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3D Rendered images and their application in the interior design

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01:45 pm

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"My research interests are devoted on the Visual Communication Design. My lectures interpret it as a rational language of conceiving, visualizing, organizing, producing and presenting.
The rational design language requires insights and intuition to enable students to communicate effectively and efficiently on intellectual and emotional levels with target groups and genders."



- Co-owner of Adacademy®
- Owner of BF Studio Ltd
- Lecturer: New Bulgarian University, Sofia, Bulgaria, B.A. & M.A. programs "Visual Communication"

Visiting professor:

- Kazakh-British Technical University, Almaty, Kazakhstan, Department "Multimedia technology", M.A. "Communication Design"
- Tiltan College, Haifa, Israel, Program "Graphic design and visual communication".

Professional information

Petyo Budakov, Ph.D.
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Teaching Expertise



Logo design & Brand Identity

Corporate Identity

Web & Mobile App Design

Social Media

Teaching Expertise



Ambient Advertising

Outdoor Campaigns

3D Design

Photography& Multimedia

Research



Visual
Communication



3D
Design



E-learning and
Mobile learning



Artificial intelligence
Learning

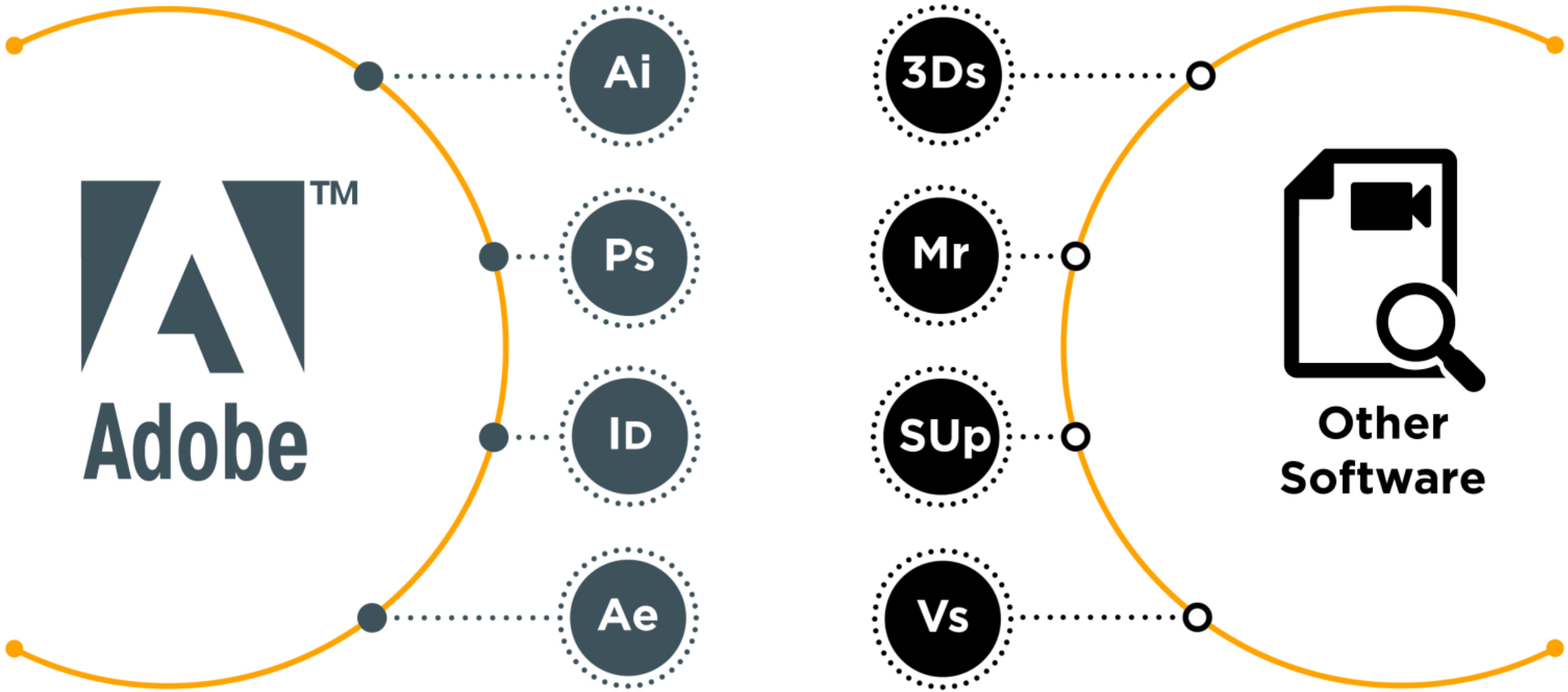
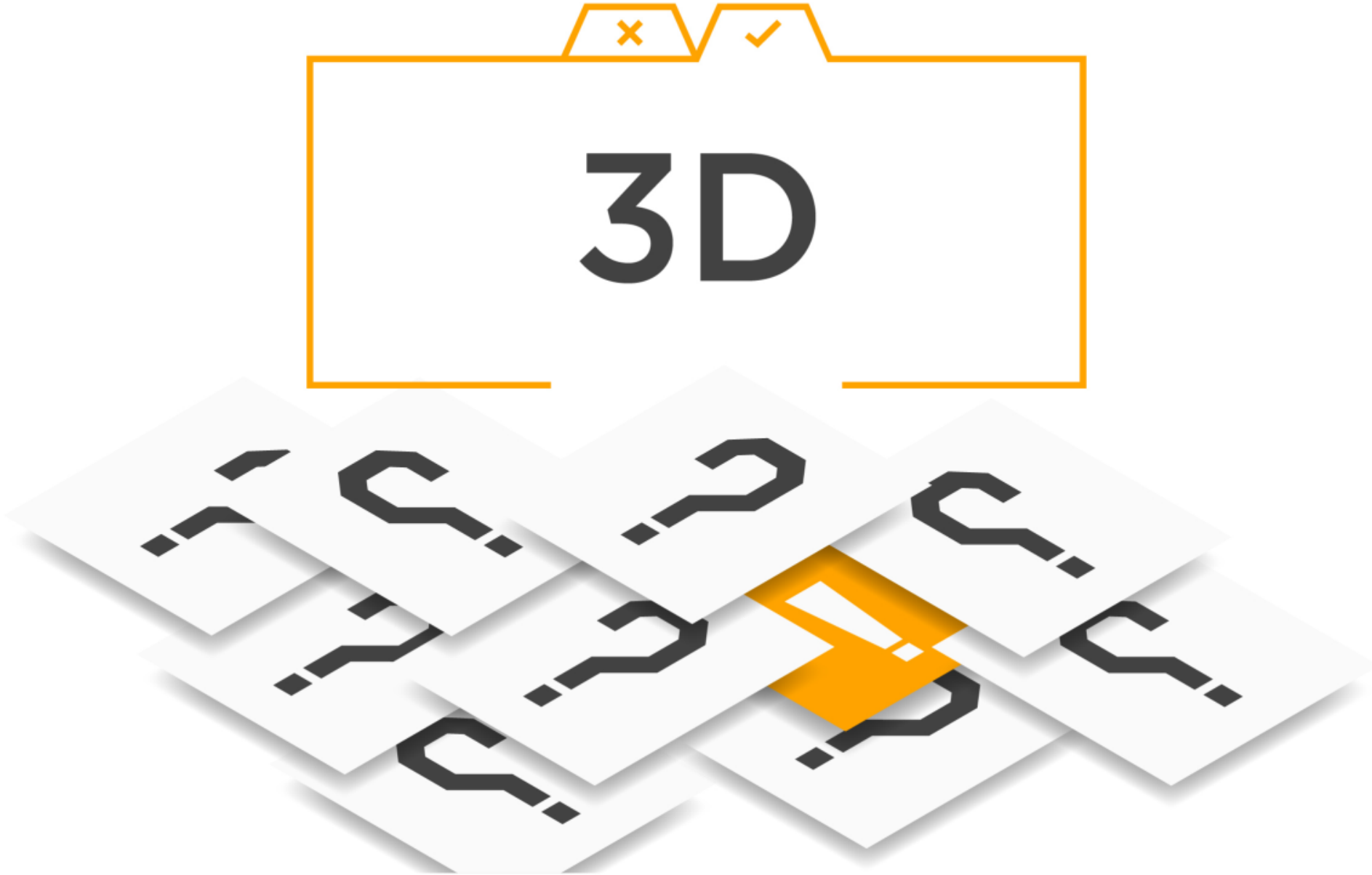

