AUTODESK® IMAGEMODELER™ 2009 FOR MICROSOFT® WINDOWS®

FAQ

ImageModeler 2009 includes many new and enhanced features to help you work the way you think, provide higher coordination and quality, and improve your business for a competitive advantage.

General Product Information

Autodesk® ImageModeler™ 2009 software generates 3D models from 2D digital images, giving architects, designers, and entertainment content creators a new approach to 3D modeling. The software's easy-to-learn, three-step workflow: calibration, modeling, and texturing, lets users achieve stunning photorealistic results with the kind of real-world accuracy that's ideal for architectural visualization.

What can I do with ImageModeler?

ImageModeler is used to capture reality as-built:

- Reconstruct photorealistic objects, scenes and cities
- Integrate CAD projects with existing environments
- Take measurements of buildings

Is ImageModeler right for me?

If you work in architecture, civil engineering, design, media and/or entertainment and need to capture reality as-built, get real measurements, or create a 3D photorealistic models and/or scenes, ImageModeler is for you.

What are the differences between ImageModeler and 3D applications like Autodesk® 3ds Max® and Autodesk® Maya® software?

ImageModeler is easy to learn and allows the user to create a 3D model from 2D images, in just a few hours. Creating a 3D model is as simple as drawing lines on images. ImageModeler also has editing, modeling, and texturing tools.

3ds Max and Maya offer an extensive range of 3D modeling, animation, rendering, and effects features. They are used by game developers, film and television professionals.

ImageModeler is complimentary to 3ds Max and Maya software. ImageModeler can be used to calibrate pictures and generate a 3D model from 2D pictures. The 3D model can then be exported to 3ds Max or Maya to be elaborated.

How does ImageModeler 2009 integrate with other Autodesk products?

Improved support for DWG files provides faster, more accurate export of data to other Autodesk software such as AutoCAD®. The FBX®-based Recognize™ scene-loading technology enables ImageModeler users to quickly and accurately export geometry, textures, and cameras. Also, the Autodesk FBX file interchange format allows users to easily transfer assets to 3ds Max, Maya, and Autodesk® MotionBuilder® software, as well as any other content-creation package that supports FBX.

ImageModeler Features

What are the new features of ImageModeler 2009?

ImageModeler 2009 delivers the following productivity-enhancing features.

Calibration enhancements:

- Support of panoramas (full 360 degree panoramas) as entry images. This improvement allows creation of full interiors, city streets or locations
- Calibration of single-image projects (either a normal shot or a panorama) using a perspective-driven calibration system
- Constraints addition: ImageModeler 2009 has the ability to add distance constraints, which improves the precision in photogrammetric work

Modeling: Enhancements in constraint modeling for quick and precise placement and creation of objects. New Bevel Tool for smoothing the hard edges of an object.

Texturing enhancements:

- UV mapping projections: planar, cubical, cylindrical or spherical projections
- Texture blending: a new smart blending option allows you to automatically remove artifacts and allows for the creation of smooth, blended textures
- Density preservation: textures can be extracted and given a pixel-to-surface density that allows you to extract a full project with "uniform" texture sizes
- Enhancement of the UV mapping editor. Every UV of the map can now be edited. Textures of the same object can be better organized and packed into single maps.

Exports: new Autodesk® FBX® software exporter for better interoperability with Autodesk software.

What operating systems are supported by ImageModeler 2009?

Autodesk® ImageModeler™ 2009 software is supported on the following operating systems:

- Microsoft® Windows® XP Professional, (SP2 or higher) 32-bit operating system
- Microsoft ® Windows Vista® Business, (SP1) 32-bit operating system
- Apple® Mac OS® X 10.4.11 and 10.5.2 and above (Intel version only)

What are the modeling concepts used in ImageModeler?

ImageModeler uses the concepts of image-based modeling and constrained-based modeling. Image-based modeling is the process of drawing 3D primitives on top of a 2D image or series of images. Snapping techniques and constraints are used to align and adjust these 3D primitives with the right perspective in the various calibrated pictures or panoramas.

ImageModeler 2009 is optimized for generating polygonal models of architectural shapes. Modeling of more organic shapes (a human face, for example) is based on triangular meshes.

What are the imports and exports can be done with ImageModeler 2009?

Here is the list of ImageModeler imports and exports.

Import:

- OBJ: 3D objects and textures

Export:

- FBX: 3D points and objects, textures, cameras
- Maya (.ma): 3D points and objects, textures, cameras
- OBJ: 3D objects and textures
- DWG: 3D points and objects, measures

Licensing ImageModeler 2009

Can I try ImageModeler before using it?

