Unicorn Render User Guide

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Installing Unicorn Render

Unicorn Render installer is pretty straightforward and easy to follow and can be downloaded from the Unicorn Render Downloads.

Download here Standalone Setup

Download here SketchUp plugin Setup

It's recommending that before installing Unicorn Render, please make sure your computer meets the System Requirements.
If you would like a step-by-step guide, please check out the Installation of Unicorn Render page. If you run into any problems, please check out the Troubleshooting page.

To get help o Installation or during the use of Unicorn Render please write to support support@unicornrender.com

Licensing Unicorn Render

Once Unicorn Render is installed you will want to make sure that your Unicorn Render license is properly configured.
The Setting up your Licenses page includes everything you need to get Unicorn Render licensed and running properly.

System requirements

System Requirement for Unicorn Render

Processor	Intel ® Pentium ®. Series IV or superior or compatible processor with SSE3 support
RAM	4 GB RAM and 4 GB RAM minimum for small models 8 GB RAM for big models 16 GB or more for huge files
Operating System	Windows 7, Windows 8.1, and Windows 10 – 64-bit versions only
Video Card	Required to have fast performances nVIDIA with 150 CUDA Minimum: GTX 960 for small models GTX 970 for big models GTX 980Ti for huge models Recommended: RTX 2060 for small models RTX 2070ti for big models RTX 2080Ti for huge models
Monitor	Full HD resolution 1920 x 1080 pixels

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Copyrights

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Portions include technologies Sketchup SDK Trimble Navigation Limited 2016. All Rights are reserved.

Portions include technologies Rhinoceros SDK   2001 Mc Neel. All Rights are reserved.

Portions include technologies GMAP   2008 - 2011 Universe. All Rights are reserved.

The render engine is licensed by Space Tech International Malta www.spacetech.cloud

License Agreement

Unicorn Render SOFTWARE END USER LICENSE AGREEMENT

October 2016 for v2 Software.

This Unicorn Render Software End User License Agreement ("Agreement" or "EULA") is entered into by and between Space Tech International Limited with principal offices Carolina court, Giuseppe Calì street, XBX 1425 Tax Biex Malta ("Space Tech International") and you ("Customer" or "End User").

1. ***INTRODUCTION***. The terms and conditions of this Agreement apply to the licensing of Software and the provision of Maintenance and/or Services by Space Tech International to Customer hereunder. Customer may not install or use the Software without a license for the Software. From time to time, Software licenses, Maintenance and/or Services may be acquired under this Agreement by Customer s submitter and Space Tech International s acceptance, or an Authorized acceptance of Reseller, of an Order from Customer.

2. ***DEFINITIONS***.
    1. **"Authorized Reseller"** means a reseller or distributor authorized by Space Tech International to market, distribute and/or support the Software.
    2. **"Authorized Users"** means Customer s: (i) employees, and (ii) contractors working on Customer s premises who are not competitors of Space Tech International and have agreed in writing to use restrictions and confidentiality obligations no less restrictive than those set forth in this Agreement. Customer shall at all times be responsible for its Authorized Users compliance with this Agreement.
    3. **"Customer"** means the entity identified in the Order or any pre-order quotation as the "Customer", "Client" or "End User" of the Software.
    4. **"Customer Computer"** means the Customer computer which runs the Software and uses its accompanying License.
    5. **"Documentation"** means the user manuals and other written materials, in any form and on any media, provided by Space Tech International for use with the Software.
    6. **"Effective Date"** means the date of acceptance of these terms and conditions which is normally the date of installation of the Software, or in some cases the date alongside any physical signature at the end of this Agreement.
    7. **"Installation Site"** means the Customer facility identified in the Order where the Customer Computer resides, usually the Customer's principle place of business, or if the Software is purchased by, or is to be used by, a Customer branch office, the site of that branch office. Licenses may not be transferred to another country; however, licenses can float across offices in same or different countries if Customer has a VPN network that spans two or more offices.

Customers with multiple branches in multiple countries on separate networks must purchase enough Licenses for each office and each country separately.

8. **"Lease License"** or "Rental License" means a license of short-term duration (often between one and three year). The specific license term of any Lease License acquired by Customer shall be set forth in the Order, and be subject to termination as set forth in this Agreement. Unless otherwise stated in the Order, for a Lease License, Maintenance during the license term is included in the Lease License fee.

9. **"Maintenance"** means software maintenance and technical support as described in Section 6.1 and 6.2 of this Agreement. Space Tech International may delegate Maintenance obligations (including support) to subcontractors including Authorized Resellers.

10. **"Order"** means the Order agreed between customer and Space Tech International, or between Customer and an Authorized Reseller of Software, or any other mutually agreed upon order statement / document which references this Agreement and sets forth, among other things, the Software, Maintenance and/or Services to be provided by Space Tech International to Customer hereunder and the fees to be paid by Customer. The Order can be in the form of an online purchase or manual purchase.

11. **"Paid-up License"** or "Perpetual License" means a license which has a term beginning on the date specified in the Order and continuing perpetually, subject to termination as set forth in this Agreement.

12. **"Services"** means training or other services, if any, purchased by Customer under this Agreement pursuant to a mutually agreed upon Order.

13. **"Software"** means the executable code version of the Unicorn Render computer program(s), and/or any related computer program(s), and/or any other computer program(s) bearing the Unicorn Render name, all of which are specified in the applicable Order, including any error corrections and subsequent releases thereto, furnished by Space Tech International, or Authorized Resellers, to Customer. The terms of this Agreement apply to Software version 2.0 released in October/October 2016, and subsequent versions thereafter, and replace all previous EULA terms. Additional terms with specific meanings are defined near where they first appear in this Agreement.

3. *GRANT OF LICENSE*. Upon Space Tech International s acceptance of Customer s Order, Space Tech International grants to Customer, and Customer accepts from Space Tech International, a non-exclusive, non-transferable license to use the Software specified in the Order (together with accompanying Documentation, if any), solely for Customer's own internal data processing purposes and subject to the terms and conditions of this Agreement. This license shall be in accordance with the limitations of the license type(s) and in the quantities specified in the Order. The license term(s) (duration) shall be as specified in the Order, subject to early termination as set forth in this Agreement.

4. *LICENSE TYPES.*
   1. **Standard/Commercial/User License:** If Customer acquires a license, or Software is licensed to Customer, under the terms "Standard" or "Commercial" or "User" for any Unicorn Render Software, access to and use of the Software will be limited to Authorized Users and may only be accessed or used under the Installation Site restrictions described above. Unicorn Render standard/commercial/user Licenses are normally "per seat" and therefore can t be used on multiple Customer Computers.
   2. **Render Node License:** If Customer acquires a Node license to launch different calculations on different Customer Computers, access to and use of the Software will be limited to Customer Computers in the country where the Installation Site is located, or under the Installation Site restrictions described above. Render Node Licenses are normally "floating" and therefore may be used on multiple Customer Computers but the number of concurrent Customer Computers accessing the Software is restricted to the number of Licenses purchased. Customer Computers may access the Software via a network provided Customer has purchased enough Licenses for each concurrent Customer Computer that will access the Software via the network.
   3. **Educational License:** If Customer acquires a license, or Software is licensed to Customer, under the terms "Educational", "Student", "Faculty" or "Learning Edition", Customer understands that the Software using this type of License will be restricted in numerous ways, and Customer agrees that, notwithstanding anything to the contrary elsewhere in this Agreement: (i) Customer may only use such Software for learning, non-commercial, non-production purposes only; (ii) the term (duration) of the educational/learning license shall be as set forth in the Order but shall

in normal circumstances not exceed one (1) year; (iii) such Software is provided on an "as is" basis, with no warranties of any kind; and (iv) Space Tech International has no obligation to provide any Maintenance or support for such Software.

4. **Evaluation, Trial or Demo License:** If Software is licensed to Customer under an Evaluation License or as a Free/Demo/Trial version, Customer understands that the Software using this type of License will be restricted in numerous ways, and Customer agrees that, notwithstanding anything to the contrary elsewhere in this Agreement or unless separately agreed in writing with Space Tech International: (i) Customer may only use such Software for evaluation, non-production purposes only; (ii) the term (duration) of the evaluation/demo license shall be as set forth in the Order but shall in normal circumstances not exceed thirty (30) days; (iii) such Software is provided on an "as is" basis, with no warranties of any kind; and (iv) Space Tech International has no obligation to provide any Maintenance or support for such Software.

5. ***RESTRICTIONS AND PROTECTIONS.***

   1. **Customer acknowledges** that the Software and its structure, organization and source code constitute and contain valuable trade secrets of Space Tech International and/or its suppliers. Accordingly, Customer shall not: (i) reverse-engineer, decompile, disassemble, or otherwise attempt to derive the source code for the Software, or allow any third party to do the foregoing, (ii) modify, adapt, alter, translate or create derivative works from the Software or Documentation; (iii) sub license, rent, loan, lease, sell, or otherwise transfer all or part of the Software or Documentation to any third party except as expressly permitted under this Agreement; (iv) allow any third party to access or use the Software on a service bureau, application service provider, time-sharing, or similar basis; (v) disable, modify or circumvent the license Unicorn Render SOFTWARE END USER LICENSE AGREEMENT October 2016 for v2 Software. (vi) remove, alter, or obscure any proprietary notices, labels, or marks from the Software or Documentation; (vii) disclose results of any Software benchmark tests without Space Tech International s prior written consent; (viii) disclose, display, or permit access to or use of the Software or Documentation by persons other than Authorized Users using the Software and Documentation within the scope of the license acquired by Customer; or (ix) otherwise use or copy the Software or Documentation except as expressly permitted under this Agreement. Customer agrees to notify Space Tech International immediately of any unauthorized access to or use of the Software.

   2. **Customer may copy the Software** for backup purposes. Any such copies made by Customer must reproduce and include, in exact form, all proprietary rights notices. Customer shall maintain records of the location of each copy of the Software, and the location and identity of the computers on which the Software is installed.

   3. **The Software and Documentation**, and all worldwide intellectual property rights therein, are and remain the property of Space Tech International and/or its suppliers. Nothing in this Agreement will be deemed to convey to Customer any title, ownership, or other intellectual property rights in or related to the Software or Documentation, and Customer agrees not to assert any such rights. All rights in and to the Software and Documentation not expressly granted to Customer in this Agreement are reserved by Space Tech International and/or its suppliers.

   4. **Upon fifteen (15) days written notice**, Space Tech International may audit Customer s installation and use of the Software and Documentation. Customer shall cooperate with Space Tech International s audit and provide reasonable assistance and access to information. In addition to any other remedies available to Space Tech International, Customer agrees to pay within thirty (30) days of written notification any fees and charges applicable to Customer s use of the Software and Documentation in excess of Customer s license rights. Space Tech International shall not be responsible for Customer s costs incurred in cooperating with the audit. Space Tech International shall comply with Customer s reasonable security procedures while on Customer s facilities.

   5. **Except as required by applicable law**, or as necessary for Customer to enforce or exercise its rights hereunder, Customer shall not disclose the terms of this Agreement or Space Tech International s pricing in connection with this Agreement to any third party.

   6. **Customer acknowledges that the obligations** of Customer under this Section 5 are of a special and unique character which gives them peculiar value to Space Tech International for which Space Tech International cannot be reasonably or adequately compensated in damages in the event Customer breaches such obligations. Customer therefore agrees that injunctive

relief is an appropriate remedy for such breach or threatened breach. Such relief shall be in addition to, and not in lieu of, any other rights or remedies in law or equity to which Space Tech International may be entitled.

6. *MAINTENANCE*.
   1. **If Customer acquires Maintenance** for Software, or if Maintenance is included in the initial purchase of a License, then during the applicable Maintenance term and subject to the terms and conditions of this Agreement and subject to the limitations of license types in section 4 of this Agreement, Space Tech International or Authorized Reseller will provide Customer with error corrections and subsequent releases of the Software (and updated Documentation), if any, that Space Tech International, in its sole discretion, makes generally available at no additional charge to its end-users who are on Maintenance.Maintenance shall not entitle Customer to any release, option, module, or future product, which Space Tech International, in its sole discretion, licenses separately or offers for an additional fee. Space Tech International is under no obligation to develop any future programs or functionality. Space Tech International reserves the right to discontinue, in whole or in part, and at any time, offering Maintenance for any Software or platform.
   2. **Further**, if Customer acquires Maintenance for Software, or if Maintenance is included in the initial purchase of a License, then during the applicable Maintenance term and subject to the terms and conditions of this Agreement and subject to the limitations of license types in section 4 of this Agreement, Space Tech International or Authorized Reseller will provide Customer with technical support in English via telephone, email and any other means Space Tech International, in its sole discretion, makes generally available from time to time under technical support. Technical support is provided only for the then current release, running unaltered, and on an appropriate hardware and operating system configuration, as specified in the applicable Documentation. Technical support for the immediately preceding release (as designated by Space Tech International) will be provided on best intentions basis only. All technical support is limited to reasonable assistance in response to Customer s technical support inquiries regarding: (i) Software installation, (ii) Software errors, and (iii) general questions regarding the usage of Software features. Technical support does not include training, consulting, on-site services, or the provision of engineering judgment for a customer-specific simulation. Upon Space Tech International s request,Unicorn Render SOFTWARE END USER LICENSE AGREEMENT October 2016 for v2 Software. The Customer shall provide information required by Space Tech International to verify that Customer and the specific license are entitled to technical support. To allow Space Tech International to properly address technical issues, Space Tech International may request that Customer provide files and other materials and information.
   3. **If Customer acquires Maintenance**, the term and fees for Maintenance shall be set forth in the Order. Maintenance fees are due and payable in advance of the Maintenance term. Unless otherwise agreed to by the parties in writing: (i) annual Maintenance renewal, if any, will be at Space Tech International s then-current Maintenance prices, and (ii) to purchase any Maintenance, Customer is required to purchase Maintenance for all Software Customer has licensed from Space Tech International. In the event that Maintenance expires or was not originally purchased, upon the commencement of Maintenance a reinstatement fee will be assessed in accordance with Space Tech International s then current policies. In addition to any other remedies available to Space Tech International, Space Tech International reserves the right to refuse to provide Maintenance if Customer is overdue on any payment obligation under this Agreement.
   4. **Space Tech International s sole and exclusive liability**, and Customer s sole and exclusive remedy, for a failure to meet any obligation under Maintenance and failure to cure such deficiency after thirty (30) days written notice will be that Customer may terminate Maintenance for the Software involved.

7. *ORDER AND DELIVERY.*
   1. **Space Tech International reserves the right,** in its sole discretion, to accept or reject any Customer Order.
   2. **Space Tech International reserves the right** to deliver the Software and Documentation either Where the Software and Documentation are made available to Customer for electronic download, Space Tech International is under no further delivery obligation, whether physical or

otherwise. For electronic delivery, the delivery date shall be the date when the Software is made available to Customer electronically.

8. *INSTALLATION AND AUTHORIZATION CODES.*
   1. **Customer shall be responsible** for installation of the Software and all associated costs.
   2. **The software may require authorization codes** (also known as "license Code or Key") to run. Any such required authorization codes will be issued in accordance with Space Tech International's then-current license management policy. Customer shall provide Space Tech International with any information reasonably required by Space Tech International to permit Space Tech International to generate the necessary authorization codes. Space Tech International has no obligation to provide authorization codes for any version of the Software which has been replaced by a more recent version.
   3. Space Tech International reserves the right to charge Space Tech International s then-current administration fees whenever Space Tech International, in response to a Customer request, generates and delivers to Customer replacement authorization codes for whatever reason, even if Customer has acquired Maintenance. Prior to any such delivery, Customer shall complete, sign and submit an appropriate replacement license/code request form, and pay in advance the appropriate administration fee. Space Tech International has no obligation to provide replacement authorization codes if: (i) the applicable Software is not covered by Maintenance; (ii) the Software is not supported on any proposed substitute computer; (iii) if Space Tech International has not received and accepted the appropriate request forms and administration fees; or (iv) Customer is in breach of this Agreement.

9. *FEES, TAXES AND PAYMENT.*
   1. **The terms in this Section 9.1** apply when Customer purchases directly from Space Tech International: Customer shall pay in full all fees payable under this Agreement, including all fees under any and all Orders. All fees will be due and payable in the currency identified in the applicable Order, and if no currency is identified, then in the currency quoted and/or invoiced by Space Tech International. Fees are due and payable as set forth in the Order, and if no payment due date is set forth in the applicable Order, all fees are due and payable immediately. Any amount not paid when due will bear interest until paid at the rate identified in the Order or invoice, and if no interest rate is identified, then the interest rate will be 1% per month until paid. In addition, Customer will reimburse Space Tech International for any reasonable legal fees and other costs and expenses incurred in collecting past due amounts. Customer s payment obligations under this Agreement and any Orders are non-cancellable and the sums paid non-refundable, except to the extent expressly provided otherwise in this Agreement. Unicorn Render SOFTWARE END USER LICENSE AGREEMENT October 2016 for v2 Software.
   2. **The terms in this Section 9.2** apply when Customer purchases from an Authorized Reseller: Customer pricing, payment and payment terms shall be as separately agreed upon between Customer and Authorized Reseller.
   3. **Fees are exclusive of all applicable sales**, use, value added, and other taxes (and all applicable tariffs, customs duties and similar charges), and Customer will be responsible for payment of all such taxes, tariffs, duties and charges (and any related penalties and interest), payable in connection with this Agreement or the provision of Software, Documentation, Maintenance, or Services hereunder. If Customer is claiming tax exemption status, Customer must provide a copy of a valid tax exemption certificate.

10. *WARRANTY; LIMITATIONS.*
   1. Except where specifically restricted by license type in section 4 of this Agreement, Space Tech International warrants that the Software when used as permitted under this Agreement and in accordance with the instructions in the Documentation (including use on a computer hardware and operating system platform supported by Space Tech International) will conform substantially to its associated Documentation for a period of thirty (30) days from the delivery date. Any claim by Customer of a breach of this warranty must be made in writing and within thirty (30) days of the purchase date.
   2. Except as expressly stated in section 10.1 of this Agreement and to the extent not prohibited by applicable law, neither Space Tech International nor any supplier of Space Tech International make any warranties of any kind, with respect to the Software, Documentation, Maintenance, or Services provided under this Agreement. Space Tech International further expressly disclaims

the warranties of merchantability, fitness for a particular purpose and non-infringement. Space Tech International makes no warranty that the operation of the software will be uninterrupted or error free.

3. Customer's exclusive remedy, and Space Tech International s sole liability, for Software that does not meet the warranty set forth in Section 10.1 will be, at Space Tech International s option: (i) to correct the non-conforming Software within a reasonable time so that it conforms to the warranty; (ii) to replace the non-conforming Software with another Space Tech International software offering of substantially similar functionality; or (iii) if neither (i) or (ii) is commercially feasible, permit Customer to terminate the license as to the non-conforming Software. Space Tech International will have no responsibility or obligation under the foregoing warranty or otherwise with respect to: (a) any Software that has been modified by anyone other than Space Tech International, or (b) failure of the Software caused by Customer or its agents through accident, abuse or misapplication.

11. *LIMITATION OF LIABILITY.*

1. **Customer acknowledges that the Software** along with the Documentation, Maintenance and any Services provided hereunder are only an aid in Customer's development of Customer's products and is not intended as a substitute for sound engineering judgment. Space Tech International will not be liable in any manner whatsoever for the data output obtained through use of the Software. Customer shall, at its own expense, indemnify, defend and hold Space Tech International harmless from and against any claim(s) brought against Space Tech International by a third party arising out of, or related to, Customer's use of the data output obtained from use of the Software.

2. **Neither Space Tech International** nor its suppliers will be liable for any indirect, consequential, incidental, exemplary, punitive or special damages (including lost data, savings, profits or revenues) arising from or related to this Agreement, even if Space Tech International has been advised of the possibility of such loss or claim. Space Tech International's total cumulative liability arising out of or relating to this Agreement, whether in contract, tort, or otherwise, will be limited to and will in no event exceed the amount actually paid by Customer to Space Tech International under this Agreement for the specific item that is the subject matter of, or is directly related to the cause of action. Customer acknowledges that the fees reflect the allocation of risk set forth in this Agreement and that Space Tech International would not enter into this Agreement without these limitations on liability. No action, regardless of form, arising out of or relating to this Agreement may be brought by Customer more than one year after the cause of action accrued. To the extent any applicable law limits the scope of this section

3. **NO EVENT WILL Space Tech International** OR ITS LICENSORS BE LIABLE (DIRECTLY OR INDIRECTLY) TO LICENSEE OR ANY OTHER THIRD PARTY FOR ANY LOSS, DAMAGES, CLAIMS, OR COSTS WHATSOEVER INCLUDING, NOT LIMITED TO ANY INCIDENTAL, SPECIAL, INDIRECT, CONSEQUENTIAL, PUNITIVE DAMAGES OR DAMAGES FROM BUSINESS INTERRUPTION, LOSS OF PROFITS, REVENUE, BUSINESS OR DATA, EVEN IF COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSS, DAMAGES, CLAIMS, OR COSTS. LICENSEE ACKNOWLEDGES AND AGREES THAT IN ANY EVENT THE AGGREGATE LIABILITY OF COMPANY AND ITS LICENSORS ARISING OUT OF OR IN CONNECTION TO THIS AGREEMENT AND ANY Space Tech International 'S PRODUCT OR SERVICE WILL BE LIMITED, EXCEPT FOR REMEDIES THAT CANNOT BE EXCLUDED OR LIMITED UNDER LAW, TO THE AMOUNT PAID, IF ANY, BY LICENSEE FOR SUCH PRODUCT OR SERVICE, EVEN IF THAT AMOUNT MAY BE SUBSTANTIALLY DISPROPORTIONATE TO THE REMEDY CLAIMED. Space Tech International DOES NOT SEEK TO LIMIT ITS WARRANTY OR REMEDIES TO ANY EXTENT NOT PERMITTED BY LAW.