Adobe
Ai
Ps
ID
Ae
3Ds
Mr
SUp
Vs
Other Software



Photo or 3D

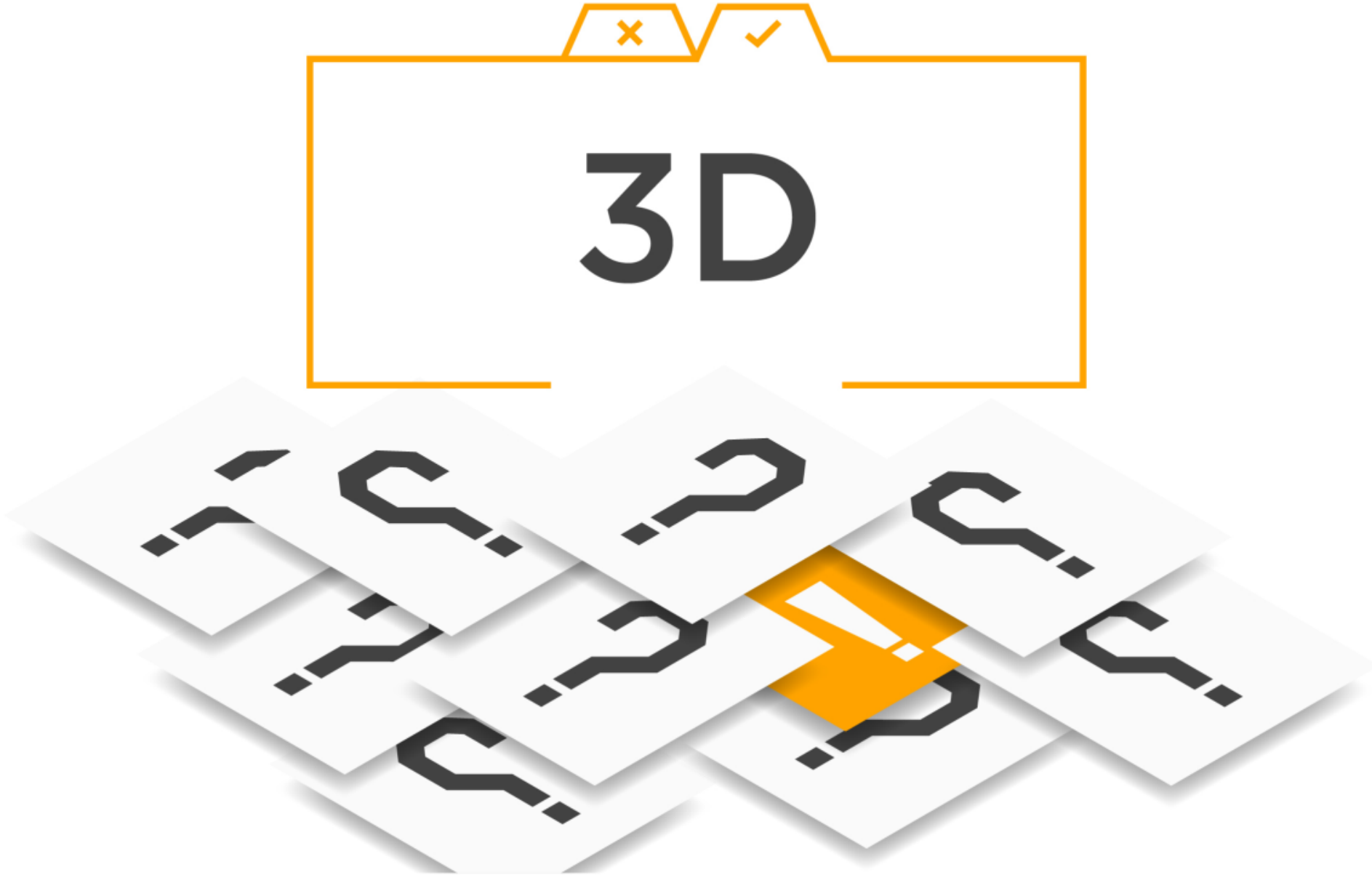


Source: http://cdn.homedit.com/wp-content/uploads/2011/01/modern-home-interior-design.jpg


3D



Source: https://i.ytimg.com/vi/JOMRxZUQ-nI/maxresdefault.jpg


3D

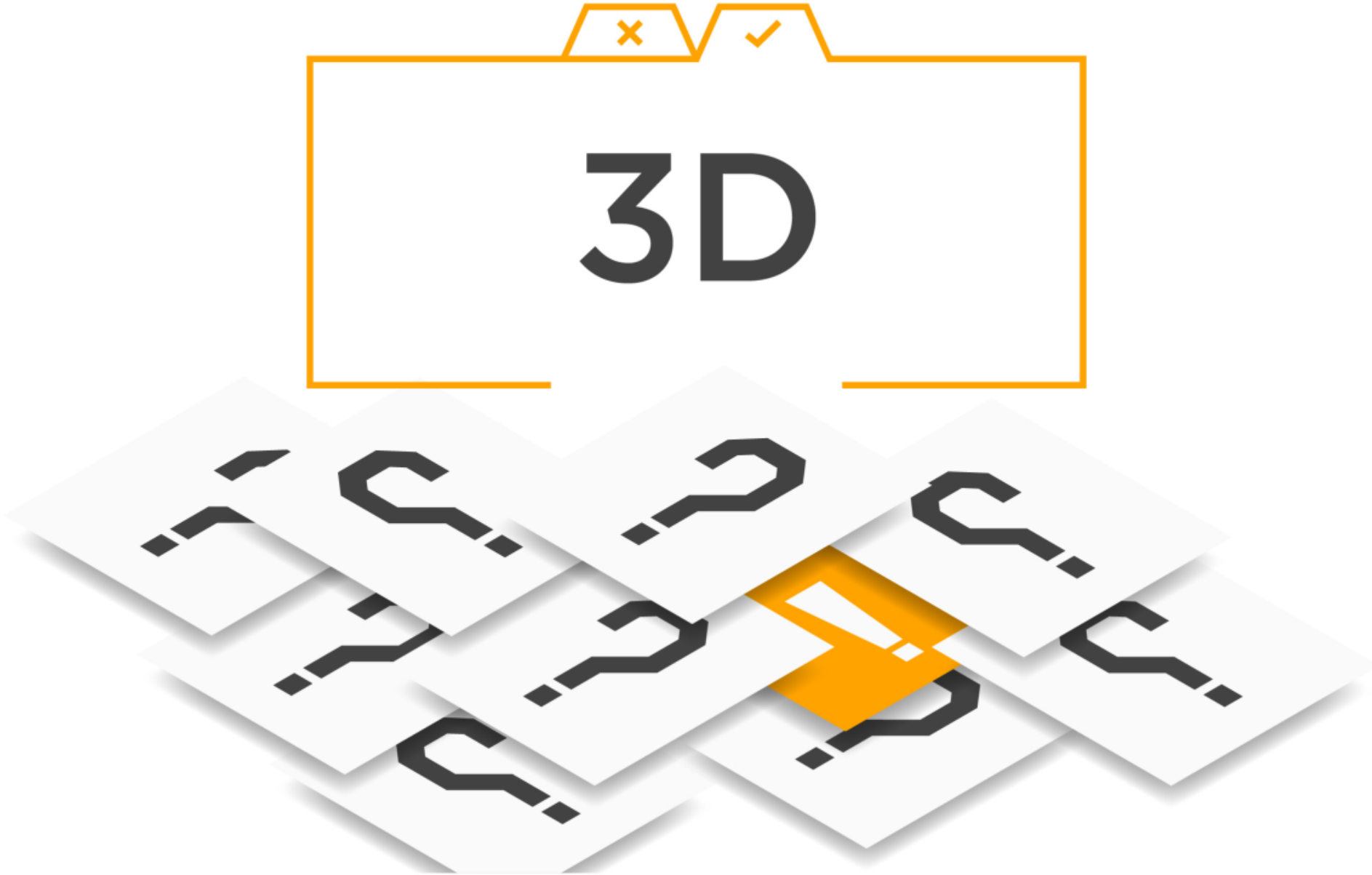


Source: https://i.pinimg.com/originals/b3/b3/0c/b3b30c7616df1120825eaec11a5a9899.jpg