Yes, you can try ImageModeler 2009 for free by downloading our
EVALUATION VERSION*.

* This product is subject to the terms and conditions of the end-user license
agreement that accompanies

download of this software.

Where can I buy ImageModeler?

ImageModeler is currently sold exclusively through the ONLINE ESTORE.

What is the price of ImageModeler?

Please consult our price list on our eStore

I am a reseller. Can I sell ImageModeler?

Presently, ImageModeler is sold through the online eStore only.

Resources and training

Where can I see examples of 3D images created with ImageModeler?

You can see how the Autodesk® ImageModeler™ software has been used by architects, designers and entertainment content creators worldwide by visiting our gallery.

How can I get training about ImageModeler 2009?

You can consult our online TUTORIALS.

What is Autodesk Authorized Training, and how do I get it?

Autodesk Authorized Training is designed to advance your career with

Autodesk® software. Get trained at an Autodesk Authorized Training Center (ATC®), with hands-on, instructor-led classes to help you enhance your productivity and accelerate your return on investment. You can make Autodesk Official Training

Courseware (AOTC) a key part of your product training, and learn from the best with content developed by Autodesk subject-matter experts. Earn Autodesk certification to prove your experience, reliably validate your skills and knowledge, enhance your credibility in your field, and maximize your value. For more information about these learning solutions, visit: WWW.AUTODESK.COM/AUTHORIZEDTRAINING

WWW.AUTODESK.COM/AOTC, and WWW.AUTODESK.COM/CERTIFICATION.

Quick Tips for ImageModeler

How do I take photos for ImageModeler?

To create a 3D object, you must shoot from one to several pictures of this object. In the case of multiple images they have to be taken from different angles; the process is called "Projective Geometry". It is a process similar to the stereoscopic vision of human eyes.

The software cannot create what is not shown on the pictures. This assumption may seem obvious, but it has an impact on your shooting process. If you need to build the back of a house, or the roof, you will need pictures showing these elements.

1. Choose one or several photos which have the best definition, level of detail, and colors.
2. Avoid overexposed photos or photos with reflection effects.
3. Choose photos where the largest part of the subject is visible.
4. Shoot your pictures with some parallax (in other words, with different perspective angles for each point of view).

The pictures of the same project can have various resolutions and focal lengths.

What kind of pictures can I use in ImageModeler?

ImageModeler imports rectilinear images, or 360 degree panoramas, or a combination of both.

- Rectilinear images will be preferred when it is possible to move around the building or the object to shoot the photograph
- Panoramic images will be useful for interior scenes or streets

Can I use only one picture in ImageModeler?

Yes, a 3D photo-textured model can be generated from only one picture or one panorama. In this case, it is assumed that the scene or object is made of horizontals and verticals, and that the picture or panorama shows a corner that can be used as a coordinate system for the 3D world.

How do I calibrate correctly in ImageModeler?

The "calibration" process is the process of calculating the camera parameters for each picture. Camera parameters include extrinsic parameters like location in space (X, Y, Z), and orientation (Psi, Theta, Phi), and intrinsic parameters like focal length and distortion.

In order to calibrate cameras, you will need to match points between pictures. This matching is done manually through the identification of eight at least common points between each pair of adjacent pictures. For correct calibration, your pictures need to show some parallax and depth information.

Do not forget to choose match points outside the model, as well as points on different plans (foreground and background). Choose points that can be easily recognizable on both adjacent pictures. If you choose the option "Progressive Calibration" in the menu "Preferences," ImageModeler will automatically start the calibration as soon as there are enough points.

If you use only one picture or one panorama, the calibration process is simpler. In this case, you will need to place a coordinate system showing the origin of your 3D world (0,0,0) and the X, Y, and Z axis. The calibration of your picture will be completed once you have placed a parallel line to validate the X axis.

What can I do with the integration tool?

The integration tool facilitates the integration of imported objects and scenes (such as 3D CAD models) with calibrated photos, with the right perspective. The tool can be activated when objects are imported into a project, but it can also be activated on a selected object.

How do I texture a 3D mesh?

Texturing is automatic. Textures can be extracted on a mapping group (face set) or on an entire object or scene. ImageModeler will select the pictures that provide the best pixel information to create a texture map. Projection of the polygons in the UV map is also possible. A default texture map is applied to the primitives that are created in ImageModeler, but the user can choose other projection types (planar, cubical, and spherical) and edit the UV coordinates in a UV editor.

How do I retouch or edit a texture?

A high level of interoperability with external image editors, such as Adobe® Photoshop® software, enables users to quickly retouch textures (remove shadows or artifacts). When the editing is finished and saved, the texture is automatically reloaded in ImageModeler2009 with the modifications applied.