4. **This Agreement shall be interpreted** to conform to such law in a manner that limits Space Tech International's liability to the fullest extent allowed by law.

12. *TERM AND TERMINATION.*

1. **This Agreement will be effective** as of the Effective Date and will remain in full force until terminated in accordance with this Agreement. Except where otherwise provided in this Agreement, this Agreement may be terminated as Unicorn Render SOFTWARE END USER LICENSE AGREEMENT October 2016 for v2 Software follows: (i) by either party upon thirty (30) days prior written notice upon the occurrence of a material breach by the other party of its

obligations under this Agreement if such breach remains uncured at the end of the notice period, provided however that no cure period shall apply as to any material breach of Sections 3, 4, 5 and 14 of this Agreement by Customer and Space Tech International may terminate this Agreement effective immediately upon written notice; or (ii) by Space Tech International if it has reasonable cause to doubt the financial stability of Customer, such as concerns over the ability of Customer to perform its obligations under this Agreement and in a sustainable manner, and has produced evidence of this assessment.

2. **Upon termination of this Agreement**, all licenses and service rights granted to Customer under this Agreement will automatically terminate, and Customer agrees to immediately cease using all Software and Documentation and promptly uninstall and erase all Software and Documentation (and related authorization codes) from all Customer computers. Within fifteen (15) days following termination, Customer shall return or destroy (at Space Tech International s sole option) all originals and copies of the Software (and related authorization codes) and Documentation, and upon Space Tech International's request, certify in writing that it has returned or destroyed (as applicable) all such originals and copies. Termination of this Agreement shall not relieve Customer from any obligation accrued on or before the date of termination. Provisions that survive termination of this Agreement include those in Sections 5, 6.4, 9, 10, 11, 12, 13, and 14 and others which by their nature are intended to survive.

13. *INTELLECTUAL PROPERTY INDEMNITY.*

1. **Space Tech International shall**, at its own expense and subject to the terms of this Agreement indemnify, defend and hold Customer harmless from and against any claim(s) brought against Customer by a third party alleging that the Software or any portion thereof as furnished under this Agreement and used within the scope of the licenses granted to Customer infringes any copyrights, trademarks or patents; provided that Customer gives Space Tech International: (i) prompt written notice of such claim; (ii) assistance and information reasonably requested by Space Tech International; and (iii) the sole authority to defend and settle such claim.

2. **Notwithstanding the provision of Section 13.1,** Space Tech International shall have no liability for any infringement arising from: (i) the integration or combination of the Software together with other software, materials or products not integrated or combined by Space Tech International, if the infringement would have been avoided in the absence of such integration or combination; (ii) the use of other than a current unaltered release of the Software available from Space Tech International, if the infringement would have been avoided by the use of the then-current release; (iii) modifications to the Software that were not authorized by Space Tech International or were undertaken at the request of or direction of Customer; or (iv) Customer s use of the Software in a manner that does not comply with this Agreement. 13.3 If the Software becomes, or in Space Tech International s opinion is likely to become, the subject of an infringement claim, Space Tech International may, at its sole option and expense, either: (i) substitute non-infringing software of substantially similar functionality; (ii) modify the infringing Software so that it no longer infringes but remains substantially similar in functionality; (iii) obtain for Customer, at Space Tech International's expense, the right to continue use of such Software; or (iv) if none of the foregoing is commercially feasible, Space Tech International will take back the Software involved, and grant Customer a refund or credit for the unused portion of the license fee and associated unused Maintenance fees actually paid to Space Tech International for the Software involved, using a straight line amortization over thirty six (36) months from initial delivery for Paid-up License(s). This Section 13 states Space Tech International's entire liability and Customer's sole and exclusive remedy for infringement claims and actions.

14. *MISCELLANEOUS.*

1. **This Agreement, together with any schedules**, exhibits and addenda attached hereto, and any and all mutually agreed upon Order(s) referencing this Agreement, constitute the complete agreement between Space Tech International and Customer with respect to the subject matter hereof, and this agreement supersedes all prior or contemporaneous agreements or representations, written or oral, with respect to the subject matter. If Customer issues a purchase order or other instrument covering the Software, Maintenance and/or Services provided under this Agreement, it is agreed that such document shall not be applicable and that any acceptance of such document by Space Tech International shall be for acknowledgment

purposes only. This Agreement may not be modified and the rights and restrictions may not be altered or waived except in a writing signed by the authorized representatives of the parties. Unicorn RenderSOFTWARE END USER LICENSE AGREEMENT October 2016 for v2 Software.

2. **This Agreement shall be construed** and disputes hereunder shall be settled under the laws of Malta without regard to its conflict of laws principles. Space Tech International and Customer agree to submit to the exclusive jurisdiction of, and venue in, the courts of Valletta, Malta, in any dispute arising out of or relating to this Agreement. The U.N. Convention on Contracts for the International Sale of Goods will not apply to this Agreement.

3. **The Software may be accompanied** by or contain certain third party software, including open source software (collectively, "Third Party Software"), subject to third party terms and conditions and/or notices. To the extent expressly permitted by the applicable third party terms and conditions, Space Tech International will pass through to Customer any warranties and indemnities provided by the third party. Except for any pass-through warranties and indemnities provided by the third party licensor, all Third Party Software is provided "as-is," without warranties or liability of any kind by Space Tech International. Customer agrees that Space Tech International s third party suppliers may enforce the provisions of this Agreement against Customer to the extent of their interest in the Third Party Software.

4. **This Agreement shall inure** to the benefit of and be binding upon the parties hereto and their respective successors and permitted assigns. However, Customer may not assign or transfer, by operation of law or otherwise, this Agreement (or any of the licenses or other rights or obligations hereunder), without Space Tech International's prior written consent. Any attempted assignment or transfer in violation of the foregoing will be void. Space Tech International may subcontract a service, or any part of it, to subcontractors selected by Space Tech International, provided Space Tech International will remain responsible to Customer for such subcontractor s performance in accordance with this Agreement.

5. **If any provision of this Agreement is invalid**, the parties agree that such invalidity will not affect the validity of the remaining portions of this Agreement. The parties further agree to substitute a valid provision for the invalid provision which most closely approximates the intent and economic effect of the invalid provision.

6. **Ambiguities, inconsistencies**, or conflicts in this Agreement, will not be strictly construed against the drafter of this Agreement; rather, they will be resolved by applying the most reasonable interpretation under the circumstances, giving full consideration to the intentions of the parties at the time of contracting. The section headings in this Agreement are for convenience only and will not be of any effect in constructing the meaning of the Sections.

7. **Except for the making of payment** under this Agreement, neither party will be held liable or responsible for delay or failure to perform any of such party's obligations under this Agreement occasioned by any cause beyond its reasonable control, including but not limited to war; terrorist acts; civil disturbance; fire; flood; earthquake; acts or defaults of common carriers; governmental laws, acts, regulations, embargoes or orders; or any other cause, contingency or circumstance not subject to such party's reasonable control. The affected party will resume full performance of interrupted obligations as soon as practicable upon cessation of intervening causes.

8. **All notices will be in writing** and will be sent to the recipient s address first set forth in this Agreement (or such other address as the recipient may designate by notice given in accordance with this Section). Notices permitted or required under this Agreement shall be delivered personally (including courier service), by certified or registered mail, return receipt requested, by confirmed facsimile transmission or by confirmed email transmission. Notices shall be effective upon receipt. If notice is sent to Space Tech International, it shall be directed to Attn: Legal Department.

9. **Customer acknowledges and agrees** that any and all consulting services performed or to be performed by Space Tech International for Customer are independent of Customer's purchase and use of the Software licenses. Customer further agrees that payment under this Agreement for items purchased hereunder is in no way dependent or in any other way associated with the commencement, completion or delivery of consulting services.

15. *Editor*

1. **The Editor and creator** of the original Rendering Engine software is Space Tech International Malta on license of Nvidia incorporation USA.
2. **All Rendering Engine IP** and Rights are reserved by Space Tech International Malta

3. Unicorn Render is trademark of Space Tech International
4. Space Tech International is the editor of Unicorn Render

Installation and Registration

Installation Guide Overview

This page provides some details on how to get Unicorn Render up and running.

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Installing Unicorn Render

Unicorn Render installer is pretty straightforward and easy to follow and can be downloaded from the Unicorn Render Downloads.

Download here Standalone Setup

Download here SketchUp plugin Setup

It's recommending that before installing Unicorn Render, please make sure your computer meets the System Requirements.
If you would like a step-by-step guide, please check out the Installation of Unicorn Render page. If you run into any problems, please check out the Troubleshooting page.

To get help o Installation or during the use of Unicorn Render please write to support
support@unicornrender.com

Installation Overview

Installation Guide Overview

This page provides some details on how to get Unicorn Render up and running.

Installing Unicorn Render

Unicorn Render installer is pretty straightforward and easy to follow and can be downloaded from the Unicorn Render Downloads.

Download here Standalone Setup

Download here SketchUp plugin Setup

It's recommending that before installing Unicorn Render, please make sure your computer meets the System Requirements.
If you would like a step-by-step guide, please check out the Installation of Unicorn Render page. If you run into any problems, please check out the Troubleshooting page.

To get help o Installation or during the use of Unicorn Render please write to support
support@unicornrender.com

Licensing Unicorn Render

Once Unicorn Render is installed you will want to make sure that your Unicorn Render license is properly configured.
The Setting up your Licenses page includes everything you need to get Unicorn Render licensed and running properly.

Download

Download Unicorn Render

Unicorn Render installer is pretty straightforward and easy to follow and can be downloaded from the Unicorn Render .

Download here Standalone Setup

Download here SketchUp plugin Setup

It's recommending that before installing Unicorn Render, please make sure your computer meets the System Requirements.
If you would like a step-by-step guide, please check out the Installation of Unicorn Render page. If you run into any problems, please check out the Troubleshooting page.

To get help for Installation or during the use of Unicorn Render please write to support support@unicornrender.com

After to click on the link and save if Windows ask to save you will see the following task that indicate the download progress and the remaining time.
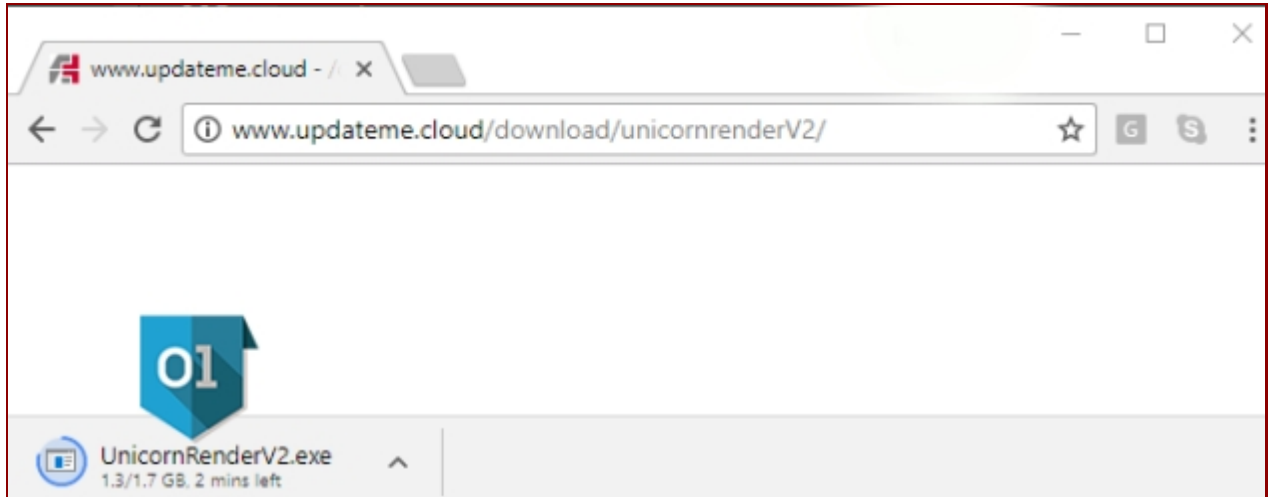
Running the setup you will see the following message to install...
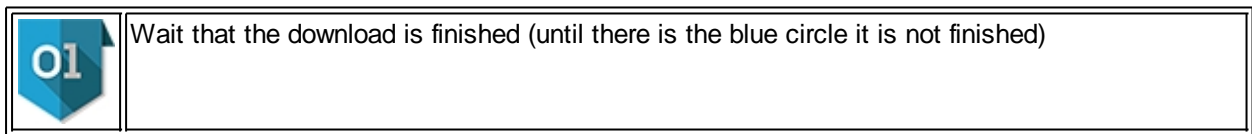
O1	Wait that the download is finished (until there is the blue circle it is not finished)

Install

Install Unicorn Render

01	Wait that the download is finished (until there is the blue circle it is not finished)
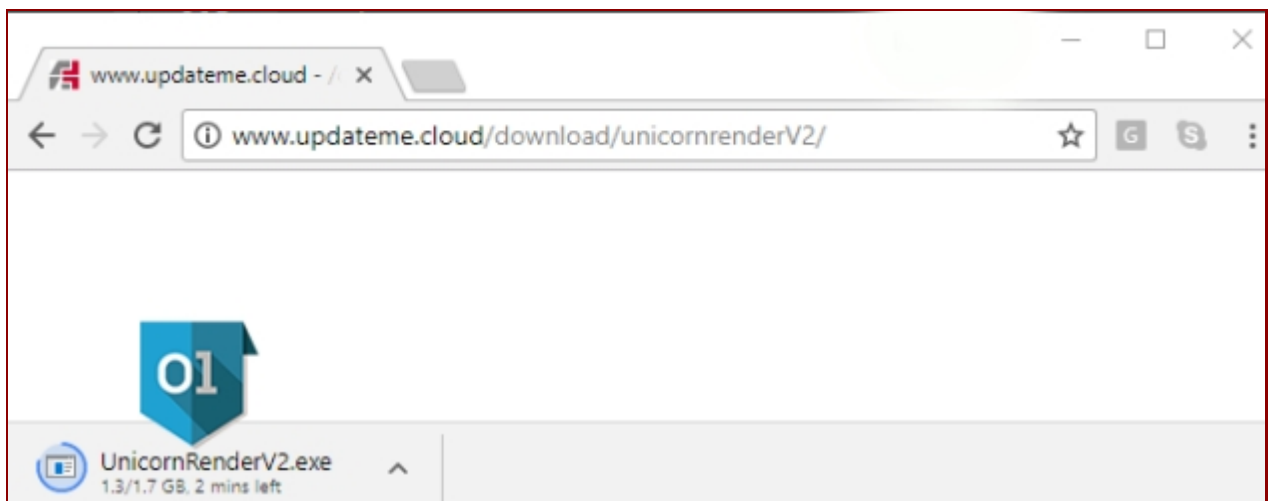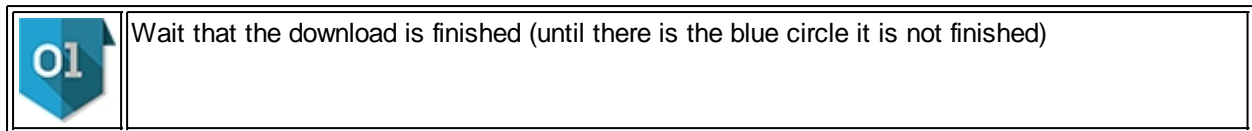
After downloaded Unicorn Render Setup you will have the following icons...

01	Double click and start the Install
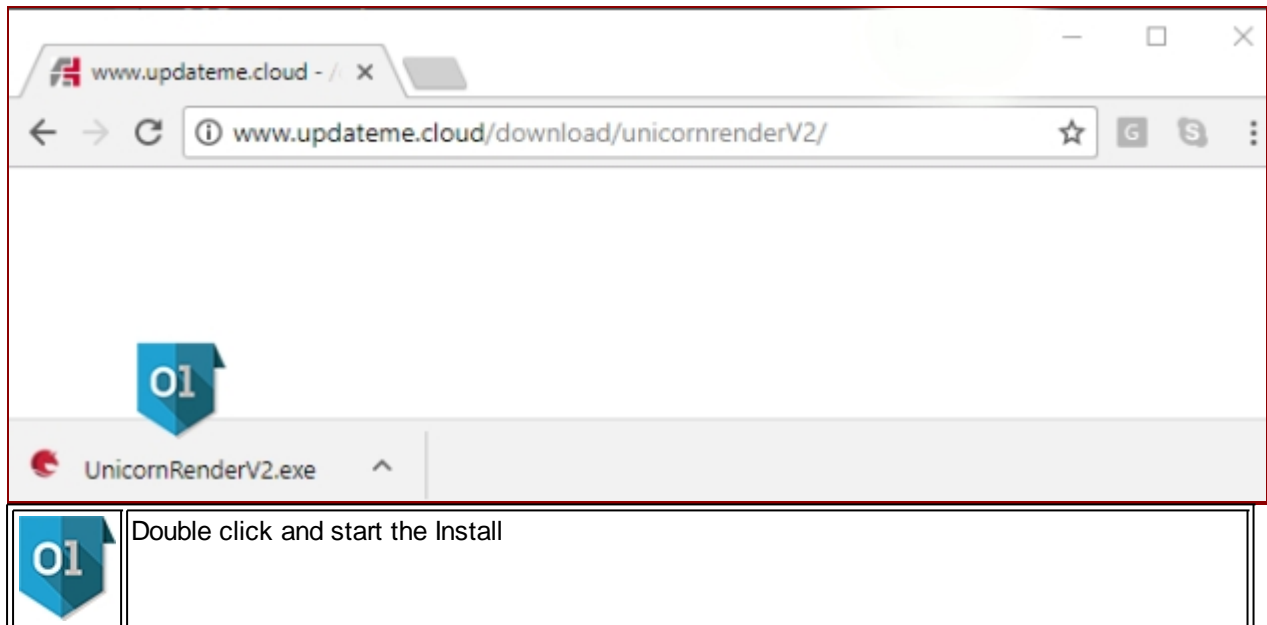
🛑 *if you do not see the icon, go in resource manager and open the download folder and makes double click on it*
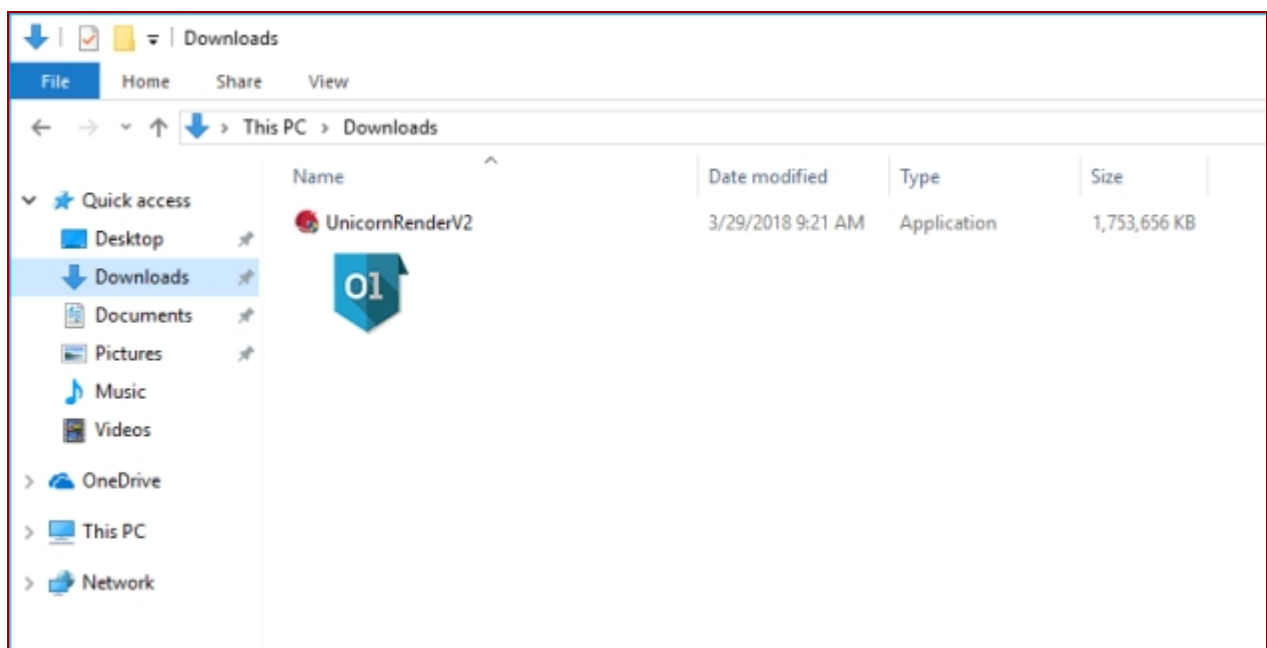
O1	Double click and start the Installation

! You may get the following dialog and need that you click on Yes

User Account Control   ✕

Do you want to allow this app from an
unknown publisher to make changes to your
device?

UnicornRenderV2.exe

Publisher: Unknown
File origin: Hard drive on this computer

Show more details

Yes   No

O1	Click on YES to install

Windows protected your PC

Windows Defender SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk.

More info

Don't run

	Click on more info

Windows protected your PC

Windows Defender SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk.

App: UnicornRenderV2.exe
Publisher: Unknown publisher

Run anyway   **Don't run**

	Click on Run Anyway

Space Tech International Limited
Unicorn Render

Select the setup language: **01**

English (United States)

English (United States)
Nederlands (Nederland)
Français (France)
Deutsch (Deutschland)
Italiano (Italia)
Español (España)

02

Next

01	Click here to chose the language for instructions to install, the application will be installed in any case in all language available in the setup.
02	Click here to continue to install..

01	Click here to chose the folder where to install if different than the default value for windows.
02	Click on Accept and Install to continue to install accepting the License terms and conditions or click on back to return to the previous menu.