Photo



Source: https://i.pinimg.com/originals/07/83/5b/07835b77f71c057a9aa809e0db4449a4.jpg


3D



Source: http://essentialhome.eu/inspirations/wp-content/uploads/2017/01/The-Importance-Of-Interior-Design-4.jpg


Photo

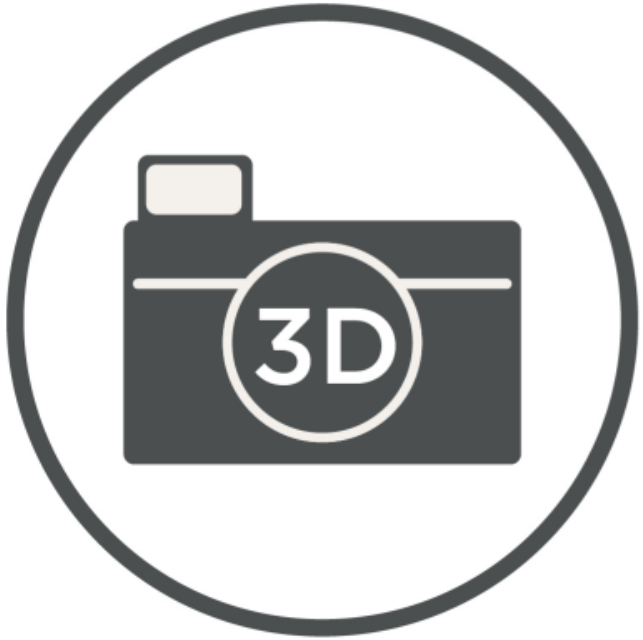


Source: http://www.zastavki.com/pictures/1920x1200/2009/Interior_Design_of_rooms_with_a_fireplace_012365_.jpg


