accessible through scripting with a complete API to automate as much as possible.

b. Historic

GEAR is the mix of different experiences with different rigging and animation tool sets. It took its main source from **gRig 1.0**, a rigging system and rigging tool set for Softimage developed by Jeremie Passerin but we should also mention some other that were an inspiration. **D2S_biped** (developed by Benjamin Malartre and Jeremie Passerin for **Def2Shoot**), **PkRigMachine** (developed by Halim Negadi, Cyril Cosenza, Sylvain Audi and Jeremie Passerin for **Pumpkin3D**), **RigSetup** (developed by Josh Murtack and Aloys Baillet for **Animal Logic**).

Thanks to all the people who directly or indirectly contribute to this project. We always forget people when making a list but I'll try anyway. Sorry for the missing ones.

Thanks to the riggers and developers for the good tips, the great discussions that result in a lot of exiting ideas (Alphabetic order) :

Sylvain Audi, Aloys Baillet, Chris Breitling, Miquel Campos, Cyril Cosenza, Christopher Crouzet, Raffaele Fragapane, Cyril Gibault, Nicolas Langlois-Demers, Benjamin Malartre, Josh Murtack, Halim Negadi, Catalin 'Nick' Niculescu, Christophe Petit, Jo Plaete, Helge Mathee, Rémi Munier, Tek2Shoot (Steph, Greg, Nico and Seb), Adam Ryan, Kai Wolter.

Thanks to the animators because we share the same passion and they always push the quality higher (Alphabetic order again) :

Llorenç Borràs, Vincent Caudeville, Florent de la Taille, Jonathan Delval, Jerome Duraud, Fabrice Joubert, Mathieu Ménard, François-Xavier Nhieu, Yohann 'Yop' Pelladeau, Thomas Price.

And of course thanks to Studio Nest who supported me and allowed me to make this project open source.

c. What's new ?

Everything ! It's the first release of the tool set ! But to do a quick overview of the features inside this version there is :

- *GEAR Python Libraries*: A library of methods to ease the scripting of rigging task inside Softimage.
- *GEAR Icon*: A library of rigging icons (curve based).
- *GEAR PSet*: A persistent and customizable property. Custom layout, and custom logic.

- *GEAR CurveTools* : A tool set to edit, create and manipulate curve.
- *GEAR Rigging Tools* : A tool set for riggers.
- *GEAR Solvers* : A set of rigging solvers.
- *GEAR Rigging System* : A complete modular rigging system.
- *GEAR Envelope Tools* : A tool set to edit and manipulate envelope.
- *GEAR Shape Tools* : A tool set to edit and manipulate shape.
- *GEAR Modeling Tools* : A tool set to edit and manipulate geometry.
- *GEAR Weightmap Tools* : A tool set to edit and manipulate weightmap.
- *GEAR Synoptic* : A dynamic animation UI to manipulate the rigs.
- *GEAR Mirror* : A plugin to quickly mirror pose and animation.
- *GEAR I/O* : A Xml Importer / Exporter.

d. And what is next ?

In the huge list of tools still to develop for animation and rigging pipeline using Softimage, here are some that we'd like to focus on first :

- *Animation Library* - To manage pose and animation, with preview, tags, descriptions...
- *Selection library* - To manage selection set.
- *Retimer* - To easily retime animation.
- *Interpolate* - To create interpolation of animation.
- *More components* - Especially for facial rigs.
- *Muscle system*
- *XML I/O* - The current version is incomplete and with a little effort we could export anything in xml from Softimage.
- ...

e. More documentation

The release notes and the command listing are now available online :

<http://gear.jeremiepasserin.com/documentation.html>

We also invite you to have a look at the vimeo channel for GEAR.

GEAR Channel : <http://vimeo.com/channels/geartoolset>

Also the API has its own documentation generated with doxygen. This documentation should be available in the package of GEAR you have downloaded.

f. License

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II. INSTALLATION

Python makes it so easy to develop today that we can not live without it anymore. So yes, GEAR is 95% Python, with just a little touch of C++ or JScript for solvers.

a. Do you have everything ?

Inside the zip file *gear1.0.0.zip* you should have 1 folder and one addon :

modules - The python libraries

addon - The Softimage addon to get all the plugins.

b. Install GEAR's Python libraries

In order to make GEAR work, you need to have Python installed on your computer. To see how to install Python for Softimage, please refer to the Softimage wiki if you don't know how to do that.

[Python \(XSISDK\) - XSI-Wiki](#)

Once Python is working on your machine you will need to install GEAR's Python libraries before installing the addon.

There is many ways to do that but here is one that we think is the easiest. You add the path to your modules to the PYTHONPATH environment variable.

The following explanation is for Windows. We assume that Linux users have some sufficient technical knowledge to understand how to install Python Libraries.

On Windows, go to the *system properties* panel, click the Environment Variables button and add to the variable PYTHONPATH (or create it if it doesn't exist yet), the path to the *modules* folder. Use semi-colon ';' to separate the different paths if you have more than one.

Sometimes on Windows, changing an environment variable might require to reboot your machine.

Test that GEAR's Python Libraries are installed.

To make sure you have properly installed the libraries, just go inside the Script Editor and type :

```
import gear
gear.logInfos()

##
# GEAR version : [1, 0, 0]
```

With all that done, you can now install the addon.

c. Install GEAR's Addon

The addon can just be drag n' dropped inside Softimage or copy it into one of your workgroups.

More information available here :

[Installing and Uninstalling Add-on Packages - Softimage Wiki](#)



Now when you start Softimage you should see at the top the GEAR menu appearing (between *Display* and *Window*).