03	If you agree to the License terms and conditions, click on this check box and Install. If you do not agree to our License terms and conditions the button install will not be able to continue the installing.
04	As last step agreeing to the license terms and conditions you can click on "Install" and run the final part of installation.

	Click here to close the setup
01	

At this point the installation is completed !!

Now Unicorn Render is ready to START !!

Run Unicorn Render from this icon located on the desktop

Run

Run Unicorn Render

Run Unicorn Render from the icon located on the desktop

or type in the search line "Unicorn Render"

Next Step will be the license dialog...

Register

Run Unicorn Render from the icon located on the desktop

or type in the search line "Unicorn Render"

Welcome

Unicorn Render

| | Add License | Log Out |

Licensed to: | Demo

Expires on: | Demo

Product: | Unicorn Render (Demo License)

License Type: | Demo License | | Detach |

01

☰   **Unicorn Render**   🇬🇧 English ▾

- 🇩🇪 German
- 🇬🇧 English
- 🇪🇸 Spanish
- 🇫🇷 French
- 🇳🇱 Dutch
- 🇮🇹 Italian
- 🇵🇱 Polish

Log in. **02**

Register as a new user **03**

Click here to change your password!

Use a local account to log in.

Email *

Password *   **04**

☐ Remember me?

| Log in | **05**

Start Application

| **01** | Select your preferred language for the web interface |

02	If you are not registered, click on "Register as new user" and you will see the following dialog (it works also for demo versions and trial versions).
03	If you are already registered but you lost your password, click on "Click here to change your password" and you will receive an e-mail where you can change your password, after close all and run again Unicorn Render.
04	If you are already registered as user insert your email, password
05	After inserted the e-mail and password click on Login.

Unicorn Render V2

Add License   Log Out

Licensed to: Demo

Expires on: Demo

Product: Unicorn Render V2 (Demo License)

License Type: Demo License   Detach   Manage

≡ Unicorn Render   ⌄

Register
User Info

User category *

SingleUser

Educational

Preferred language for receiving email

English

Title

First name *

Last name *

Start Render

User category *

SingleUser
Multiuser

If you are one user only chose "single User" if you are going to register a company with several

	users "Select "Multiuser".
02	If you are Student, Teacher, Educator, School click on it otherwise left empty.
03	German English Spanish French Dutch Italian Chose the language for the e-mails and User interface of web site license
04	Insert your title such as Mr., Mrs, Architect, etc.. (Optional)
05	Insert your first name such as Alain, Giuseppe, Sebastian... (Mandatory)
06	Insert your family name such as Proust,, Garibaldi, Vettel... (Mandatory)

Unicorn Render V2

Add License	Log Out

Welcome ✕

Licensed to: `Demo`

Expires on: `Demo`

Product: `Unicorn Render V2 (Demo License)`

License Type: `Demo License` ▾ | Detach | Manage |

Email *

01

Mobile phone *

🇺🇸 ▾ (201) 555-0123

02

Password *

03

The password must be long at least 8 characters and contains at least one digit, one uppercase and one lowercase letter

Confirm password *

03

Website

04

Address 1 *

05

Address 2

05

Start Render

01	Insert here your contact e-mail It is very important that this is a valid e-mail because your license will be connected with it (Mandatory)

02	 Select the country's prefix and insert you telephone number, a validity check will be done (Mandatory)
03	Insert your password (remember it, it will be required to log in any Computer you need with the e-mail) It MUST contains at least One Number, One upper case letter, One lower case letter, Minimum 8 characters, no special characters such as , ; ; / ? @ ^&*%!§:¤ ... (Mandatory)
04	Insert your web site address (Optional)
05	Insert your fiscal address such as 1, Boulevard Enzo Ferrari... (Mandatory)

Welcome

Unicorn Render V2

Add License   Log Out

Licensed to: Demo

Expires on: Demo

Product: Unicorn Render V2 (Demo License)

License Type: Demo License   Detach   Manage

Address 1 *

Address 2

Country *

France

Country Area (State or Region or Province) *

Ain (01)

City *

Béligneux

Zip code

Product Voucher Code

Register

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Start Render

 Select the country where you live and work. (Mandatory)

	Djibouti Dominica Dominican Republic East Timor Ecuador Egypt El Salvador Equatorial Guinea Eritrea Estonia Ethiopia Falkland Islands Faroe Islands Fiji Finland France French Guiana French Polynesia French Southern Territories Gabon Gambia Georgia Germany Ghana Gibraltar Greece Greenland Grenada Guadeloupe Guam
02	Select the Region if available (Mandatory)

	Loire-Atlantique (44) Loiret (45) Loir-et-Cher (41) Lot (46) Lot-et-Garonne (47) Lozère (48) Maine-et-Loire (49) Manche (50) Marne (51) Mayenne (53) Meurthe-et-Moselle (54) Meuse (55) Morbihan (56) Moselle (57) Nièvre (58) Nord (59) Oise (60) Orne (61) Paris (75) Pas-de-Calais (62) Puy-de-Dôme (63) Pyrénées-Atlantiques (64) Pyrénées-Orientales (66) Rhône (69) Saône-et-Loire (71) Sarthe (72) Savoie (73) Seine-et-Marne (77) Seine-Maritime (76) Seine-Saint-Denis (93) Somme (80)
03	Select or type your city (Mandatory) Ambérieu-en-Bugey Ambérieux-en-Dombes Ambléon Ambronay Ambutrix Andert-et-Condon
04	Insert your postal Zip Code (Optional)
05	If you have already a license activation code you can insert here!
06	When you fill all correctly (if some mandatory field is not given or wrong you'll get a message) click on "Register" to continue. You will receive an e-mail to the e-mail address declared, you need click on his link to confirm. After run again Unicorn Render

Close the dialog and after e-mail confirmation, [run from the icon located in the desktop]

Welcome

Unicorn Render

| Add License | Log Out |

Licensed to: Demo

Expires on: Demo

Product: Unicorn Render (Demo License)

License Type: Demo License | Detach |

01

☰ **Unicorn Render** 🇬🇧 English ▼

🇩🇪 German
🇬🇧 English
🇪🇸 Spanish
🇫🇷 French
🇳🇱 Dutch
🇮🇹 Italian
🇵🇱 Polish

Log in. **02**

Register as a new user **03**

Click here to change your password!

Use a local account to log in.

Email *

04

Password *

☐ Remember me?

| Log in | **05**

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Start Application

| **01** | Select your preferred language for the web interface |

02	If you are not registered, click on "Register as new user" and you will see the following dialog (it works also for demo versions and trial versions).
03	If you are already registered but you lost your password, click on "Click here to change your password" and you will receive an e-mail where you can change your password, after close all and run again Unicorn Render.
04	insert your email, password
05	After inserted the e-mail and password click on Login.

Activate a license

Activate a License

Running you get the following dialog

Unicorn Render V2

Welcome

Add License   Log Out

Licensed to: Demo

Expires on: Demo

Product: Unicorn Render V2 (Demo License)

License Type: Demo License   Detach   Manage

No activations found for this machine.

Start Render

Click on "Add License" to insert your "Activation Code" that will associate the license to your e-mail
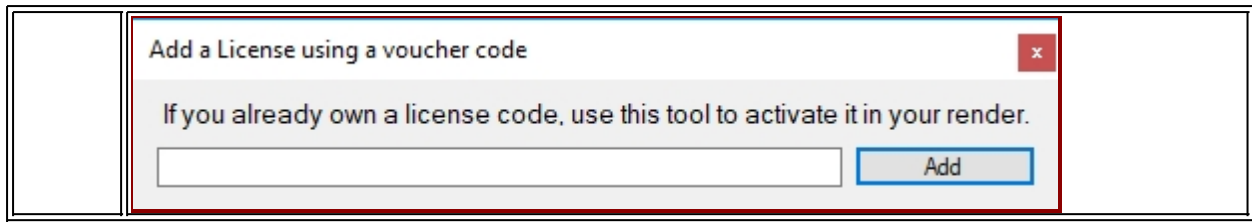
 After to activate a license Select it to use!

Select a license

Select a License

Running Unicorn Render you get the following dialog

Welcome

Unicorn Render V2

Add License   Log Out

Licensed to: Demo

Expires on: Demo

Product: Unicorn Render V2 (Demo License)

01

License Type: Unicorn Render V2 Trial License   Detach   Manage

02

03

Unable to activate a trial license.: This machine has requested a trial license!

Start Render

---

01 Clicking on, you get the list off licenses available to you

Demo License

Demo License
Render Developer
Render Developer
Unicorn Render V2 Trial License

	If you want to start your 14 days trial Click on Unicorn Render Trial License If you select Demo License you can use Unicorn Render without time limitation but with size limitation to 1024*768, you'll get a watermark and the files are not compatible with the commercial version. If you use an educational version you will get a watermark, size limitation according the license and the files will be compatible only with the educational versions and not with the commercial versions. If you already activated a commercial license you can chose it to work
02	When you already used your trial period and it is expired will not be possible to select anymore!
03	Click on "Start" to start Unicorn Render

Welcome

Unicorn Render V2

Add License   Log Out

Licensed to: Demo

Expires on: Demo

Product: Unicorn Render V2 (Demo License)

License Type: Unicorn Render V2 Trial License   ▽   Detach   Manage

01

Unable to activate a trial license.: This machine has **02** **equested a trial license!**

Start Render

01 Clicking on detach you dissociate the license to this computer and you can go to another computer to associate it, or you can select another license available

02	Click on "Start" to start Unicorn Render

Manage licenses

Manage Licenses

Running "Manage you will see all available license from the web www.licenseme.cloud/Unicorn

From this page you can manage them also if you are in another computer.

01	It allows to detach the license from the related computer and it can be used to another one also if it wasn't detached directly from the computer where the license was associated. Note that the next time you'll run Unicorn Render in the previous computer the license will be detached. This procedure can be used when you want to transfer license from one computer to another but the computer where the license is linked is not available or broken or lost.
02	It shows the license type owned.
03	It shows the Hardware and Windows user associate to this license.
04	It shows When this license was activated.

05	It shows When this license will expire or expired.
06	It shows the status of license that can be: **Created - Pending** : The user can use in a computer. **Active - Created** : The license is active and linked to a computer. **Expired - Created**: The license is not available anymore. **Banned** : The license is not available anymore.

Transfer a license to another Computer

Transfer a license to another Computer

Running "Manage you will see all available license from the web www.licenseme.cloud/Unicorn
From this page you can manage them also if you are in another computer.

Unicorn Render V2

Welcome

Add License   Log Out

Licensed to: Demo

Expires on: Demo

Product: Unicorn Render V2 (Demo License)

License Type: Unicorn Render V2 Trial License   Detach   Manage

Unable to activate a trial license.: This machine has already requested a trial license!

Start Render

Clicking on "Log Out" you will detach the current license from this Computer and you can go to the other Computer where you want to attach the license.

 If you forgot to "Log Out" from the Computer where the license is attached you can follow the procedure to manage licenses directly from the web www.licenseme.cloud/Unicorn.

Going to the other Computer after the Download and Installation, if needs..

          Run Unicorn Render from the icon located on the desktop

Welcome

Unicorn Render

Add License | Log Out

Licensed to: | Demo
Expires on: | Demo
Product: | Unicorn Render (Demo License)
License Type: | Demo License | Detach | Manage

☰ **Unicorn Render** 🇬🇧 English ▼

🇩🇪 German
🇬🇧 English
🇪🇸 Spanish
🇫🇷 French
🇳🇱 Dutch
🇮🇹 Italian
🇵🇱 Polish

Log in.

Register as a new user

Click here to change your password!

Use a local account to log in.

Email *

Password *

01

□ ☐ r me? 02

Log in

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Start Application
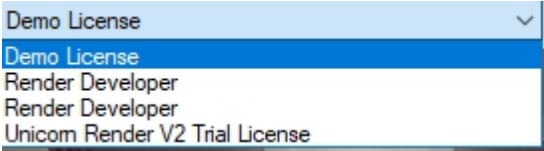
| 01 | Insert your e-mail and password |

	Click on Login
02	

After the Login you can select the available license

01	Clicking on, you get the list off licenses available to you Demo License ⌄ Demo License Render Developer Render Developer Unicorn Render V2 Trial License If you want to start your 14 days trial Click on Unicorn Render Trial License If you select Demo License you can use Unicorn Render without time limitation but with size limitation to 1024*768, you'll get a watermark and the files are not compatible with the commercial version. If you use an educational version you will get a watermark, size limitation according the license and the files will be compatible only with the educational versions and not with the commercial versions. If you already activated a commercial license you can chose it to work
02	ⓘ When you already used your trial period and it is expired will not be possible to select anymore!
03	Click on "Start" to start Unicorn Render

Troubleshooting

Troubleshooting

You can face problems if :

● **Your antivirus stop the process or do not allow the files to be copied, please deactivate fully before to install.**

● **If the file of Setup** downloaded **has different** MD5 **from the one on the server, it means that some application changed it (possible virus) or the download was not well finished.**

● **If you have not enough Internet band to download the Setup.**

● **If you have not Internet connection to set the License or to** *Detach* **it.**

● **If your account hasn't enough right to run the setup or to install the needed requirements.**

● **If you don't have e-mail, the** *registration* **process can't be performed.**

● **If you try to install and older version comparing the version already installed on your computer, in this case you will need to** *Uninstall* **before the actual version and Install the older version.**

   For any problem you can send one e-mail to our support service support@unicornrender.com

Unistall

Uninstall Unicorn Render

If you wish to Uninstall Unicorn Render you need to run on setting the "application" dialog

01	Search Unicorn Render
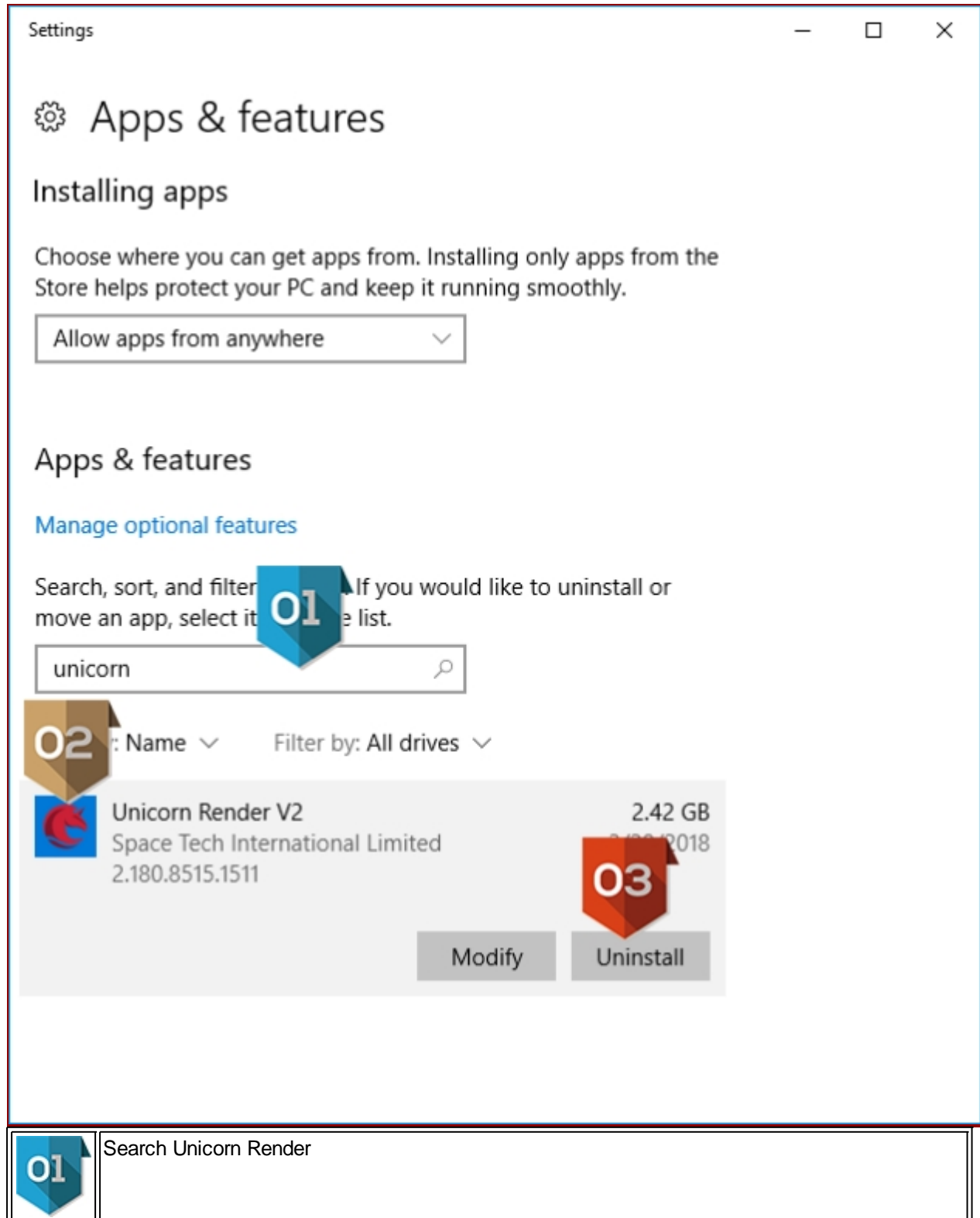
O2	Select on the list Unicorn Render
O3	Click on Uninstall to Uninstall Unicorn Render from your PC

In case of Uninstall of Unicorn Render you will not lose the license because they are hosted on our servers and also in case of License that was not detached, it can be detached from the control pane to the address www.licenseme.cloud/Unicorn

Created with the Personal Edition of HelpNDoc: Easily create iPhone documentation

User Interface overview

Overview User Interface

When you start Unicorn Render you will see this layout that is studied to use Unicorn Render with simplest ergonomic possible.

O1	The Title bar indicates the application name, The current model name, The build number e.g. 2.180.8515.1511: 2 = Version 2; 18 = Year 2018; 085 = Day number 85 (27 March); 15 = Hour of build; 1511 = Hour and minute of build 15h 11m. The number of GPUs in your PC and his use in %
	The Ribbon bar contains all the activities of Unicorn Render such as Scene, Background etc, all

02	parameters showed in this area are project parameters (they will be applied only to the current project and stored in the project file .BPF; each time you will select the tab related with one activity the Layout will change in order to have the best display and usability for such activity.
03	The System Toolbar contains the general commands not related with a specific activity such as Open file, save file, system settings etc.
04	The Right Panel contains according the activity part of User Interface dedicate to Cameras 2D, Material List, sun Control. It is possible detach from the main Panel and use in another monitor.
05	The Left Panel contains according the activity part of User Interface dedicate to Production settings, Material setting, Artificial light controls.
06	The 3D view contains always the 3D view in the proportion and contents as the finale image will be produced.
07	The Lower Panel contains a gallery that change according the activity such as Scenes, Materials, background; all parameters showed in this area are system parameters (when they will be applied they will be copied to the current project and stored in the .BPF file).

Project File

BPF file format is organized to track, and maintain projects, used by the designer. It is designed to save geometries, textures, file imported and maintain the link with original files.

Import Export Project file

Open / Save Project File

This activity allows to open / save / import / Export a Binary Project File (.BPF) or to create a new project file starting from one of the format that is possible to import

	OPEN, This icon manages all activities regarding the Open Project
	SAVE, this icon manages all activities regarding the save and export project

Open Project File

Open File

This activity allows to open a Binary Project File (.BPF) or to create a new project file starting from one of the format that is possible to import

? BPF is a file that contains all information of the project such as geometries, illuminations, textures, background and all parameters needed to produce images, VR and animation, all resources are embedded, moving this file all needed for the
project will be moved.

	OPEN, This icon manages all activities regarding the Open Project

01	It opens the dialog that allows: • To open a project file (BPF) • To create a new file BPF starting from a file in different format (SKP, Revex, OBJ...) • Insert in the current project an additional file.
02	It opens the dialog that allows: to select a file Binary Library Object (BLO) It is possible to customize the path from the system settings icon.
03	It opens the dialog that allows: to open a BLO object and modify it.
04	It opens the dialog that allows: to import several file from different origin in one step only, all parameters required will be asked in one time and all conventions will be performed in one session. This operation is for expert users, if one file is corrupted can interrupt the full process!
05	It will empty the current session from any geometries, setting etc. Unicorn Render will be ready for a new open activity..