Photo



3D Rendered images and their application in the interior design



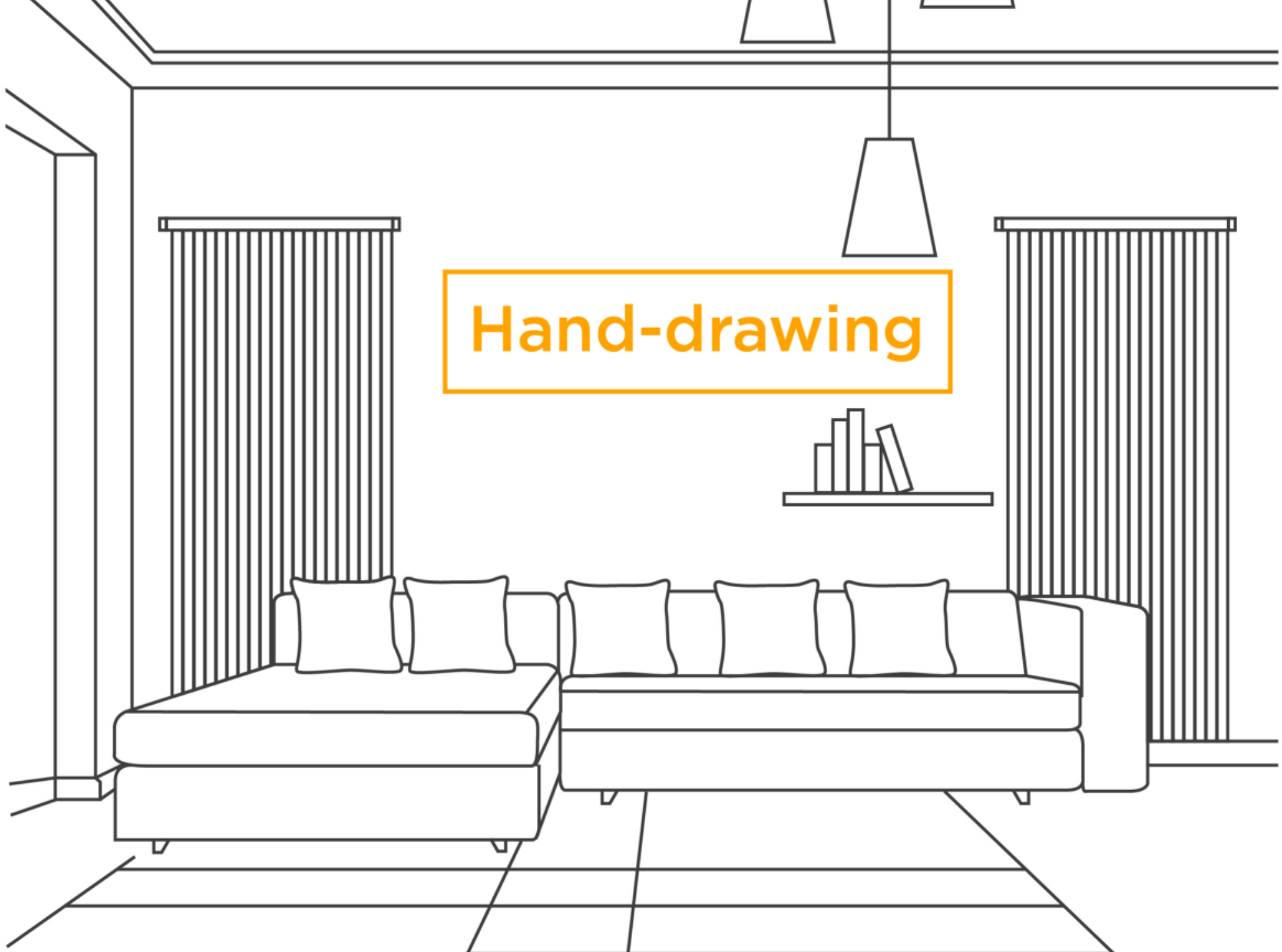
virtual camera

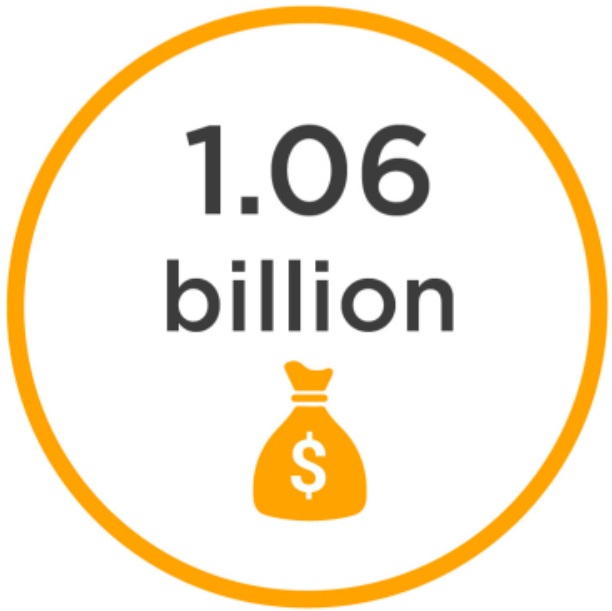
VS



digital camera


Dream Home


Hand-drawing



2017



2022



Annual Growth Rate

Source: marketsandmarkets.com

3D rendering as a process







How to achieve high quality rendering that induce the feeling of photo realism?

How to reduce the rendering time?