Open File Options

This dialog will be showed when you click on Load / Import Model
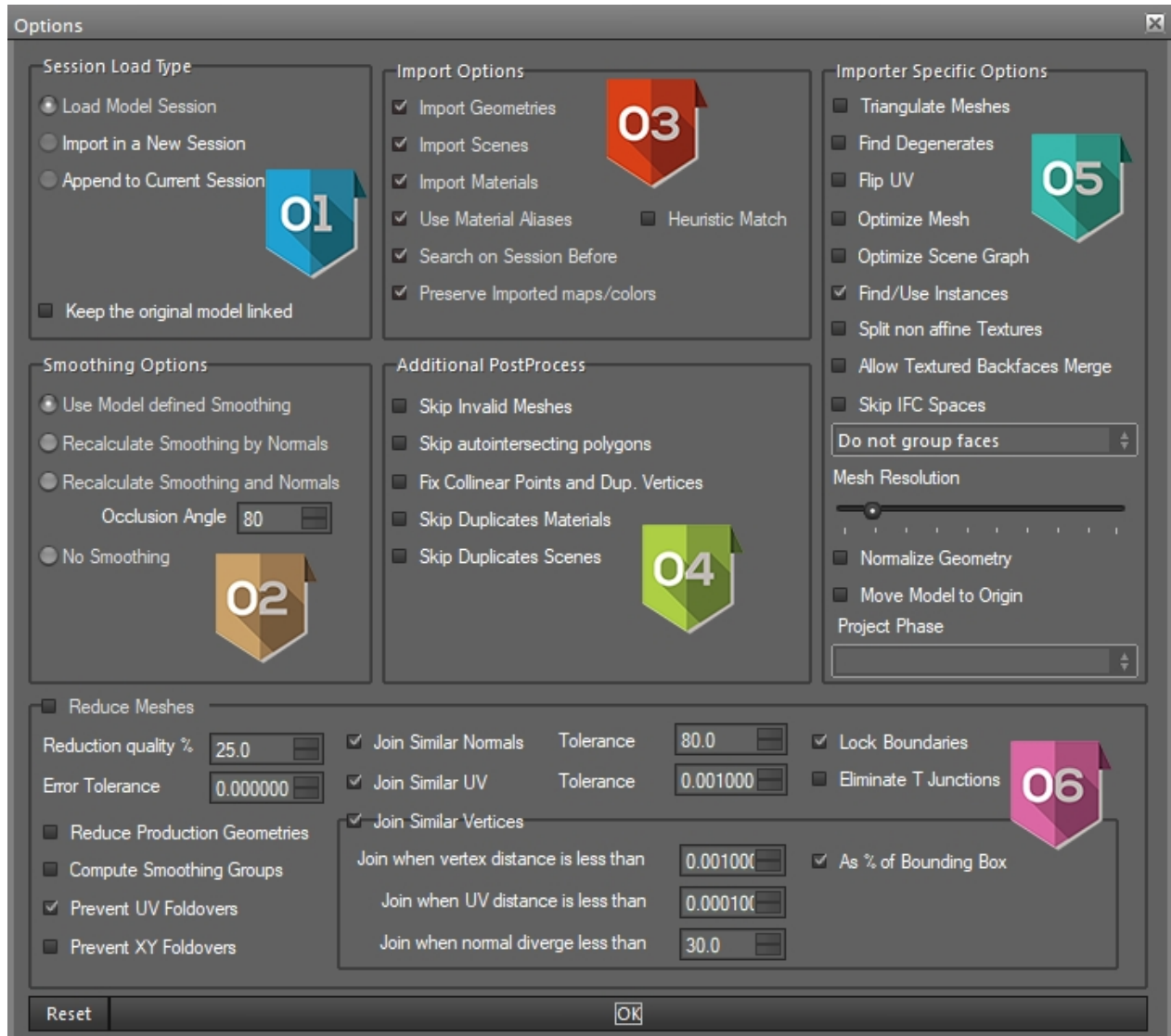
01	In this groups there are all options for the session type.
02	In this groups there are all options for the Smoothing.
03	In this groups there are all generic options for the geometry
04	In this groups there are all options for the post processes.

05	In this groups there are all options related with the different import origin..
06	In this groups there are all options related with the reduction of mesh size and quality.

Open File Sessions Options

01	this option is available only for BPF file, it means that will load the model as was saved last time.
02	This option is available for import type, it will delete the current session (if not saved it will ask if you want to save or if you want to discard the changes) and will load the new imported file in a new scene file.
03	This option is available for import type but will add the new import as part of the current session appending the new entities to the existing scene. The new import will be available in the material tab, in the model section as "Model".
04	This option is available only for import type and will copy the imported file inside the BPF file and it will connect it to the imported geometry. It will be possible to run "edit in original editor" to edit his geometries or material in the original application that generate it, for example SketchUp (SKP) or Rhinoceros (3DM).

Open File Smoothing Options
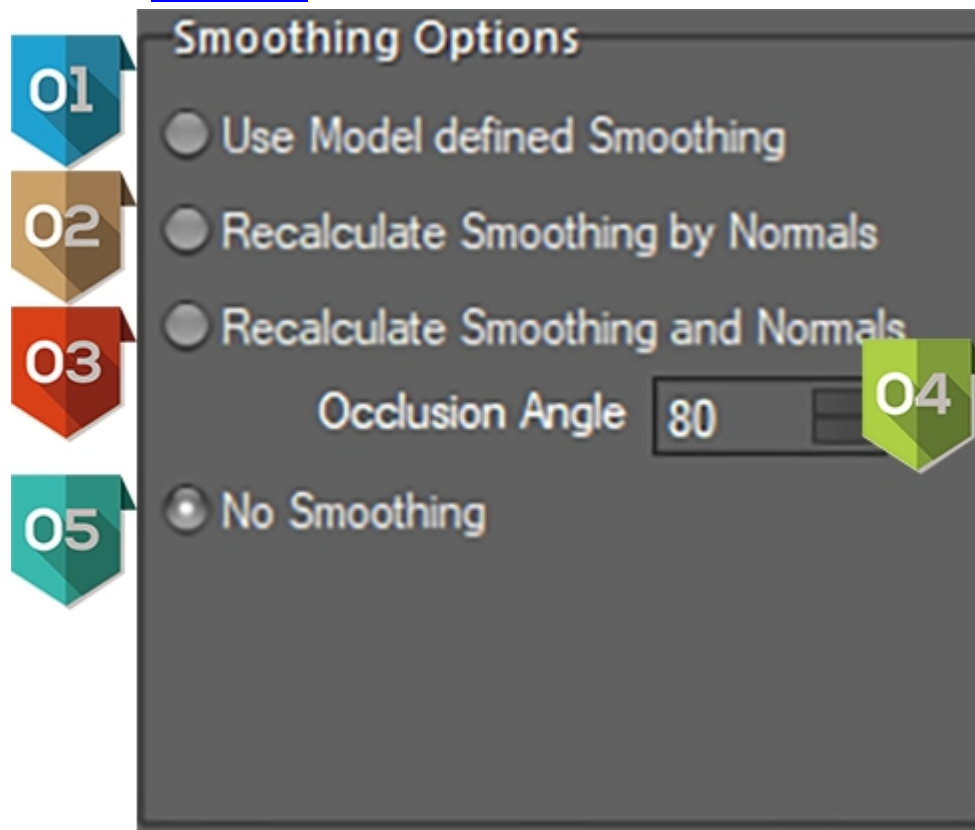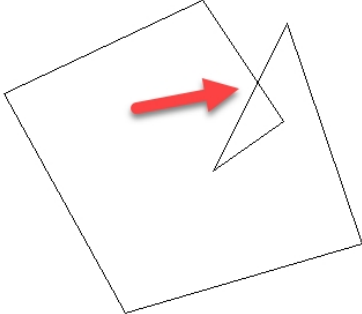
01	This option is available all files, and will set the edge visibility according the definition on the file (actually not used)
02	his option is available all files, and will set the edge visibility according the definition of normals on the file, if they are smoothed the edges will not be visible (actually not used).
03	This option is available all files, and will smooth all the surface mesh by mesh according the angle between his surfaces, if the occlusion angle is less of the angle inserted the two surfaces will be smoothed (continuous) and the edge will be not visible.
04	This option is available only if option 3 is activated and define the angle limit of occlusion to calculate the smoothing.
05	this option is available all files, and will set the edge visibility for all the edges (actually not used)

Open File Import Options

01	This option allows, if activated, to import the geometries
02	This option allows, if activated, to import the scenes and cameras..
03	This option allows, if activated, to import materials.
04	This option allows, if activated, to override the materials defined in the original application by the materials in the system gallery matching the name and his translations. Like that if the material is named, for example, "Mirror" even if in the original application was defined as simple color, the import will convert him in the material named mirror on the system gallery, if his association is with real mirror material you will not need to replace it.
05	This option allows, if activated, to search the Aliases with heuristic algorithm, it means that he will try to match the name with the more similar names also inside more complex names.
06	This option allows, if activated, to search the material to match before in the session (materials already used in the project) and if not found it will continue to search on the system gallery.
07	This option allows, if activated, when the material is matched with one of the gallery to keep the colors and texture also if in the materials there is indication to override them.

Open File Additional Post Process
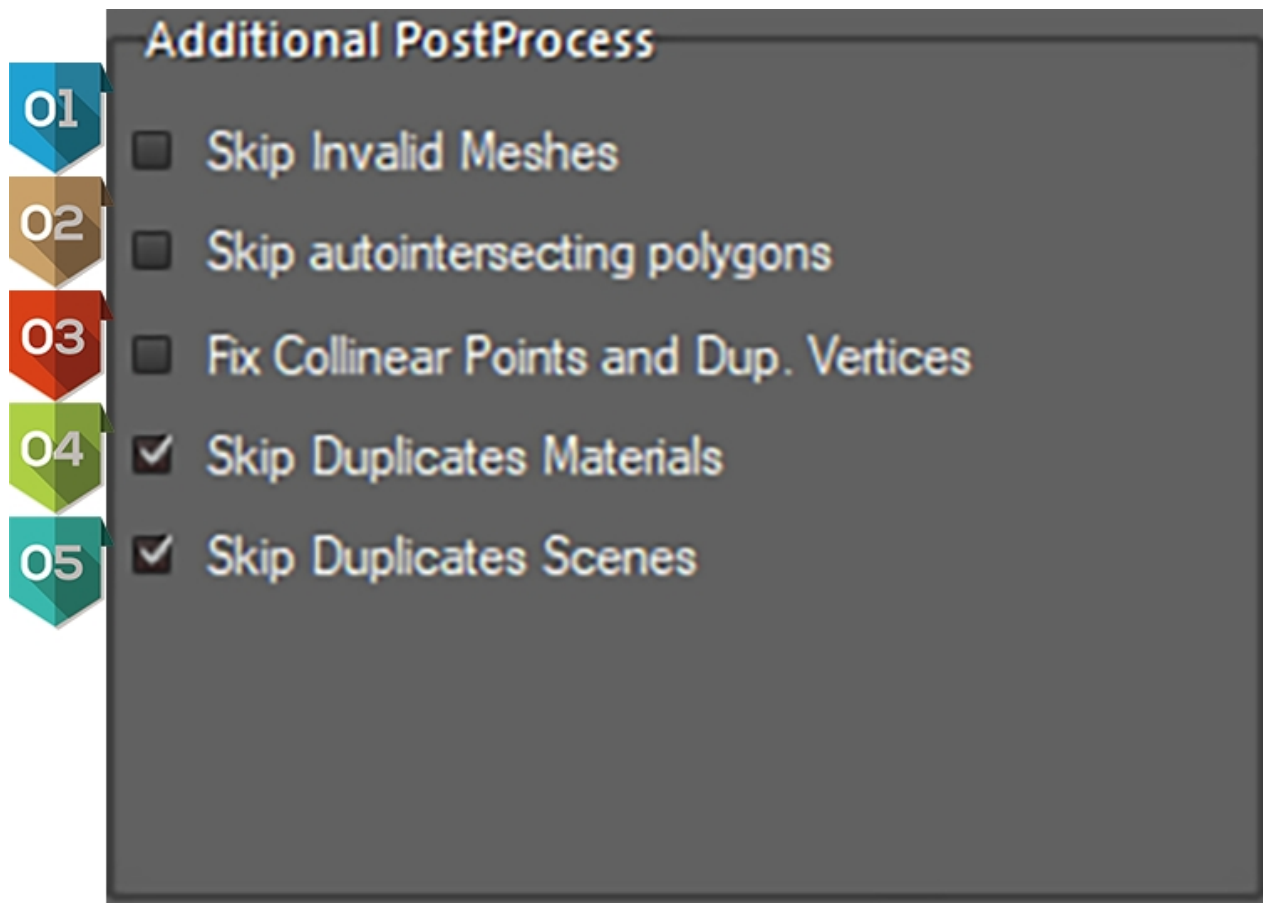
01	This option allows, if activated, to skip to import mesh not valid, such as less than 1 polygon, no vertexes, etc...
02	This option allows, if activated, to remove polygons that have edges auto-intersecting.
03	This option allows, if activated, to remove the point on one edge that are collinear.
04	This option allows, if activated, to avoid to import several time the material that have the same name, if the name is the same, it will be used and not imported again.

	This option allows, if activated, to avoid to import several time the scene that have the same name, if the name is the same, it will be used and not imported again.

Open File Importer Specific Option

01

Importer Specific Options

02

☑ Triangulate Meshes

☐ Find Degenerates

03

☐ Flip UV

04

☐ Optimize Mesh

05

☐ Optimize Scene Graph

06

☑ Find/Use Instances

07

☐ Split non affine Textures

☐ Allow Textured Backfaces Merge

08

☐ Skip IFC Spaces

09

10

Merge faces with same parent

Mesh Resolution

11

12

☐ Normalize Geometry

13

☐ Move Model to Origin

Project Phase

14

01	This option allows, if activated, to triangulate all polygons of the mesh, it can solve some visibility problem but can destroy the edge visibility, we advice to use only in case of bad import when it is deactivated.
02	This option allows, if activated, to find and remove the polygons that have edges or vertex with incorrect indexes.
03	This option allows, if activated, to invert U with V and vice versa, Need to activate it when all direction of texture are inverted, it means that the application that saved it use inverse convention.
04	This option allows, if activated, to optimize the numbering inside the mesh. It can be useful to make faster the next read.
05	This option allows, if activated, to optimize the elements of scene.
06	This option allows, if activated, to try to match geometries that have same number of vertexes, polygons, coordinates and if all are coincident we convert in instances, it means that they become faster to be showed.
07	This option allows, if activated, to create a texture that has perspective deformation into a sub-image that hasn't perspective deformation. Usually it arrives from SKP and it makes the importer slower but very accurate to match deformed textures.
08	This option allows, if activated, to merge front and rear material when they are assigned as two different materials but they in fact the same material.
09	This option, if activated, will skip to import the spaces as geometry, if imported the room will be like a solid and having a material will cover all elements inside and from the opening the interior will no be visible.
10	There are two options: - Merge faces with the same parent, that create a mesh from separated faces that have the same material and they are ion the same level of nested level - Do not merge faces, that create a mesh for each face that is alone.
11	This option defines the level of mesh precision when the file that you are going to import is a BREP file defined by modeling, it contains still the mathematical definition of 3D modeling and it is possible to calculate the mesh precision, we hardly recommend to not pass the 3th tick if really you do not need more, it could generate a huge amount of polygons and could be necessary to have more than 128Gb RAM and 32Gb of GPU RAM.
12	This option defines the scale of the model or in coordinates that are declared in the file that you are going to import or, if activated, between 0 and 1, we will take the maximum value of coordinates and we will assume that it is 1 and the full model will be scaled according this scale.
13	This option, if activate, reposition the model with his lower left vertex of his bounding box on the origin at the model (0, 0, 0)
14	This option, if activate, let you chose from all phase that the file contains to chose the one that will be imported. This option is available only; from Revit plugin importer (RevEx).

Open File Importer Specific Option

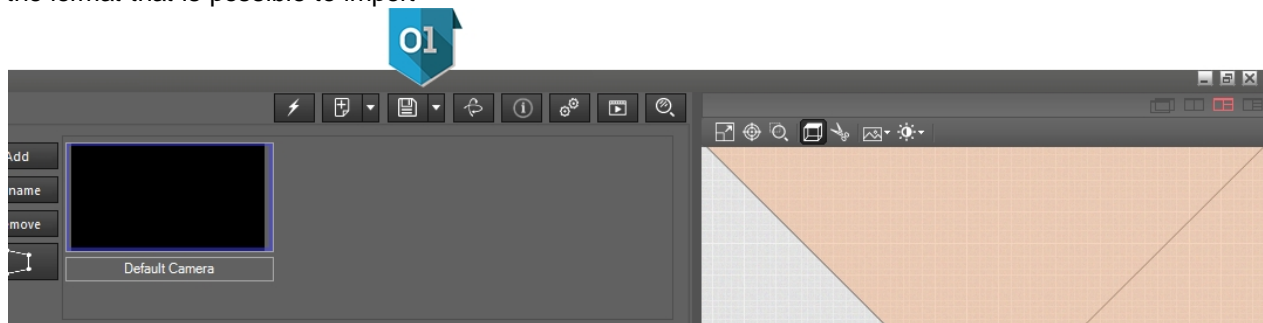|	
01	This option is one of the most powerful geometric operation of Unicorn Render, it allows to reduce the number of polygons of the geometry without to lose the shape, texture coordinate mapping, smoothing normals. Need use carefully because if you reduce too much the sense of shape can be distorted but if you are going to import an object that has an huge number of polygons and for you is enough a simplified visualization, this functionality can give the good reduction in order to us fast and safe. If you do not activate this option all the option in this area are not active
02	This option allows to determinate the final quality of the mesh, if you set 25% the reduction will be of 75%. The final number of polygons are proportionally to the reduction but not exactly calculated, for example if a planar surface is defined with 100 polygons also reduction 90% will generate one polygon only because he find all 100 polygon co-planar, if you have a curved corner the number of polygons will depend from the percentage you insert. The Minimum reduction is 90% of the original size.
03	This option defines the tolerance between the faces/vertex/normals.
04	This option allows, if activated, to reduce the geometry that you import not only for the visualization session but it will be a permanent modification of the meshes. If you do not activate you can use the reduction just for a session and next time you load without reduction. It can be useful for fast viewing or for temporary use in slow computers.
05	This option allows, if activated, to reassign according the smoothing the edge visibility, it means that recomputing all the surfaces that determinate a curved surface it set th edge between them as not visible. For example if you have a semi sphere and you activate it all the part on the curved surface will not have line visible except for the silhouette and the lines between the curved part and the flat part will be visible, the visible line in the flat part will be only the border lines and not all inside the surface; if you do not activate this option all the lines will be visible. This option set the visibility but in this version is not possible to show the lines.
06	This option, if activated, prevent to have UV foldover, it means that prevent to have invalid UV and Unicorn Render will try to fix it.
07	This option, if activated, prevent to have XY foldover, it means that prevent to have invalid values and Unicorn Render will try to fix it.
08	This option, if activated, will merge the normals that have similar value and you will see smoothed the surfaces involved.

09	This option indicate the tolerance value to join the normals, if the difference is less than this value they will be merged.
10	This option, if activated, will merge the UV that have similar value.
11	This option indicate the tolerance value to join the UV, if the difference is less than this value they will be merged.
12	This option, if activated, will calculate the value according the bounding box, so any calculation will be relative to it.
13	This option, if activated, will remove all T junction inside the polygons avoiding that Unicorn Render will have problems.
14	This option, if activated, will join vertex that have similar values for distance, UV, normal divergent and can considerate their difference according the bounding box and not the absolute value.

Save Project File

Save Project File

This activity allows to open a Binary Project File (.BPF) or to create a new project file starting from one of the format that is possible to import

01	SAVE, this icon manages all activities regarding the save and export project

	It Saves the current Project to BPF file.
	It saves the current Project to: • BPF with another name. • BLO file. • Collada file (DAE). • Wavefront file (OBJ). • Stereo-lithography file (STL). • Stanford polygon library file (PLY). • AutoDESK 3DS file (3DS). • NVIDIA Scene model Image file (MI). The export file are relatively supported, they can contains some artifact or missed material, the target of Unicorn Render is not export geometries but to make images, the export is performed to make some test comparing the scene in other applications.
	It saves the current file as BLO. • It will save only the geometry • All material association will be by geometry • The lights will be NOT saved. • The Scenes and cameras will NOT be saved.
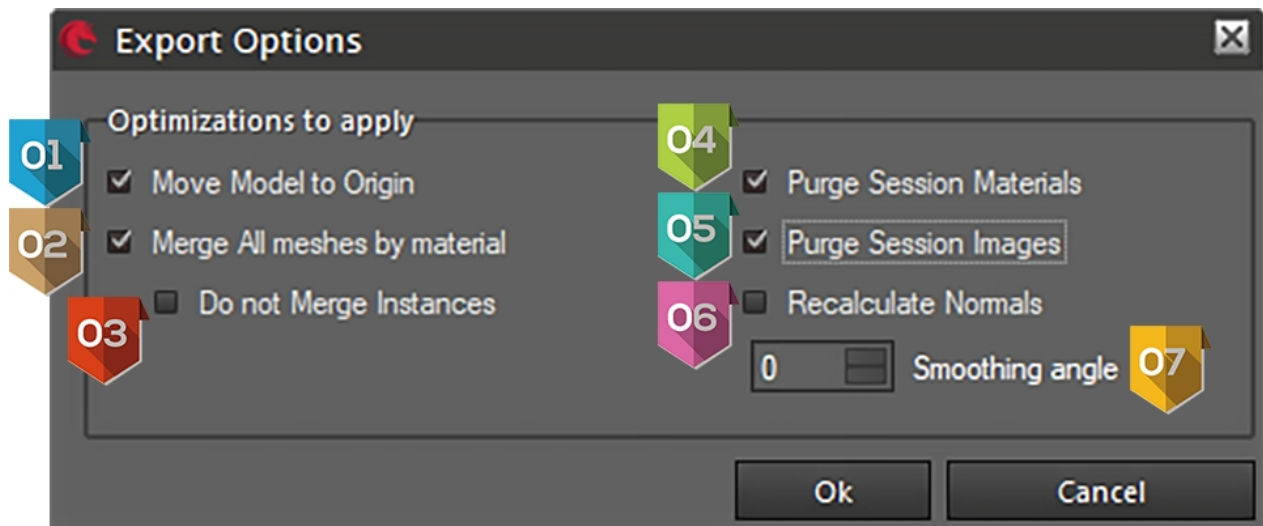
O1	This option allows, if activated, to move the low left corner of the model to the origin (0, 0, 0)
O2	This option allows, if activated, to merge all meshes that have the same material. This will reduce the number of meshes.
O3	This option allows, if activated, to not merge the instances in one mesh.
O4	This option allows, if activated, to delete the materials not used..
O5	This option allows, if activated, to delete all images not used such as textures.
O6	This option allows, if activated, to recalculate the smoothing according the occlusion angle between the surfaces.
O7	This option determinate, if "recalculate normals" is activated, to smooth the surface that have the occlusion angle less than the "Smoothing angle" value.

Scene

Scene

This tab displays all parameters related to navigation, production and camera's management.