balance
emphasis
proportion and scale
harmony and unity
rhythm



Real Estate Photography

01

Clearly present the features of the property



02

Use wide angle lens



03

Remove the clutter shadow



04

Take a primary exterior shot



05

Illustrate the interior as light and bright



06

The walls must look perfectly straight



07

Vertical and horizontal lines must be straight



08

Avoid the distraction caused by the brightness of the windows



09

Don’t let color casts distract

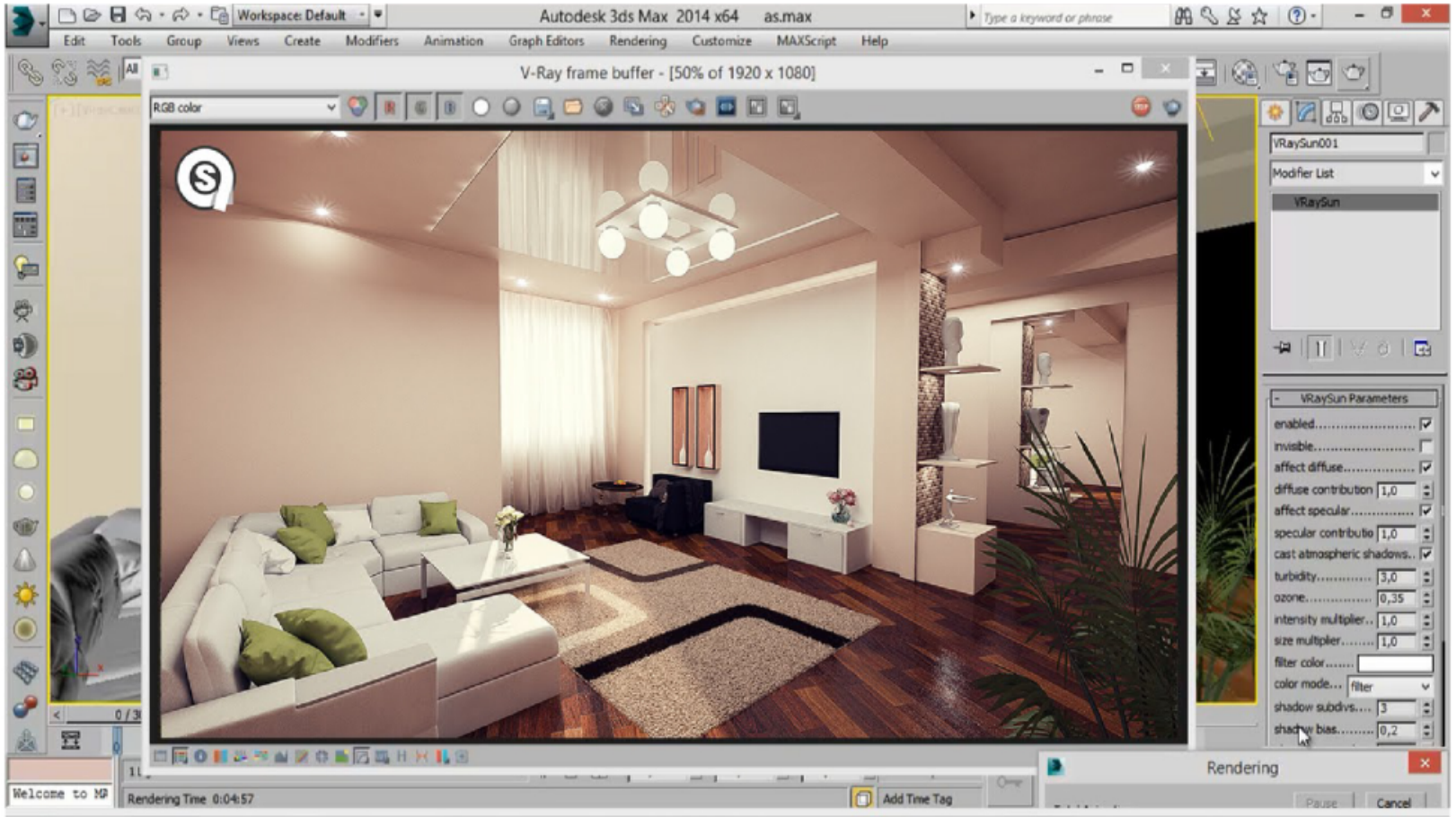


10

Present the photo in the most effective way



3DS MAX


Autodesk 3ds Max 2014 x64 as.max
Workspace: Default
Edit Tools Group Views Create Modifiers Animation Graph Editors Rendering Customize MAXScript Help
V-Ray frame buffer - [50% of 1920 x 1080]
RGB color
VRaySun001
Modifier List
VRaySun
VRaySun Parameters
enabled
invisible
affect diffuse
diffuse contribution 1,0
affect specular
specular contributio 1,0
cast atmospheric shadows
turbidity 3,0
ozone 0,35
intensity multiplier 1,0
size multiplier 1,0
filter color
color mode filter
shadow subdivs 3
shadow bias 0,2
Rendering
Pause
Cancel
Rendering Time 0:04:57
Add Time Tag
Welcome to MP


v-ray


3D
virtual camera
v-ray



- Area lights
- Plane light, disc light, sphere light mesh light and dome light
- Sun light
- Photometric lights
- Ambient light




12mm OBJECTIVE ZOOM
1:3.5-5.6 IS STM LENS USM
12mm OBJECTIVE ZOOM
1:3.5-5.6 IS STM LENS USM


IS USM
Φ 52 mm
1:2.8
EF
50 mm
LENS MADE IN JAPAN
V-ray

Control the Field of View



Controlling exposure

Real World Camera



The focal length

The camera's format size

Real World Camera

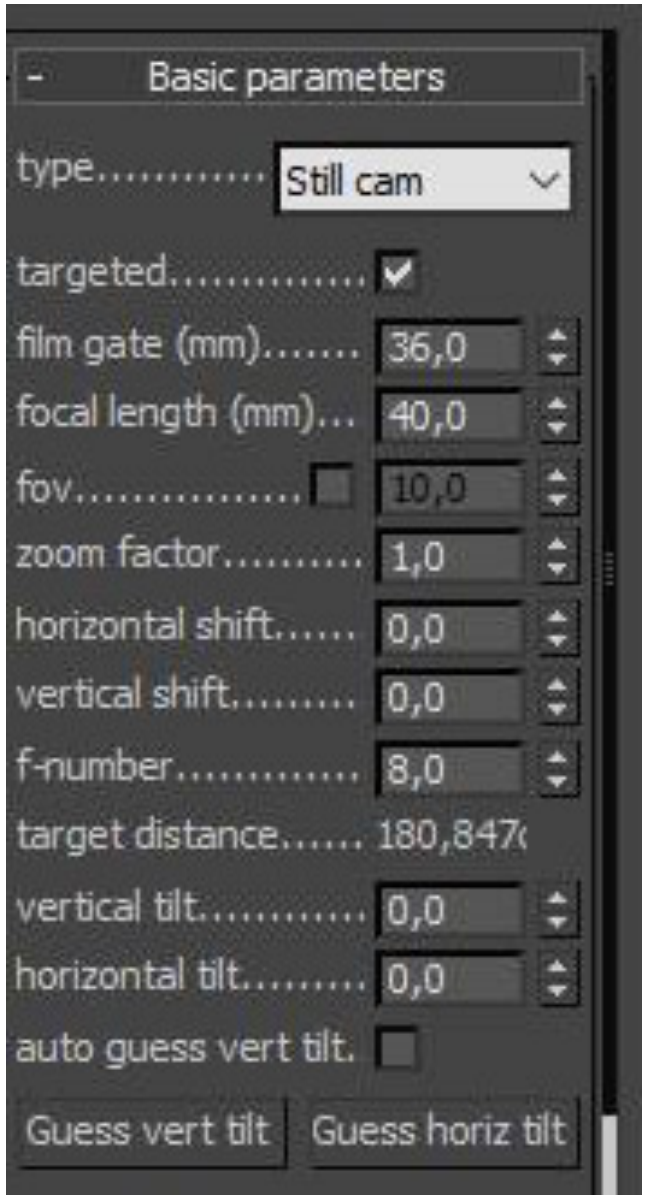


Normal Lens (50 mm, 85 mm)