Camera position
Camera projection
Frame size

Camera position

Camera Position
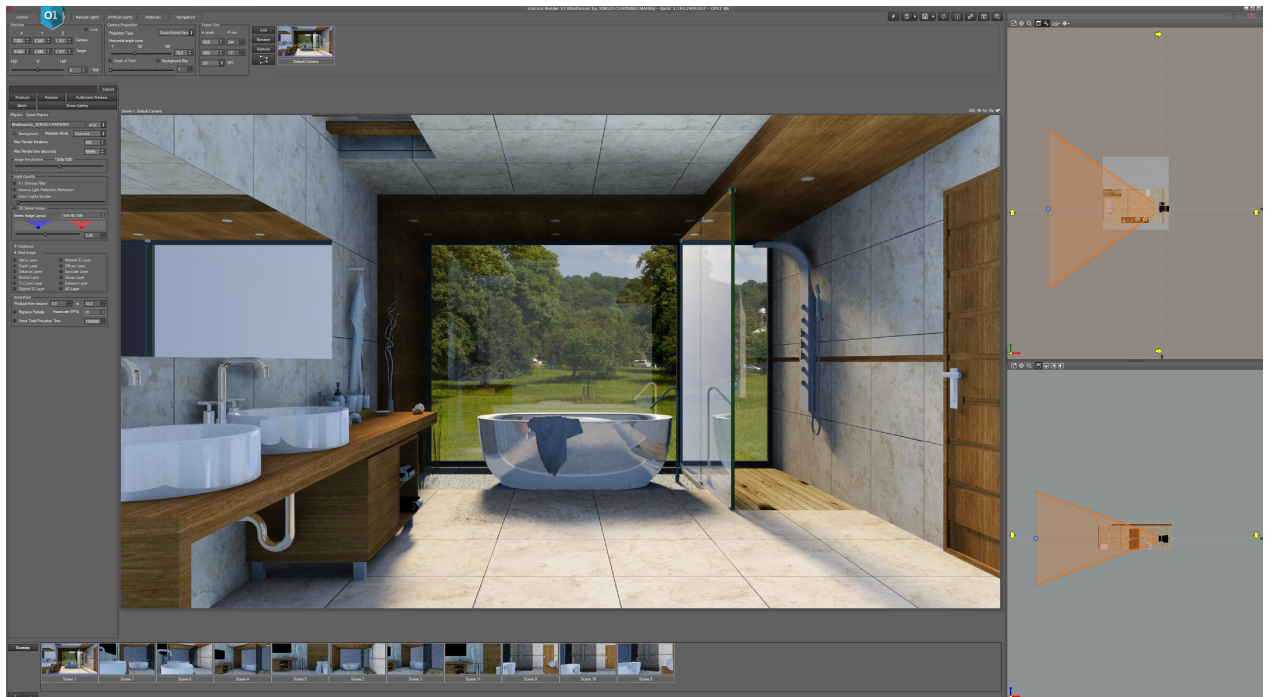
It determinates the position, target, lock, Roll of the camera.
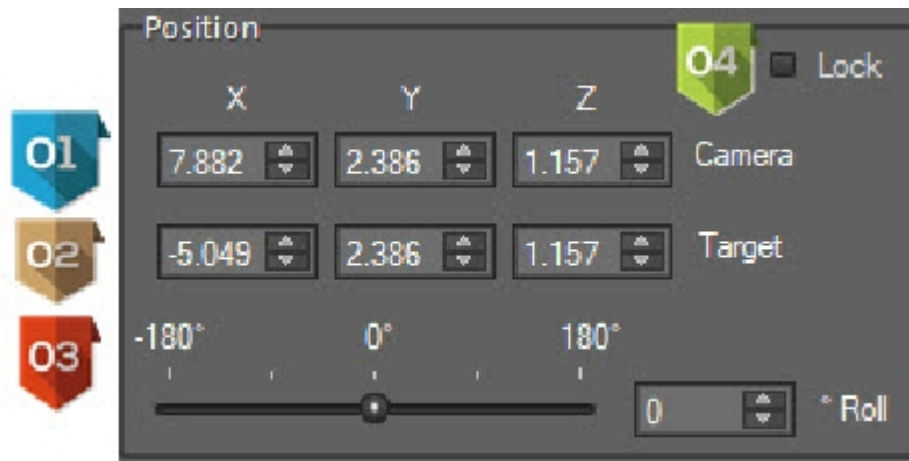
O1	It contains the coordinates of camera position. They are expressed in the unit of imported file.
O2	It contains the coordinates of camera target. They are expressed in the unit of imported file.
O3	It contains the roll angle of the camera, when the value entered is different than 0° the view is shown rotated.
O4	This option locks the actual camera's position. When the camera is locked the camera icon shows it and it becomes impossible to navigate, the orbit, zoom, 2D controls will be inactivated.

Camera Projection

Camera Projection
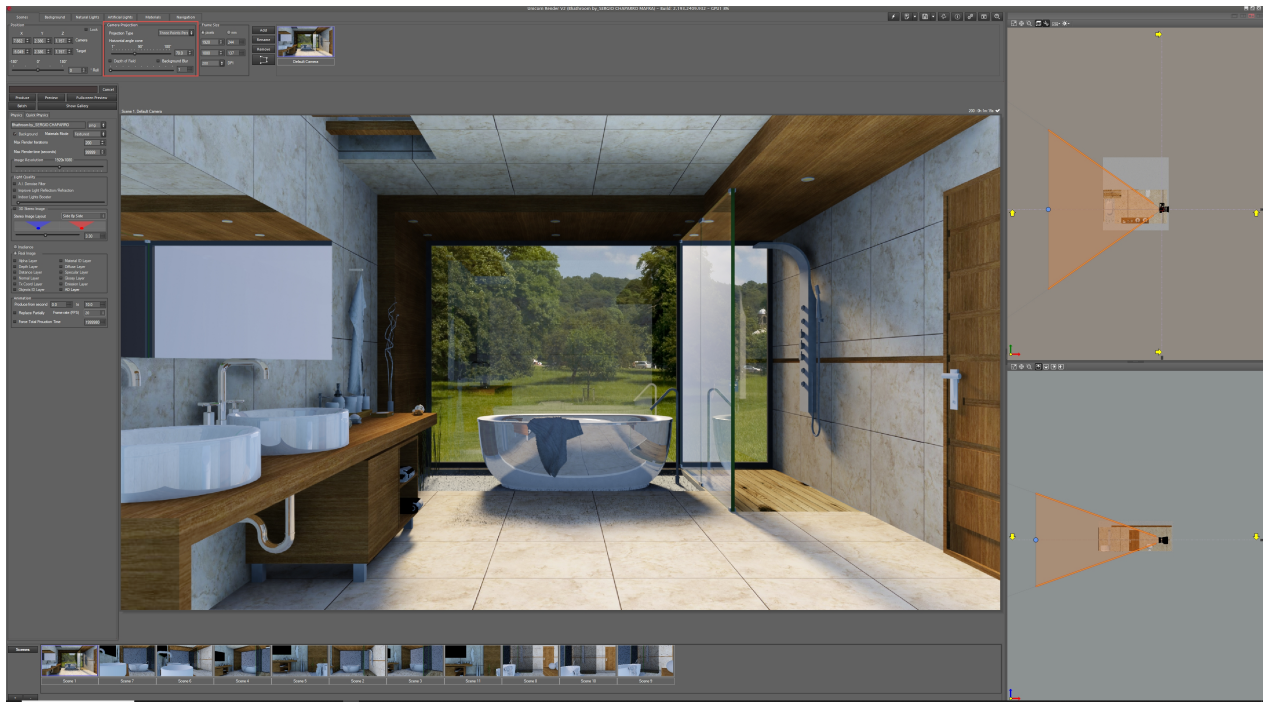
It determinates the type of projection (perspective), the focal and provides a background's blur effect.
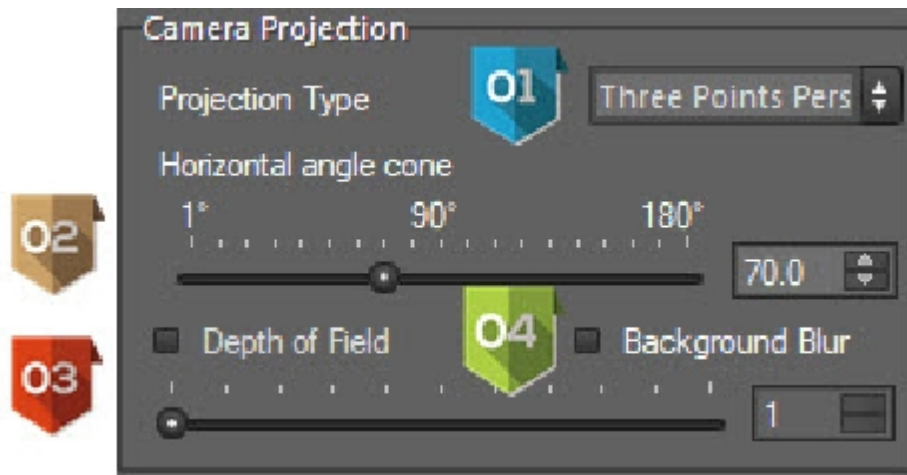
01	this section displays the type of camera projections. Note : Chose spherical in order to produce a panoramic 360° image. In that cases, the only thing to do is to define the center position of the camera.
02	It defines the angle cone size, in other terms the focal. Use this parameter to open the lens's angle and capture a wider camera view.
03	Use this parameter to create a "depth of field" effect. The numerical value defines the size of the area which has to be not blurry.

04 Use this option to make the background blurry.

Frame size

Camera Projection
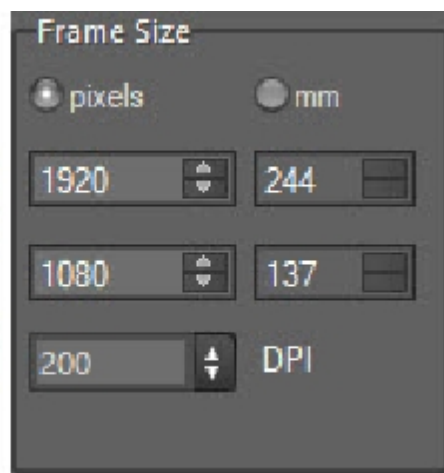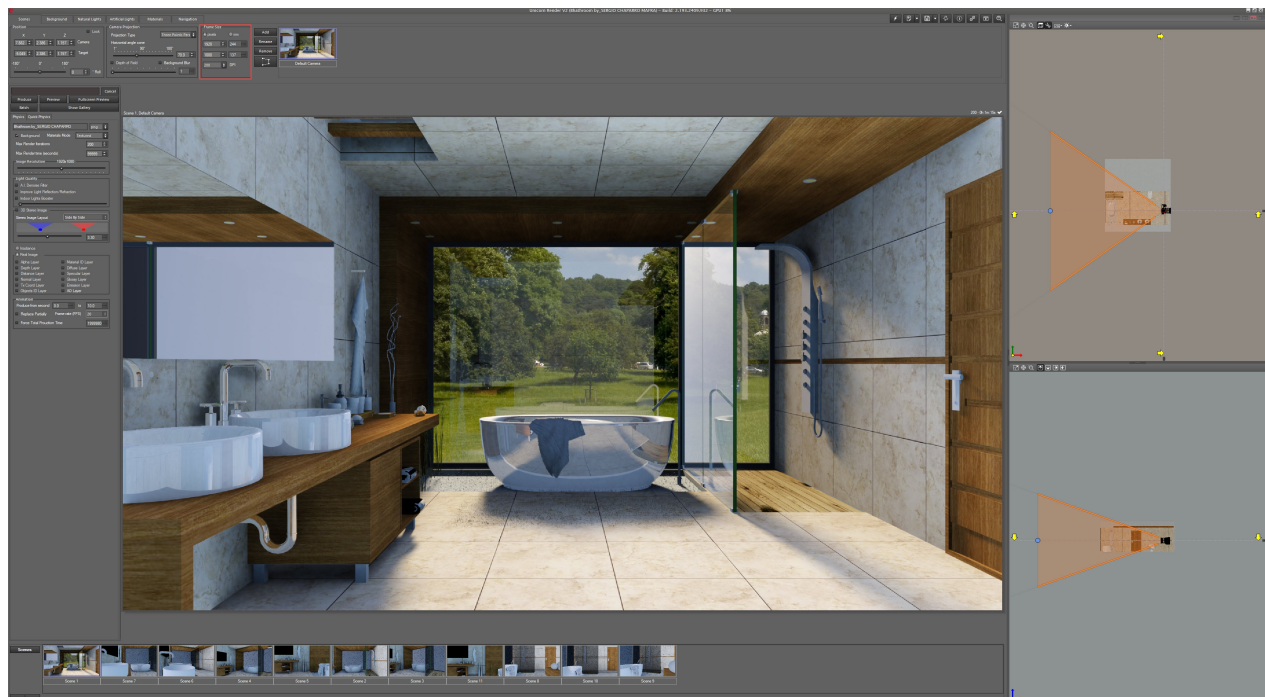
01	Editing screen resolution defined in pixels or in mm
02	Value of DPI (the value lets you know the real printing dimensions (mm) at that specific resolution

Cameras management

Cameras Management
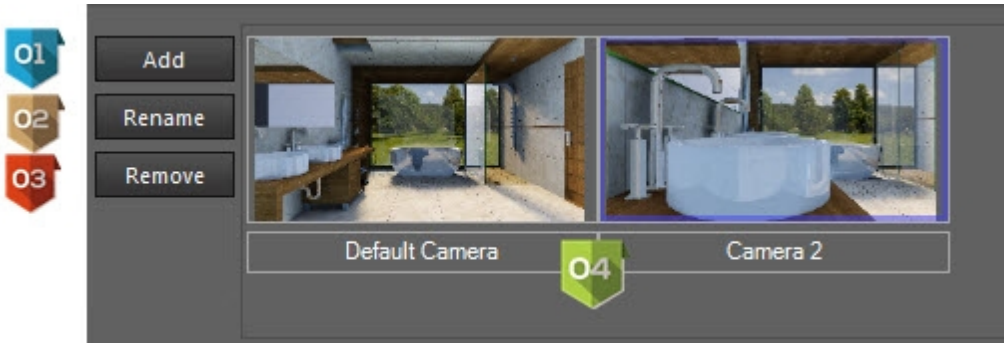
01	Add a new camera position

02	Rename the camera selected
03	Delete the camera selected
04	Right click on a camera allows you to add/rename/delete a camera

It is possible to create multiple cameras from the same model, it allows you to create predefined camera position. Of course for each camera, depth of field, projection can be settled independently from the other cameras created.
To produce all cameras in one click it is advised to use the batch production tools.

3D navigation

3D Navigation

You can easily navigate in the scene using mouse and keyboard.

O1	Pressing the left mouse button allows you to move the camera's position keeping the camera's target fixed.
O2	Pressing the right mouse button allows you to move the camera's target keeping the camera's position fixed.
O3	Holding the mouse wheel pressed allows you to move along X, Y and Z axis. Scrolling up/down allows you to zoom on the model and move accordingly to your target position.
CTRL	Pressing CTRL on your keyboard while navigating slows down by 10 the speed.
MAJ	Pressing MAJ on your keyboard while navigating speeds up by 10 the speed.

2D navigation panels

2D Navigation Panels

O1	2D navigation panels displaying options. You can chose to have the 2D navigation panels in another window, and chose the number of 2D navigation panels visible on screen.

O2	(icon)	Zoom on model : it displays the model's position on screen and helps you to know where your model is according to your camera position
	(icon)	Zoom on camera : it displays the camera's position on screen and helps you to know where your camera is according to your model's position
	(icon)	Zoom on selected area : use this option to zoom on a specific area
	(icon)	Available views
	(icon)	show auto section lines : this option display a different top view according to the position of the section in Z. Use the other 2D panels to define the Z position and the top view will change accordingly.
	(icon)	Background editor
	(icon)	Change the brightness and ambient lighting of the view

O3	2D navigation options

01	Move camera's target
02	Change the camera's aperture (focal)
03	Move the camera's position
04	Move the camera in X,Y,Z

Shortcuts (relevant for the camera's position and target) :

ALT : Move around the camera's target or position (constant radius)
CTRL : Move the camera's target or position along camera's axis

If the camera has been previously locked, the symbol is displayed :
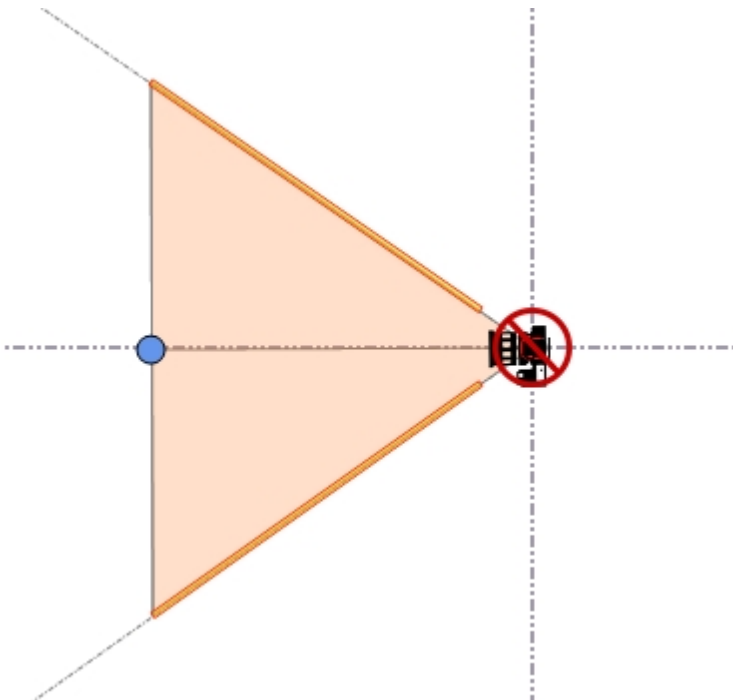
Contextual menu (right click on the camera) :
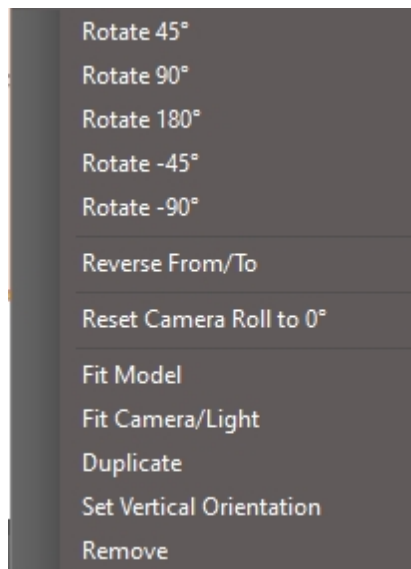
Rotate	Rotate the camera according to the value entered
Reverse from/to	Reverse the camera's position with the camera's target
Reset camera roll to 0°	Reset the camera roll's value to 0°
Fit model	Fits the view to the model's position
Fit Camera /light	Fits the view to the camera's position
Duplicate	Duplicate the camera
Set vertical orientation	Sets the camera's target to a vertical orientation
Remove	Remove the camera created

Scene concept

Scene concept

A model can contains as many scenes as requested. Each scene has different sets of parameters and is independent from the other scene. These parameters are :

- Natural light
- Artificial lights (ON or OFF)
- Background
- Set of cameras

It means that in the same model you can define for example one scene called "day" containing day light and a "day" background with the artificial lights set OFF and another scene called "night" containing night light and a "night" background with the artificial lights set to ON.

Contextual menu (right click on one scene) :
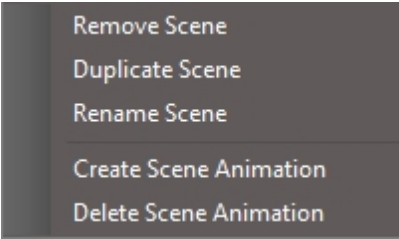
Remove scene	Remove the selected scene
Duplicate scene	Create a copy of the selected scene
Rename scene	Rename the selected scene
Crea	Create an animated scene (this option is used you want to create an animation from that specific

te scene animation	scene)
Delete scene animation	Delete the animation embedded in that scene. The scene will then behave as a normal scene.

Production manager

Production manager

	Cancel
Produce	Preview	Fullscreen Preview
Batch	Show Gallery

Physics Quick Physics

Bhathroom by_SERGIO CHAPARRO   png ▲▼

☑ Background   Materials Mode   Textured ▲▼

Max Render Iterations   200 ▲▼

Max Render time (seconds)   99999 ▲▼

Image Resolution   1920x1080

Light Quality
☐ A.I. Denoise Filter
☐ Improve Light Reflection/Refraction
☐ Indoor Lights Booster

☐ 3D Stereo Image

Stereo Image Layout   Side By Side ▲▼

3.30

⦿ Irradiance
⦿ Real Image

☐ Alpha Layer   ☐ Material ID Layer
☐ Depth Layer   ☐ Diffuse Layer
☐ Distance Layer   ☐ Specular Layer
☐ Normal Layer   ☐ Glossy Layer
☐ Tx Coord Layer   ☐ Emission Layer
☐ Objects ID Layer   ☐ AO Layer

Animation
Produce from second   0.0   to   10.0
☐ Replace Partially   Frame rate (FPS)   20 ▲▼
☐ Force Total Prouction Time   1999980

This panel displays all parameters used for production.

Produce	Produce the image. When the picture is produced a pop-up window of the gallery will display the generated image.
Preview	Launch a preview. When a preview is cancelled, Unicorn Render will ask if the picture has to be saved or not.
Fullscreen preview	Launch a preview in full screen.

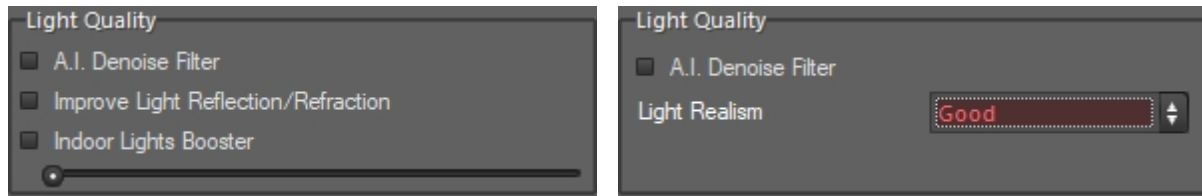| Cancel	Cancel a production work.
Batch	This option allows you to produce images from multiple cameras and/or different scenes simultaneously. [Click here to see the batch section](#)
Show gallery	This option allows you to visualize the images produced and save them in a specific folder. [Click here to see the gallery section](#)
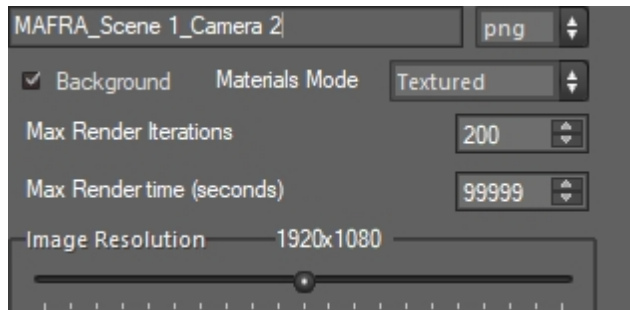
This is maybe the most important production parameters panel, it will define the rendering time and the output type file.

| Output file extension	In the list, chose the extension of the calculated image. .jpg / .png / .bmp / .tif
Materials mode	Chose between textured (will show the materials as they are defined in the scene) / colors / clay and XRAY (transparent materials)
Max render iterations	Maximum number of iterations available for Unicorn Render to calculate the image. (Each iteration improves the final result and will depend on the model's complexity and size, the image resolution and your graphic card performances)
Max render time (seconds)	Maximum time (seconds) given to Unicorn Render to calculate the image. After the time defined, calculation will stop automatically and display the resulting image.
Image resolution	Move the cursor to select the image's resolution required.

Tip : For better understanding, set the maximum render iterations to 200 or 300 and focus on the maximum render time. In other words, set the max calculation time and give to Unicorn Render enough iterations to reach the best level in that amount of time.

You can then chose between 2 modes of calculation : [quick physics](#) or [physics](#). (for better results in terms of reflections, light realism, chose physics).

A.I Denoise filter	This option will display a sharp and detailed approximation of the final image after 10 iterations. You can use this feature to get fastest results. in Quick physics mode, the level of light's realism can be selected here between no shadows to best quality.
Improve light reflection/refraction	This option improve some materials realism such as glass, ceramic and all reflective/refractive materials. It improves complex light effect such as caustic effect.
Indoor lights booster	This option will add more approximated light to the scene. Use this feature only if there is no natural light passing through your scene.

3D Stereo image and Virtual reality :
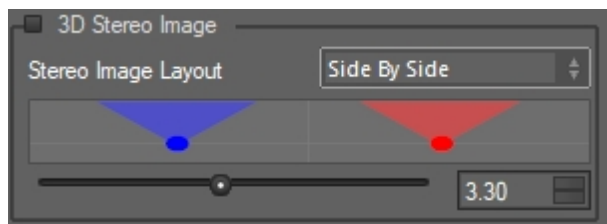
Chose this option in order to generate a 3D image compatible with 3D glasses such as Oculus rift.
Simply entered the distance between your 2 eyes (3.30 cm by default) and multiply the output resolution by 4 in order to get a sharp and detailed image.
Plug your 3D virtual reality glasses, open Unicorn Render, open the gallery select the image, wear your 3D glasses and you are done.
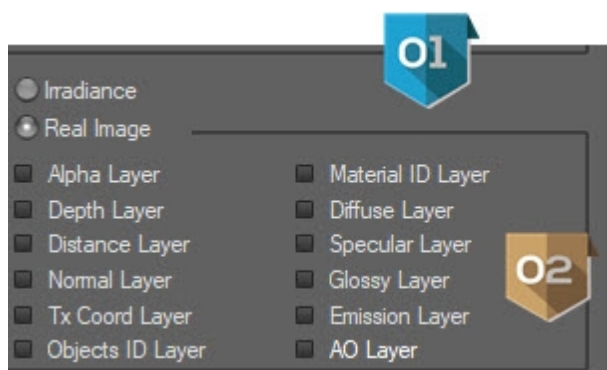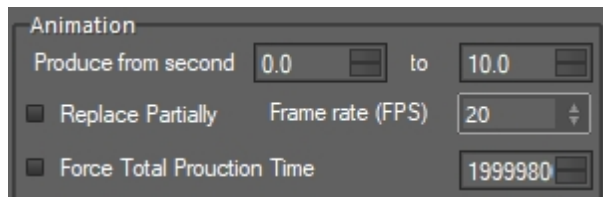

Chose between 2 types of lighting :

Real image e	Calculates the image using physical light defined in the scene
Irradi ance	Calculates the image using irradiance lighting.

Passes : you can select all the required passes of the calculated image. This option is used in order to add some post processing to your final image.

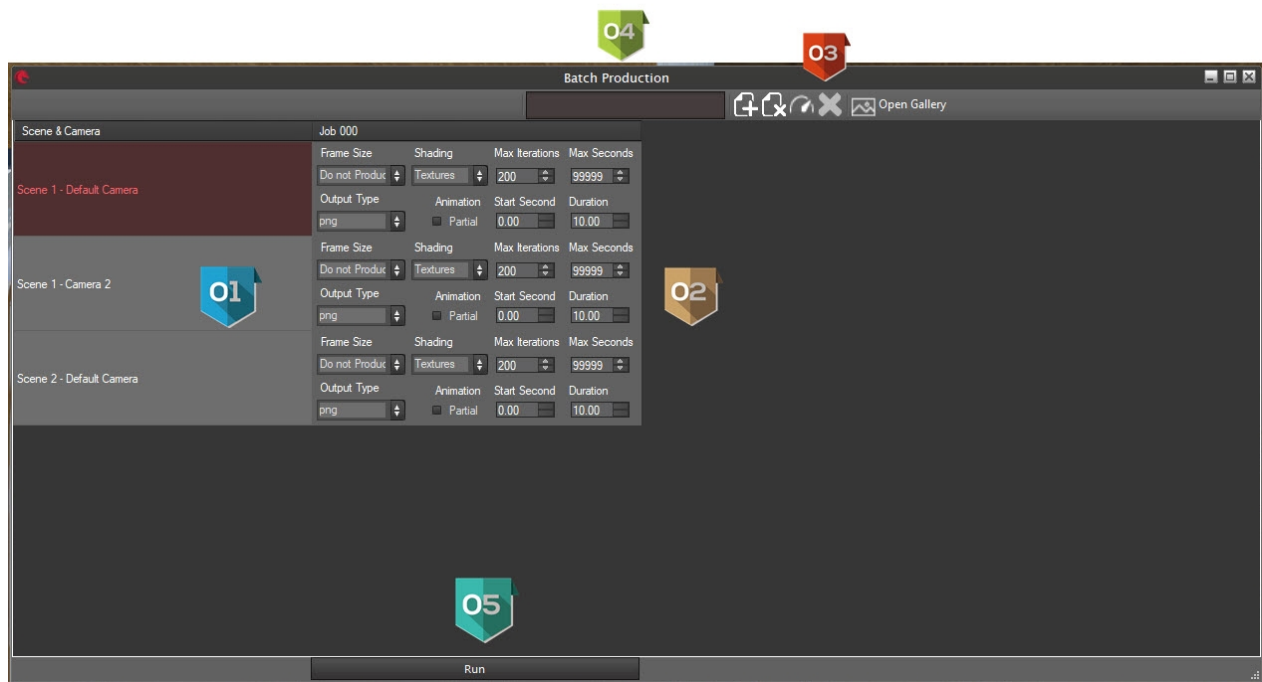This panel is used only for Animation production :

Produc e from / to	Chose the time (seconds) when the animation should start and the time (seconds) when the animation should stop.
Replac e partially	This option keeps the images previously calculated in order to reuse them if the same animation is recalculated.
Frame rate (FPS)	Chose the Frame rate (for better results chose from 24 to 30 FPS)
Total producti on time	Maximum of time given to Unicorn Render to render the animation (in seconds)

Batch

Batch

Batch production is a tool allowing you to render multiple cameras/scenes.

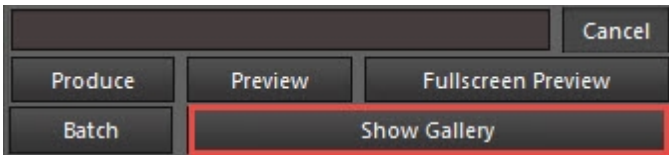|	Display all scene's name and camera's name created in the model.
	Production parameters. The parameters displayed are the same as the ones displayed in Production manager. In "Frame size" chose to output image's resolution in order to activate that specific camera/scene production.
	Add new job : create a new batch allowing you to select which camera to produce.
	Cancel last job : cancel the batch created
	Produce all jobs : Produce all batches created
	Cancel production
	Open the images gallery
	Rendering progression
	Run the batch created

Gallery

Gallery

	Images produced
	Image's preview
	Activate the 3D virtual reality glasses. This option only work if a 3D image has been calculated.
Remove selected	Remove the selected produced image
Clean all	Remove all produced images

Save all	Save all produced images in a specific folder
Save as	Save the selected produced image in a specific folder

Background

Background

This tab displays all parameters related to background.

Color
Image
Sky

Color

Color

01	Select the background's color
02	Select the ground's color (color of the ground/earth when no HDRI is used)
	Color picker : allows you to select any RGB color displayed on the screen or from an external source (image, external icon, etc...)

The color palette displays saved colors and allow you to personalize them by selecting dynamically the color or by entering the RGB value.

Image

Image

	Load a new image as background. See Image database

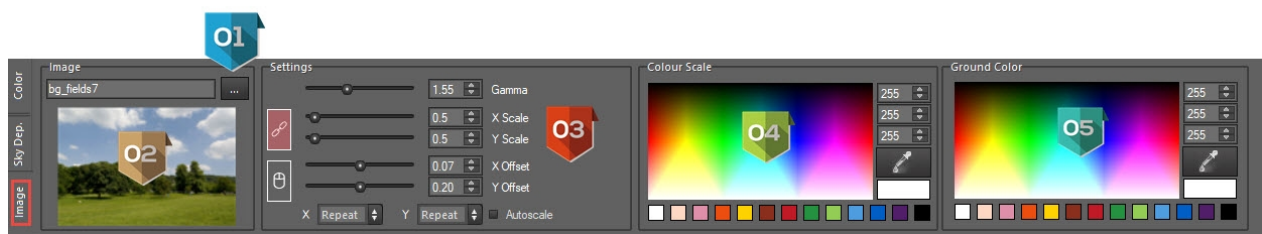|		
02	Background preview	
03	Gamma	Modify the gamma value in order to see the background's image darker or brighter
	X scale	Background image's X scale
	Y scale	Background image's Y scale
		Allows you to modify the X or Y scale and keeping the proportion defined
	X offset	Move the background along X axis
	Y offset	Move the background along Y axis
		Allows you to move dynamically the background directly on screen Activate the option and use the left mouse button to move the background.
	Auto scale	Automatically scales the background according to the [frame size](#) used.
	Repeat	Repeats the background's image (most commonly used)
	Clamp	Stretch the background image's edges to fit the screen.
	Mirrored	Mirror the background all along the scene.
	Single	Add only one instance of the background on screen.
04	Re-scale the background image color's range according to the selected color. The color picker can be used to select one color from the background.	
05	Select the ground's color (color of the ground/earth when no HDRI is used)	

Sky

Sky

Unicorn Render provides a powerful procedural Environment Function called PhysicalSky. This generates a physically realistic, high dynamic range sky dome around a scene.

O1	Sets the reflective colour of the ground plane
O2	Night color (according to the time defined, the sky's color will turned into that specific color)
O3	Adds a blurry effect to the line between the sky and the ground.

If HDRI's background is chosen, this section becomes inactive as the background will be automatically generated by the selected HDRI.

Settings

Settings

This section is used to customize the editing parameters the objects and library's paths.

Editing settings
Library customization

Editing settings

Editing settings

Editing settings are accessible from :
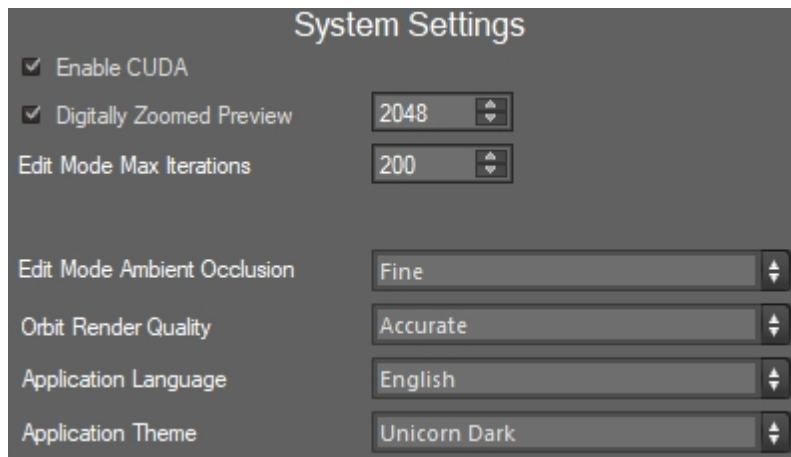
Enable CUDA	Enables Unicorn Render to load the full GPU resources from graphic card
Digitally Zoomed preview	Preview will be rendered as a resolution smaller than your application's frame resolution
Edit mode max iterations	Maximum number of iterations to reach in editing mode
Edit mode ambient occlusion	Quality of ambient occlusion (light realism simulation)

Orbit render quality	Reduces the size and quality of the preview while rotating the model
Application language	Language (will be applied after Unicorn Render restarts)
Application theme	Theme used (will be applied after Unicorn Render restarts)

Library customization

Library customization

This section can be used to set custom paths to the textures and objects library :
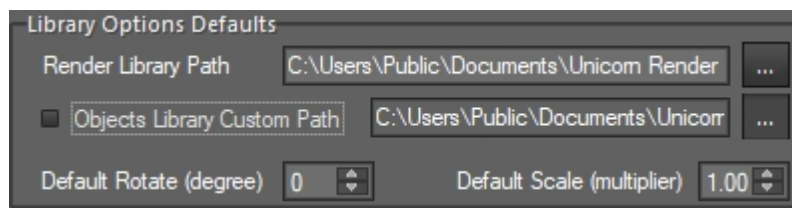
Render library path	Textures library path
Objects library custom path	Objects library path
Default rotate	Automatically applies a rotation to the placed object
Default scale	Automatically applies a modification of scale to the placed object

Natural light

Natural light

This section displays all parameters available to create and customize the sun light. Unicorn Render provides a physical sun which means that the light generated by the engine acts as in reality. Shadows will be created according to the time of the day. An another option available is to use HDRI as natural lighting.

Sun light
          Add and set the sun position
          Sun settings
          Sun tones
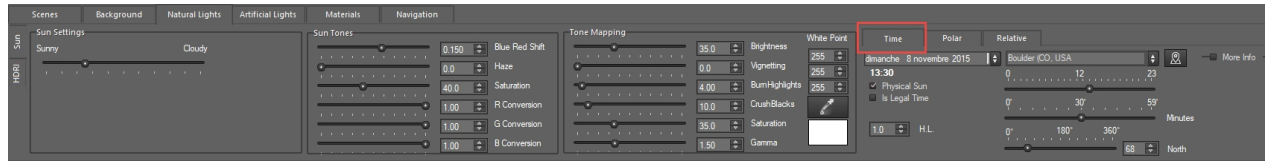
HDRI
          Set the natural light using HDRI
          HDRI settings

Tone mapping

Sun light

Sun light

This section describes how to implement and set the sun in order to add natural lighting to your scene. The sun is calculated using a physical engine which means that according to the time of the day, the sun's intensity and position, the shadows generated are automatically calculated.

Add and set the sun position

Add and set the sun position

----
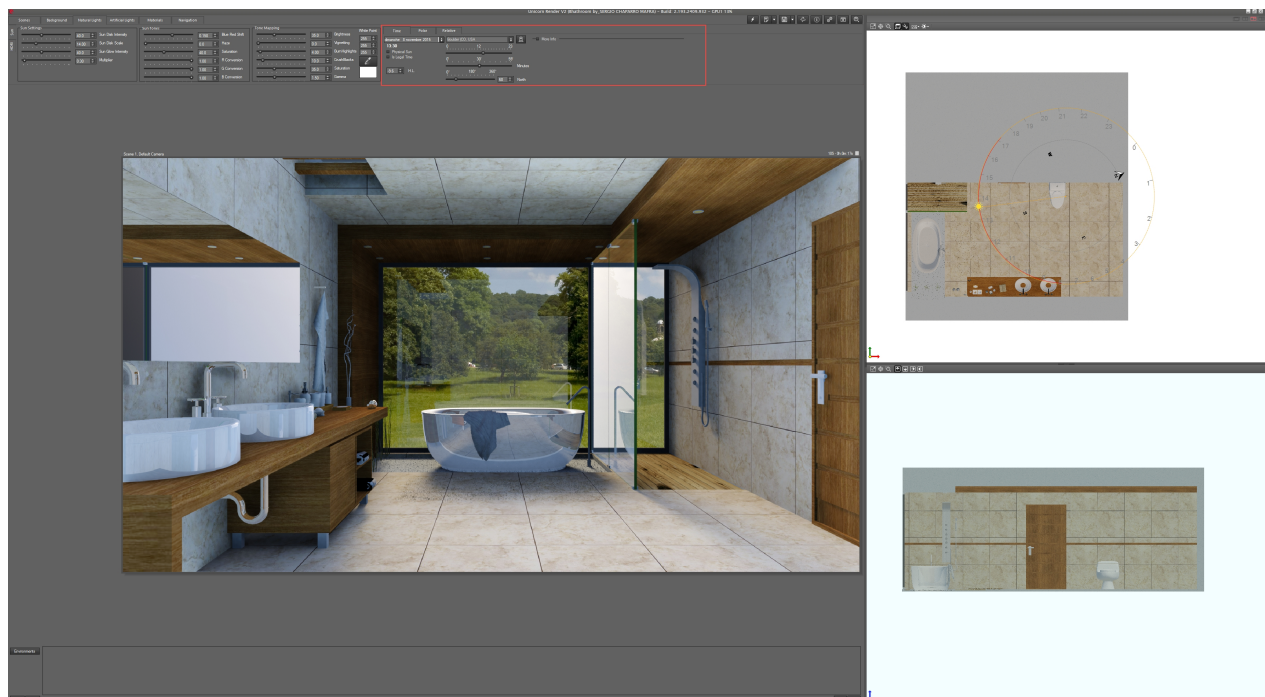
3 options are available to define the sun's position.