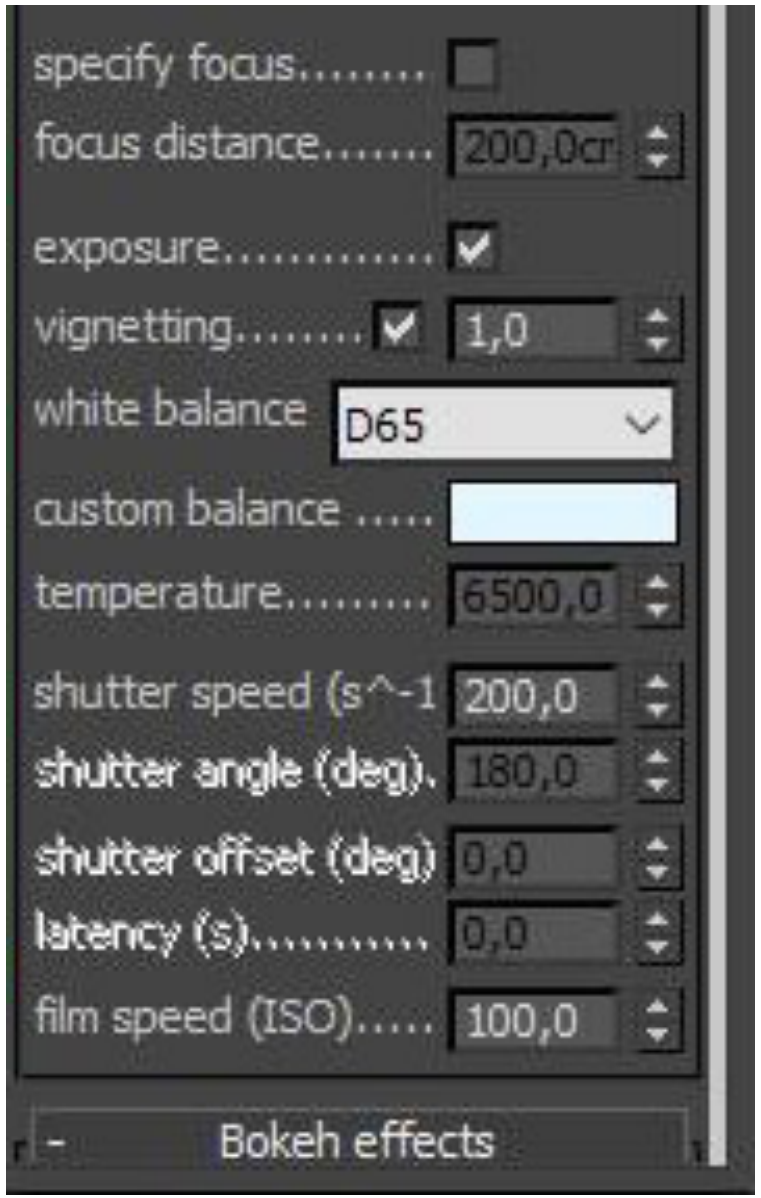
Wide Angle Lens
(10 mm – 42 mm)

Zoom Lens
(100 mm – 800 mm)

Fish-eye lens

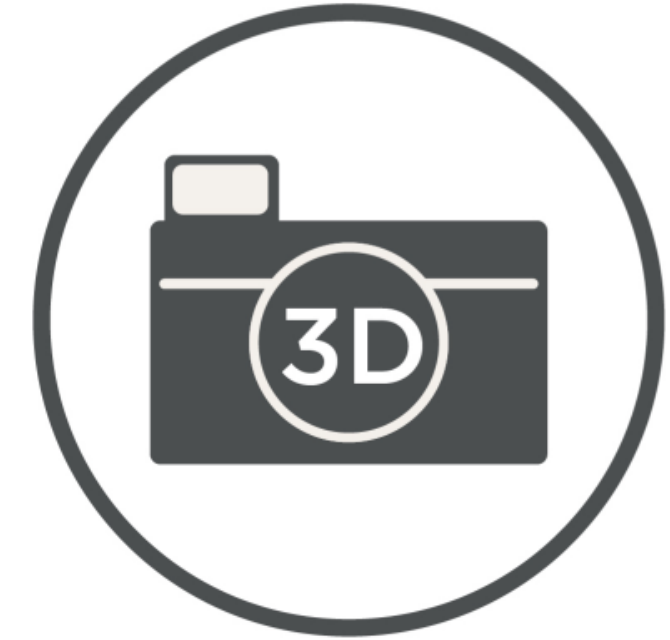


V-ray Physical Camera menu



V-ray Physical Camera menu

Field of View	Real-world Camera	V-ray Physical Camera
Depth of Field	Yes	Yes (The users can specify the DOF depending on the which Film/Sensor Preset has been chosen).
Focal length	Yes	Yes (Default is 40 mm and could be customized)
The camera's format size	Yes	Yes (Default is 35 mm and could be customized)
Lens breathing	Yes	Yes (Default is 1.0 and could be adjusted)