1. Time

01	Date DAY/MONTH/YEAR	
02	Physical sun	Use the physical approximation settings of the sun (disable the sun settings and allows you to set the sun's intensity and shadows from sunny to cloudy) Sunny = strong sun's intensity and strong shadows / Cloudy = Low sun's intensity and soft shadows
	Legal time	Uses the legal time (instead of universal time) according to the location entered.
03	Location : simply enter the city and country and press Enter or use the icon to use the google API and get the exact location of your model.	
04	Time in hours and minutes Position of the north according to the model	
05	Horizon level	

Use the 2D navigation panel to define dynamically the sun's position :

O1	defines the sun's hour (after a certain hour, the sun's icon will become a moon to advise you that it is night time at the day and hour specified).
O2	defines the north's position

Clicking on "more info" allows you to see the summer and winter's solstice, the duration of the day and night at that specific date :

☑ More Info

2.3522219   ° Longitude   48.856614   ° Latitude   **North Emisphere**

Selected Date	**Summer Soltice**	**Winter Soltice**	
7:51:00	3:51:00	7:45:00	**Sunrise**
17:16:00	19:53:00	15:51:00	**Sunset**
H:9 M:25 S:0	H:16 M:2 S:0	H:8 M:6 S:0	**Day duration**
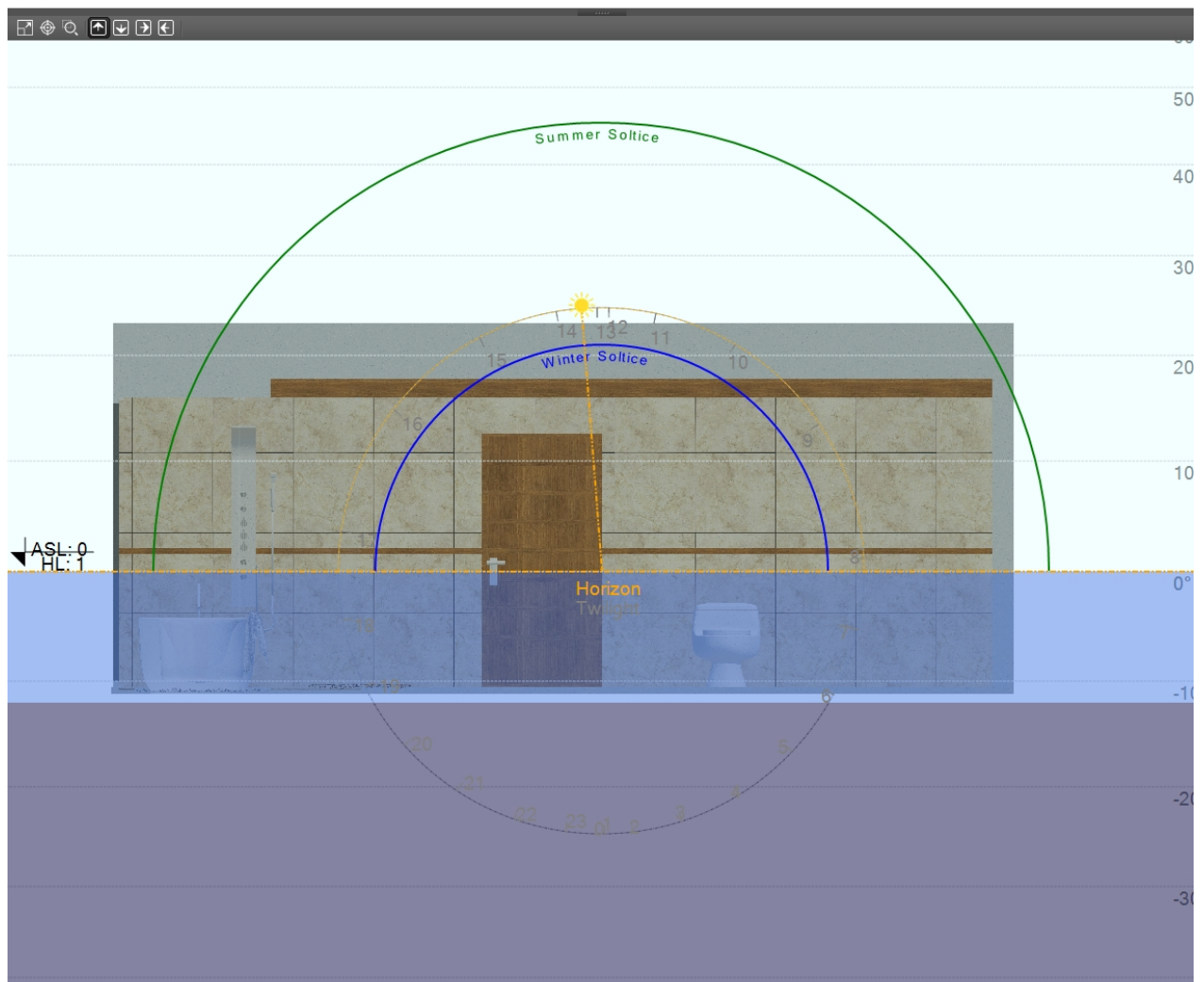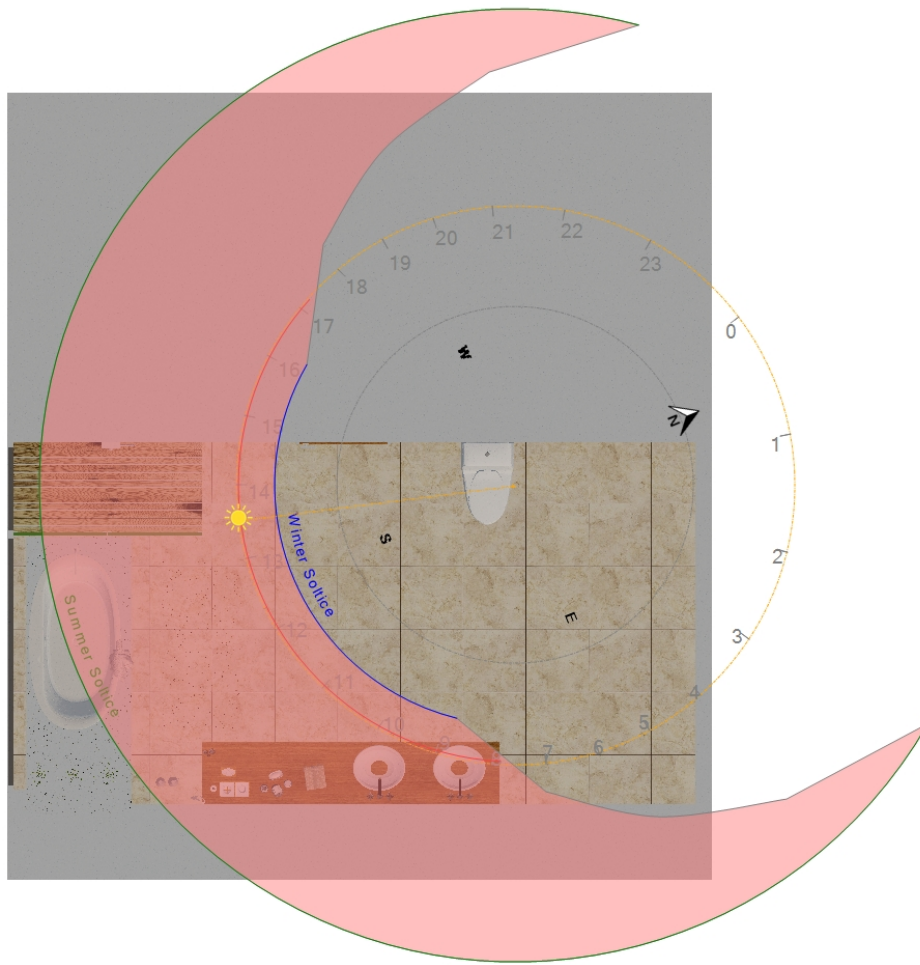
2. Polar

This option allows you to define the horizontal and vertical position of the sun independently using polar coordinates.
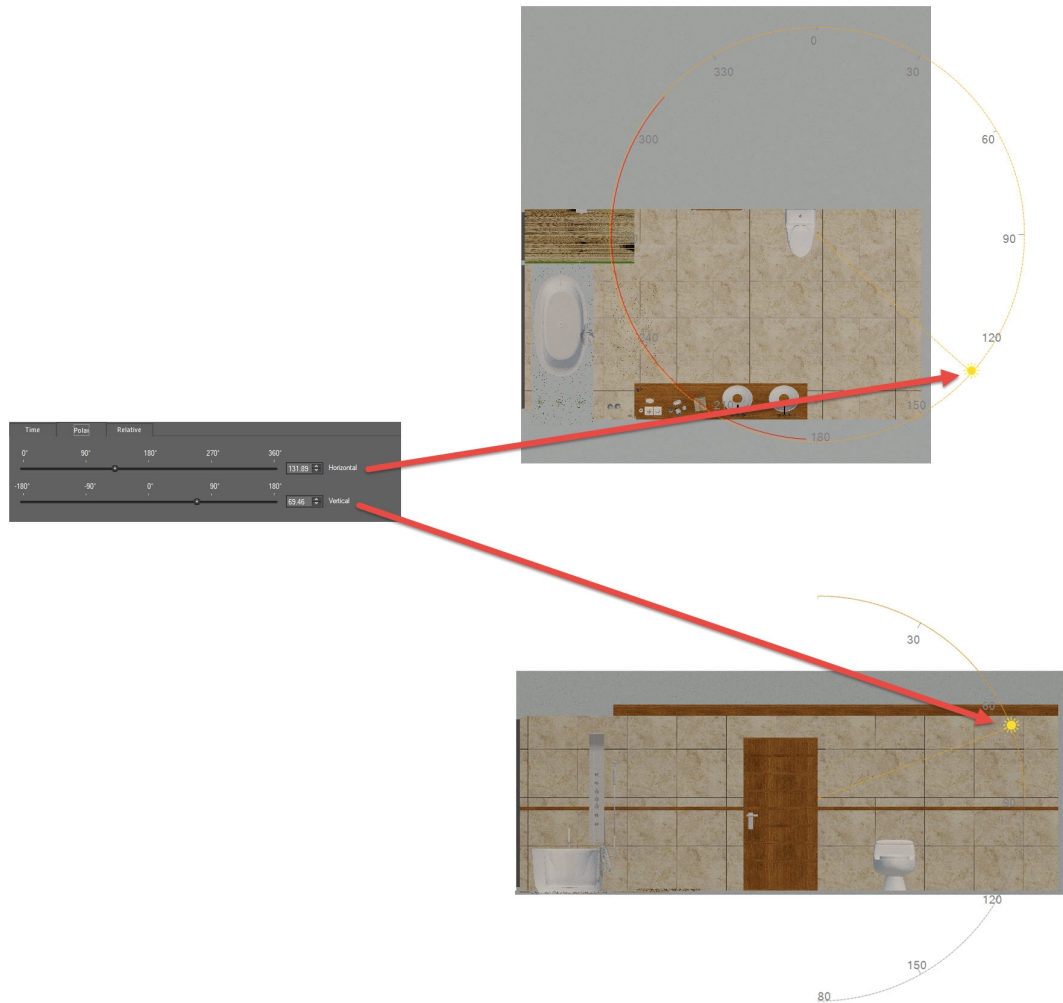
3. Relative

This option set the sun's position according to the camera's position. According to the horizontal and vertical angles defined, the sun will follow any camera's movement keeping these angles constant.
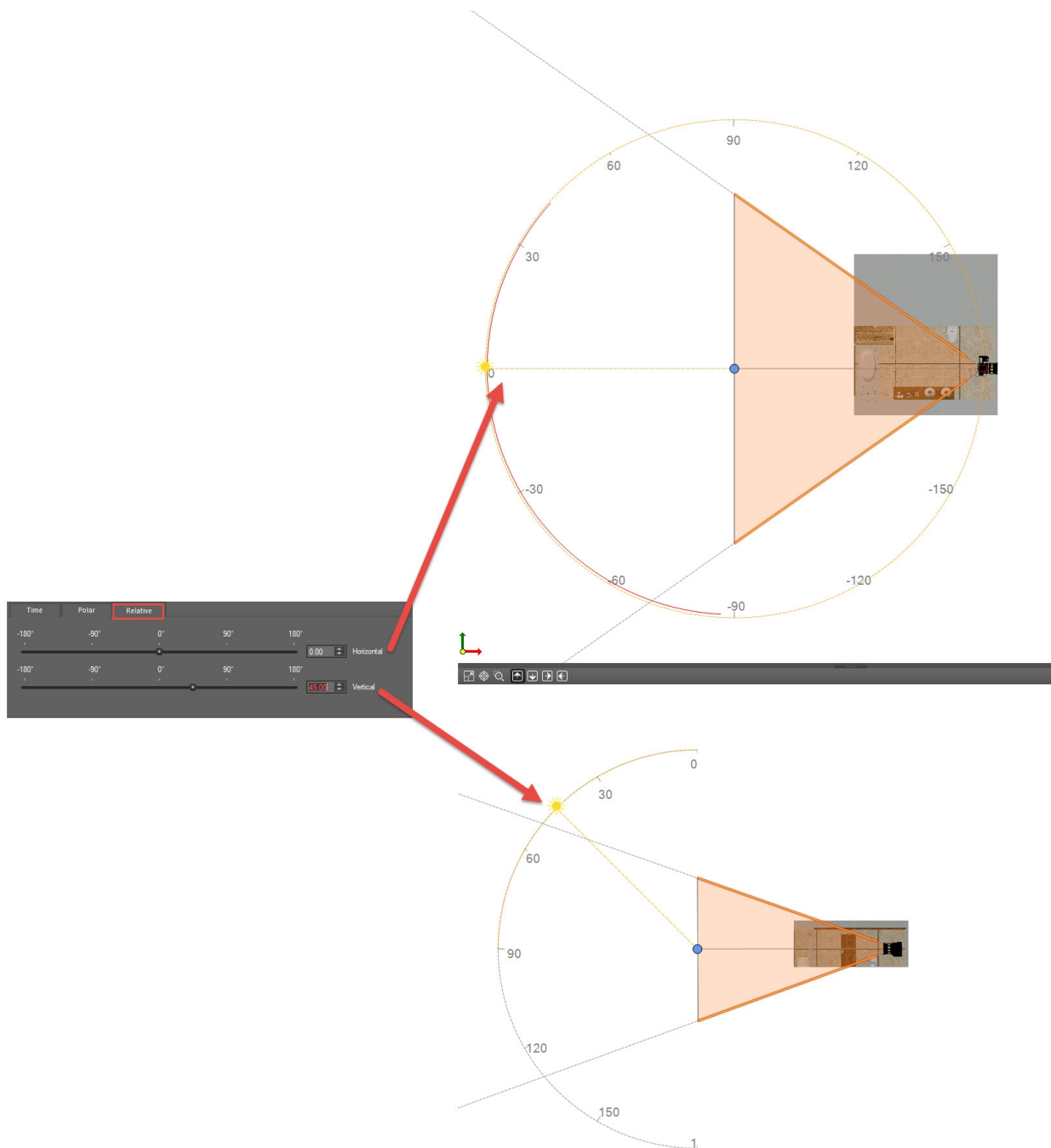
Sun settings

Sun settings

This section describes the sun's settings :
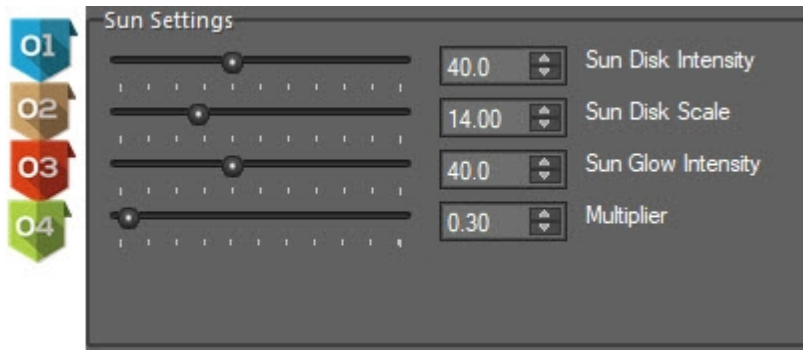
	Increase/decrease the sun's power.
	Increase/decrease the sun's size.
	Creates a halo effect around the sun's disk.
	Multiplies the sun's intensity according to the factor entered.

Sun tones

Sun Tones
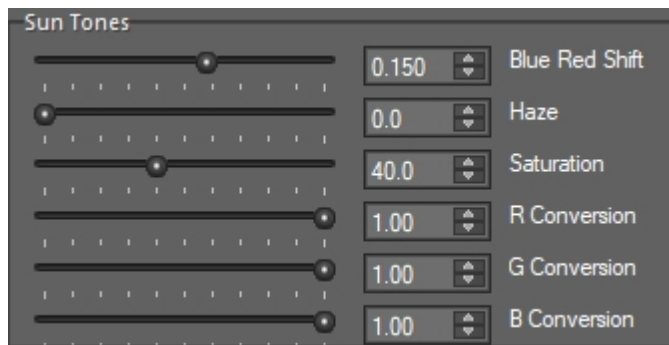
Blue red shift	make subtle adjustments to the color balance of the lighting from the environment function
Haze	simulates particulate effects in the atmosphere, creating the appearance of a distant haze, particularly close to the horizon
Satur	controls the vibrancy of the color of the environment function

ati on	
R co nve rsi on	controls the amount of red in color balance
G co nve rsi on	controls the amount of green in color balance
B co nve rsi on	controls the amount of blue in color balance

HDRI

HDRI

HDRI (High Dynamic Range Imaging) is a technology that expands the dynamic range of an image and shows details in both shadows and highlights.
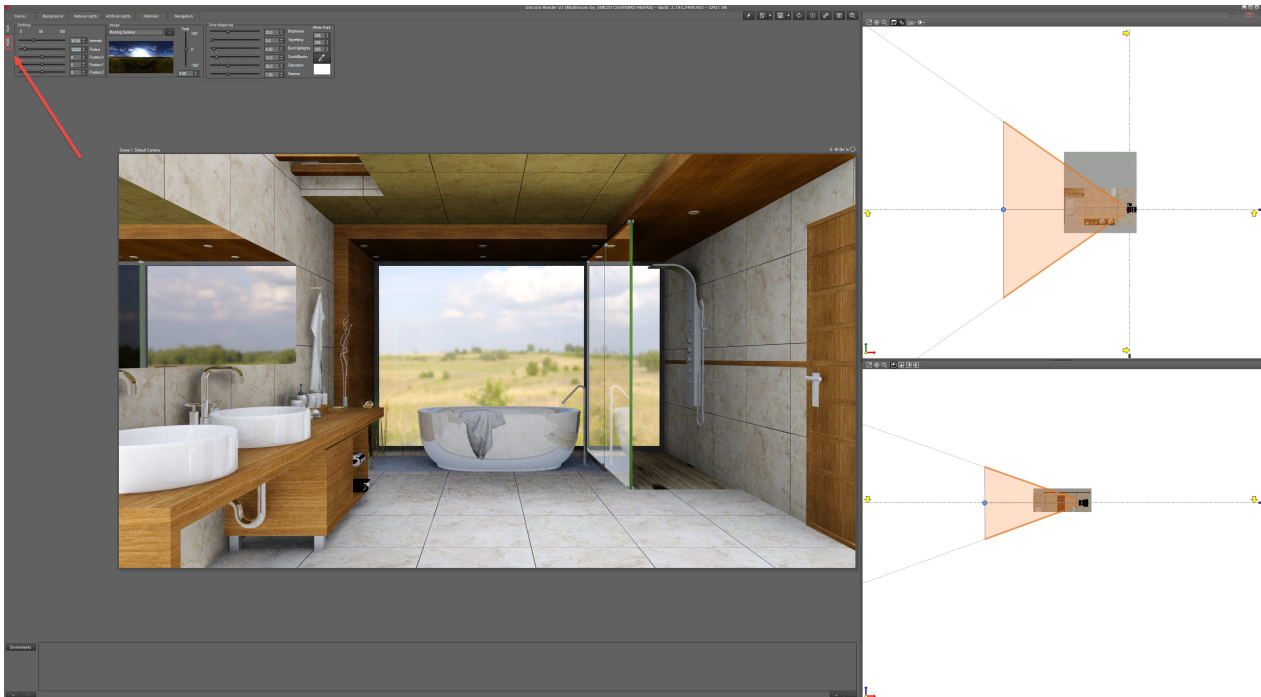
After selecting the "HDRI" natural lighting option, a message will pop up on screen asking you if you want to use the HDRI linked background's image. If you click no, your actual background's settings will remain. To settle a background please go to Background' section.

Set the natural light using HDRI

Set the natural light using HDRI
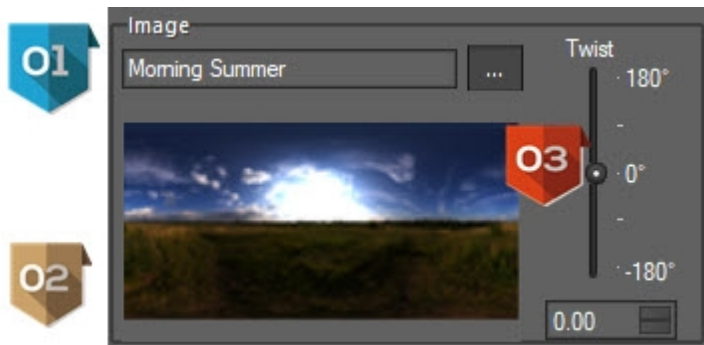
O1	HDRI selected. To select another please click on ... For more help please go on Images database's section.
O2	HDRI's preview
O3	Twist : allows you to rotate the HDRI around the model in order to set the light's orientation

HDRI settings

HDRI settings
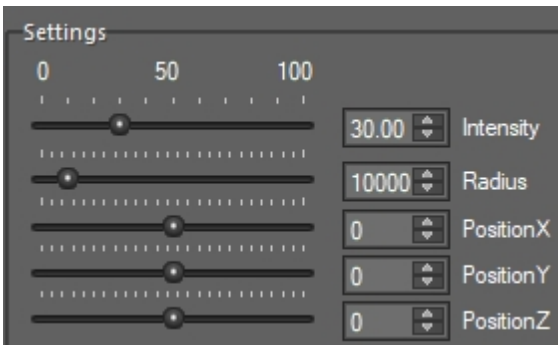
Inten	Intensity of the HDRI's emitted light

sity	
Radius	Dome's radius.
Position X	Move the HDRI along X axis
Position Y	Move the HDRI along Y axis
Position Z	Move the HDRI along Z axis

Tone mapping

Tone mapping

The tone mapping feature allows you to add some post processing to your scene while you are working on it.

The parameters available are :
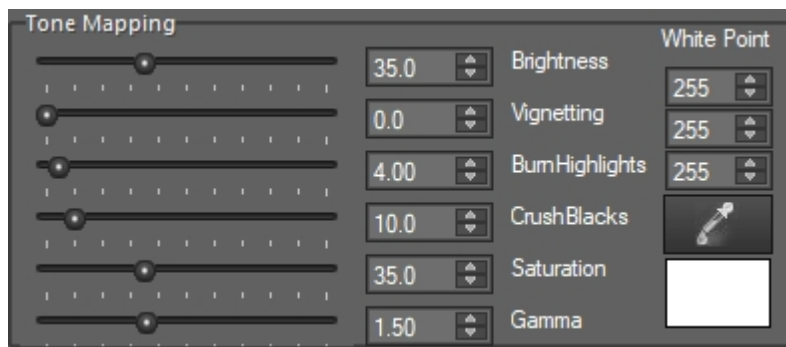
Brightness	The **Brightness** parameter controls how bright the image is. You should consider changing this when your scene is too dark or too bright.
Vignetting	The **Vignetting** parameter reduces an image's brightness around its edges compared to its centre. This is an optional creative effect that you can add to your scenes to draw more attention to the centre of the image.
Burnhighlights	The **BurnHighlights** parameter controls how the brighter parts of the raw image are handled, and how much of these highlights are compressed and brought into the tonal range of the tone mapped image.
Crush black	**CrushBlacks** pushes low intensities towards black. Thus, shadow areas are darkened and image contrast is increased, while (hopefully) avoiding losing the shadow detail altogether.

s	
Sa tur ati on	The Saturationparameter can restore some saturation in an image.
Ga m ma	The Gamma parameter applies a display gamma correction.
W hit e poi nt	The WhitePoint parameter defines the colour white in an image. You should consider changing this when your scene is influenced by lighting that may emit a colour other than pure white. You can use the color picker in order to select directly from the scene the color that has to be white.

Artificial lights

Artificial lights

This section describes how to create and edit artificial lights. Artificial lights work in a similar way as emitting materials. The only difference is that artificial lights are not materials. You can use them to add spots into your scene or if no geometry that should emit light is present.