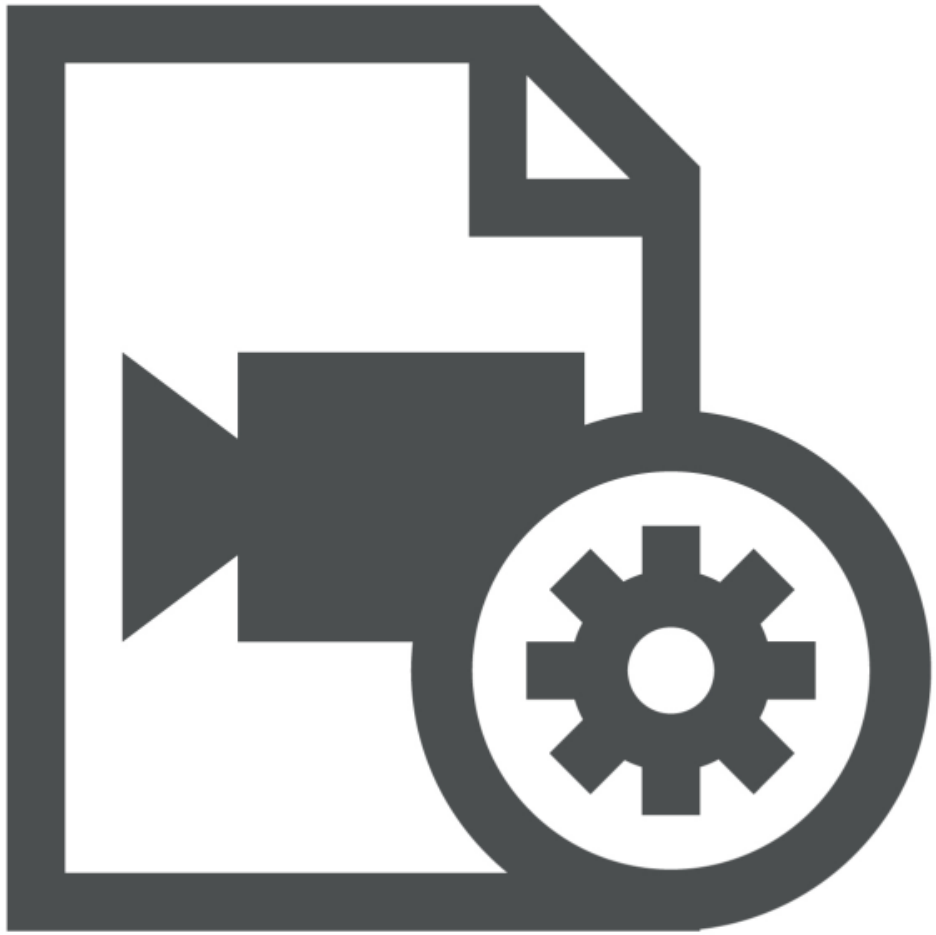




VS







EXPOSURE CONTROL

Aperture



Shutter

ISO

V-ray Exposure Control Menu	
Mode	Allows to choose between different modes, e.g. photographic
Camera Node	Specifies certain node from which the camera settings could be taken.
Exposure Value (EV)	Controls the exposure with a single parameter – it enables to make the image brighter or darker.
Shutter speed	The same function as the shutter has in the digital photography. The value is illustrated on numbers, e.g. 1/200 in V-ray is 200.
f-number	Controls the aperture with the same step as they are designated in the photography (1.4, 2, 2.8, 5.6, 8, 11, 16, 22)
ISO	It determines the film sensitivity. Smaller value makes the render image darker, and larger value – brighter. Unlike the digital photography, the large amount of ISO does not increase the noise in the picture.



Fig.3. Comparison between photo and V-ray render.
Source: https://nayeemasif.files.wordpress.com/2014/02/comparison.jpg

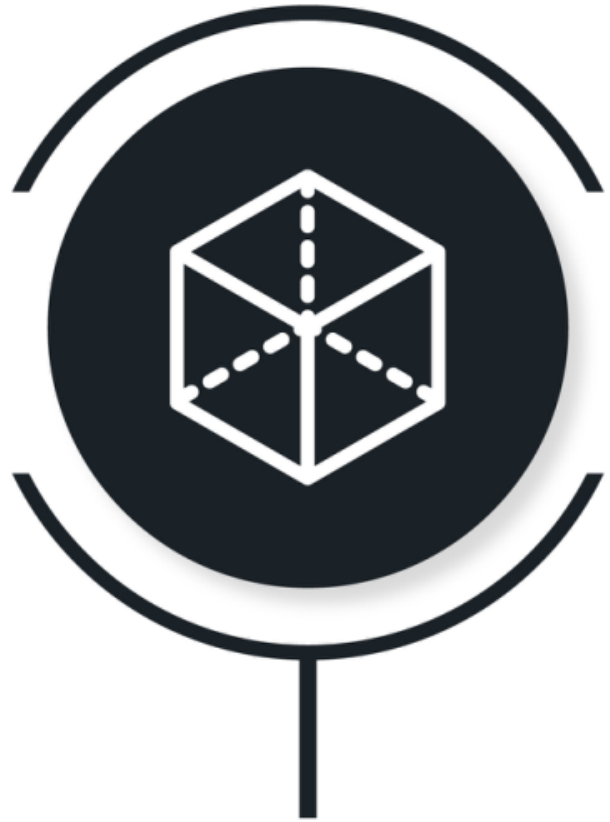


The image bellow illustrates an interior which is rendered with V-ray Adv.3.03
V-ray Physical Camera, ISO: 400
Shutter Speed: 1/60, f 8, Vignetting – off. Lens: 28 mm.
Resolution: 1600 x 859



Fig.5. V-ray rendered image
Source: http://4.bp.blogspot.com/-F7ONDCB9lA4/U2iwZpQltQI/AAAAAAAAALs/CGu1gp-p7Qo/s1600/making-interior-scene_0_832.jpg


PORTFOLIO



3D
Design



Le 5 Stagioni



Le 5 Stagioni



Apartment



Apartment

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Websites

Barry O Carroll (www.bocphotography.com)

CHAOSGROUP, https://docs.chaosgroup.com/display/VRAY3MAX/Area+Lights+%7C+VRayLight

Visualization and 3D Rendering Software Market by Application (High-End Video Games, Architectural and Product Visualization, Training Simulation, Marketing and Advertisement), Deployment Type, End-User, and Region- Global forecast to 2022, Published by: marketsandmarkets.com, publishing Date: June 2017, Report Code: TC 4168

Thank you for your attention!

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