Create an artificial light
Edit artificial light's settings
Artificial lights types
Create a group of lights
Edit lights group's settings
Presets

Create an artificial light

Create an artificial light

Artificial lights can be created in 2 different sections :

Came ra lights	Lights created here always follows the camera's position (Light's position = Camera's position / Light's target = Camera's target)
Light s group	Lights created here are independent and can be sorted by groups of lights

To create a light, right click on the category requested and chose :
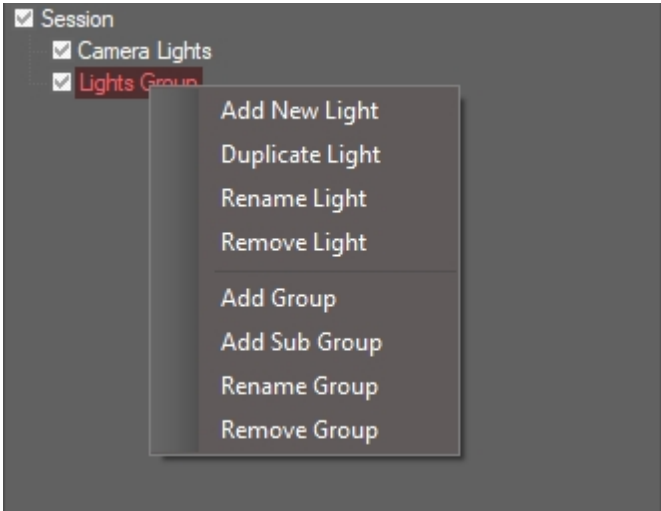
Ad d ne w ligh t	Create a new light
Du plic ate ligh t	Duplicate the selected light
Re na me	Rename the selected light

ligh t	
Re mo ve ligh t	Remove the selected light

When the light is created, to define its position, enable the scissors section tool in the 2D navigation panels in order to see where to place the light on the X,Y plan. Move the camera's position in Z in order to allow the scissor to cut the plan at the good position (here, the spots position has to be visible).
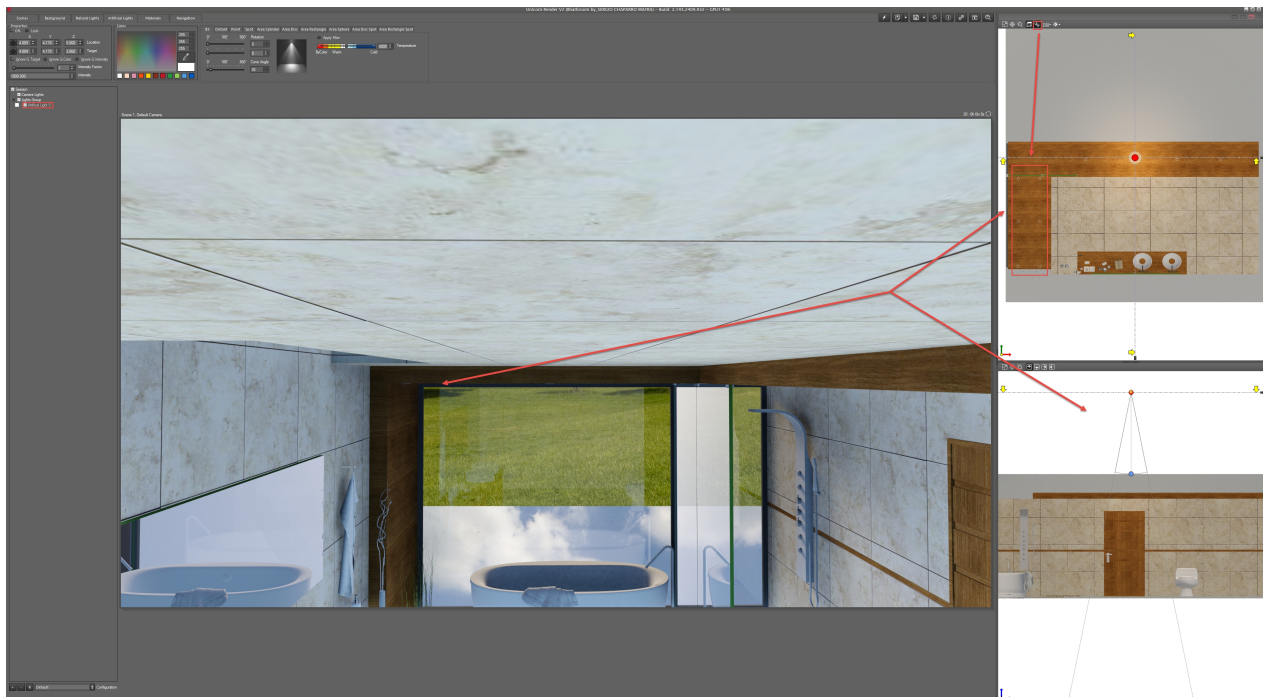
Then, simply move the light created at the requested position :
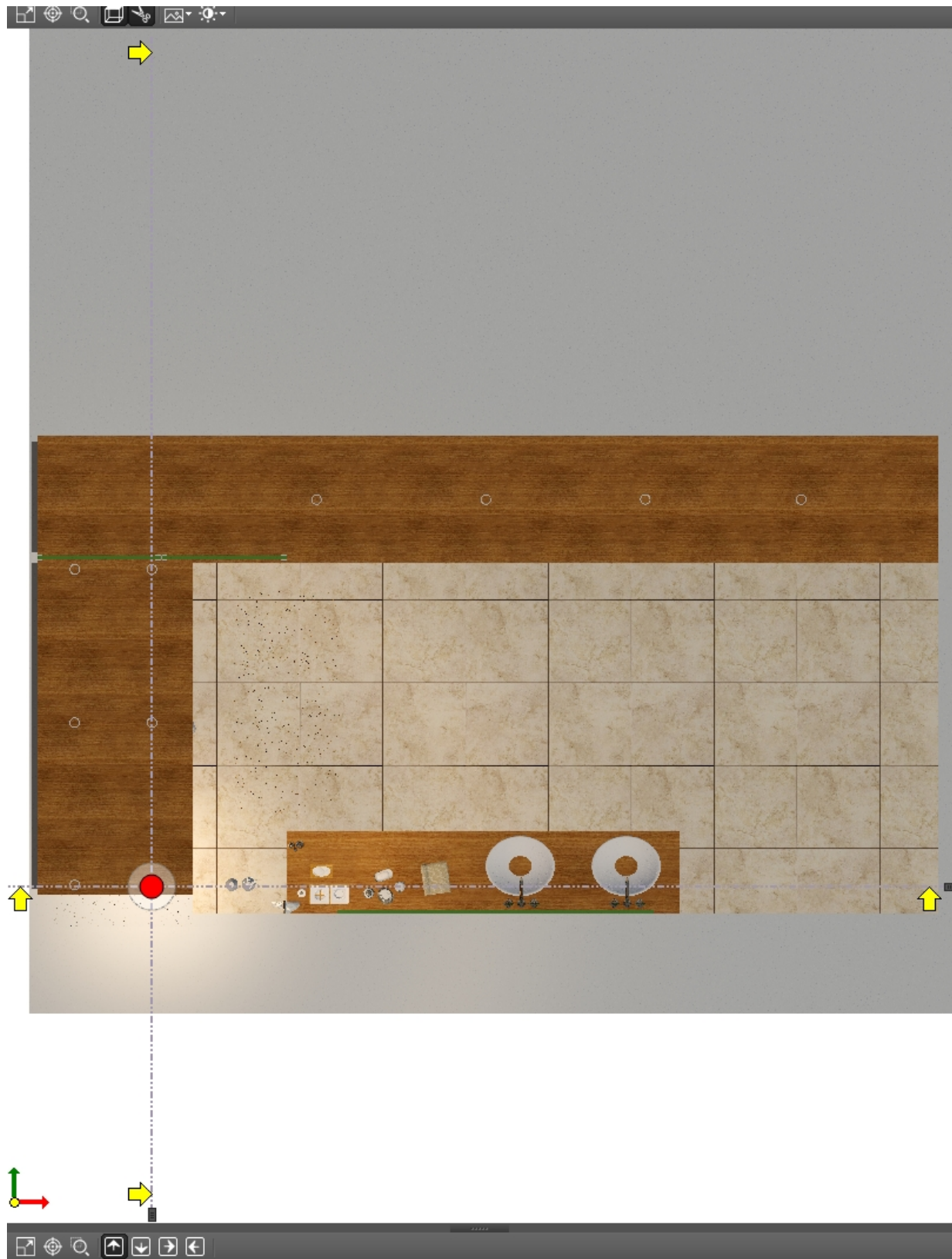
To move the light in the project (see 2D navigation panels section) :

	Move the light in plan
	Move the light's position
	Move the light's target
CTRL	Move the light's target or position along camera's axis
ALT	Move around the light's target or position (constant radius)

Right click on the light allows you to :

Rotate 45°	Rotates the light's target 45° clockwise
Rotate 90°	Rotates the light's target 90° clockwise
Rotate 180°	Rotates the light's target 180° clockwise
Rotate -45°	Rotates the light's target 45° anticlockwise
Rotate -90°	Rotates the light's target 90° anticlockwise
Reverse From/to	Reverse the light's position with the light's target
Reset rotation to 0°	Reset the rotation to 0°
Fit camera/light	Fit model on the light
Duplicate	Duplicates the light
Set vertical orientation	Set vertical orientation (Z axis)
Remove	Removes the light

Put the light ON/OFF :

To do so, 2 options are available :

1. Click on the selected and check/uncheck the option ON
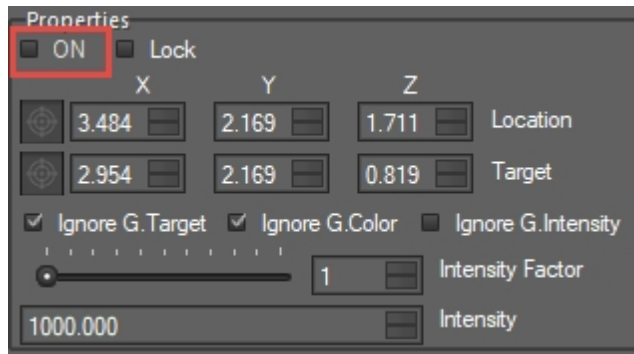
2. Activate the light directly from the lights tree :

 : OFF

 : ON

Edit artificial light's settings

Edit artificial light's settings
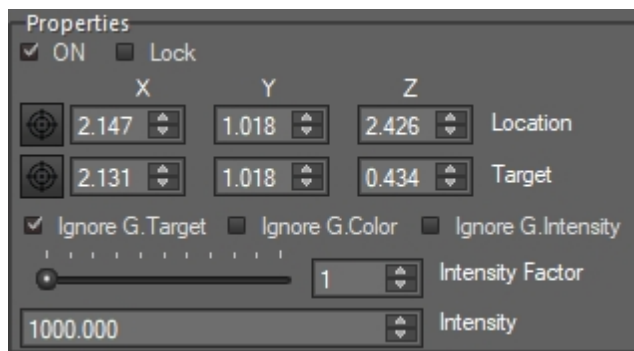
ON	Turns the light ON/OFF
Lock	Lock the light's position
Location	Specifies the light position's coordinates. Use the icon to define the lig
Target	Specifies the light target's coordinates. Use the icon to define the light
Ignore group target	Ignores the group's target in order to define the light's target independently
Ignore group color	Ignores the group's lights color in order to define the light's tint independentl
Ignore group intensity	Ignores the group's intensity in order to define the light's intensity independe
Intensity	Intensity of the light
Intensity factor	Intensity's factor (multiplies the intensity by the factor entered)

If the option "Ignore group color" is checked, the light's color can be manually selected using the color
picker :
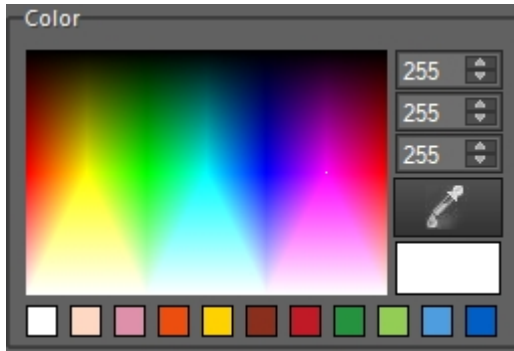
The light's type, rotation, cone angle and light's temperature are defined here :
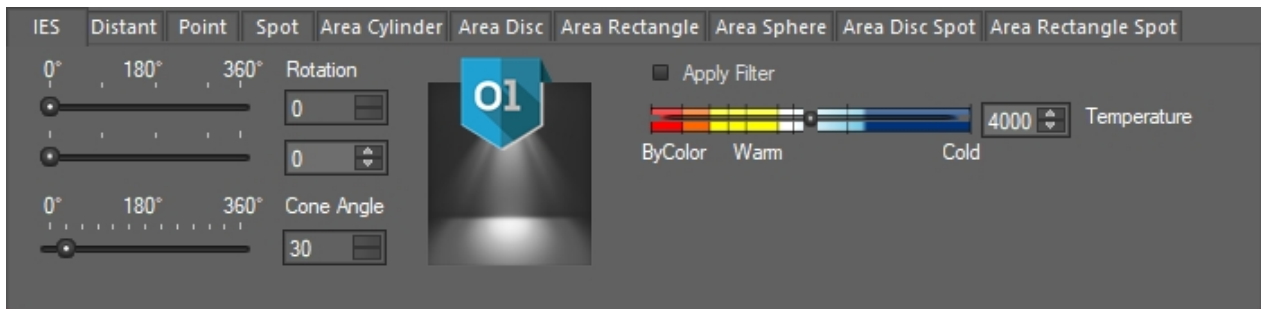
Temperature	Light's temperature in Kelvin (defines the light's tint)
Rotation	Rotate the light's geometry (not applied for IES, distant, point and spot lights)
Cone angle	Defines the cone's angle (can be manually set using the 2D navigation panel by moving the cone's sides)
Radius	Defines the radius of the light's geometry created (used for spherical and cylindrical shapes only)
Length	Defines the length of the cylinder
Height	Defines the height of the rectangle
Width	Defines the width of the rectangle
Visible	Makes the geometry visible on screen
Double sided	Both sides of the geometry generates light

For more realistic results, use IES :

Simply click on in order to access the IES lights profiles library and select the profile to be attached to the selected light.

Artificial lights types

Artificial lights types

Unicorn Render provides different types of artificial lights. Some will create a geometry, some not :

IES

Similar to point and spot lights, but rather than a uniform distribution, or a simple cone distribution, this light type reads in an external IES file which describes a more complex light distribution. This distribution can be oriented in the same way as the spot light, but the actual shape of the distribution is fixed by the IES file. The light source is not visible in the scene.

Distant

Distant lights act as a point light placed infinitely far from the scene. The illumination is parallel and uniform i.e., each point in the scene "sees" the light in the same direction, and at the same intensity. In essence it mimics simple sunlight. You only need to set up a direction to define the light.

Point

Point lights give a uniform light distribution from a single point within the scene. The illumination at any point in the scene depends on the direction to the light position as seen from that point, and is also proportional to the inverse square of the distance between that point and the light position. The light source is not visible in the scene.

Spot

Spot lights are similar to point lights, but the light distribution is not spherically uniform. Instead it is directed into a "cone", to mimic the appearance of a real spot light. The orientation and shape of the cone can be controlled via a number of parameters on the light. The light source is not visible in the scene.

Area lights

Area lights define simple pieces of geometry (rectangles, discs, spheres and cylinders) that emit light. Unlike the other types of artificial light, these are visible in the scene by default so are good for modelling simple bulbs, strip lights, and the like. Each type of area light has parameters that allow you to control the position, size, shape, and orientation of the light, and whether or not it emits from both sides. The light geometry can also be made invisible to the camera by setting the Visible parameter to false.

By default, the area lights will emit a basic uniform illumination, but it is also possible to attach an IES file as with Photometric lights. In this case, every point on the surface of the area light will act as a point source with this profile, and the total illumination is given by an integration over the surface. Note that area lights with IES profiles attached will appear black in the render if the camera is placed outside the limits of the lighting distribution.

Area cylinder

Area disc

Area rectangle

Area sphere

Area disc spot

Area rectangle spot

Create a group of lights

Create a group of lights

Lights can be managed in a group. This option can be useful when it is needed to change the intensity factor of all light at the same time, to move the full group of lights on screen or to put on/off all lights at the same time.
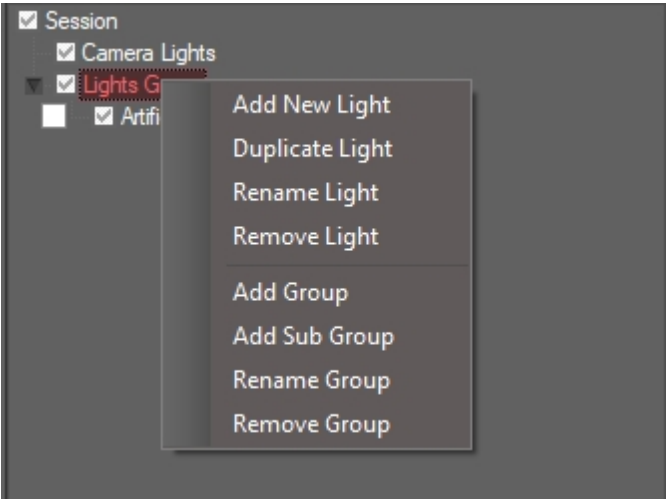
Right click on "Lights group" :

Add group	Add a new group of lights
Add sub group	Add a sub group of lights to the group selected
Rename group	Rename the group
Remove group	Remove the group and all lights created inside that specific group

To move or rotate the group of lights created, use the 2D navigation panel :

WCS Polar
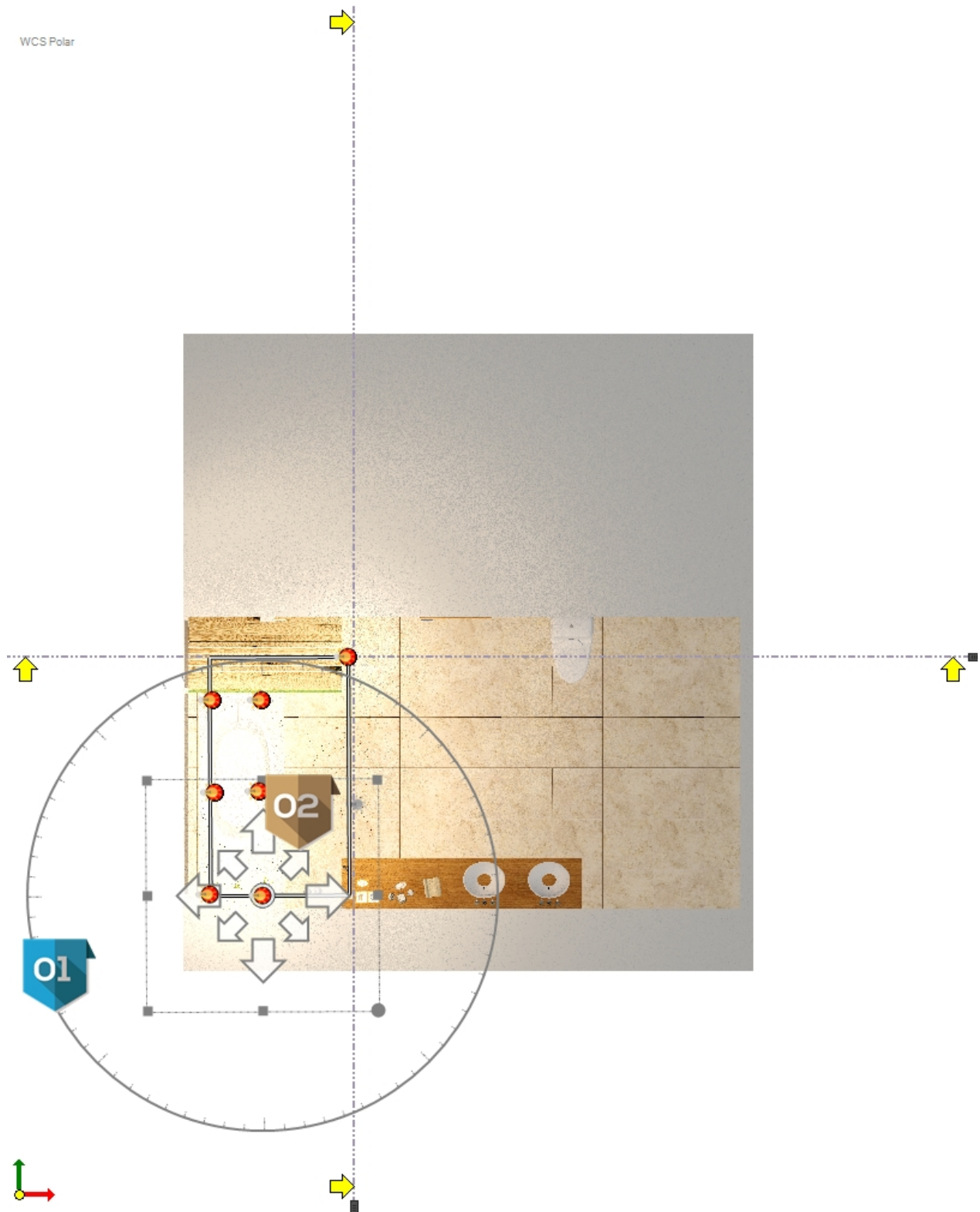
O1	Rotates the group (click on the circle and rotate)
O2	Moves the group (click on an arrow and move)

Put the group of lights ON/OFF :
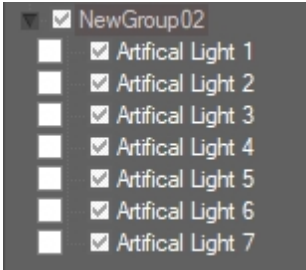
- Each light present in the group can be independently activated/deactivated
- If the full group is deactivated, no light will be visible on screen

Edit lights group's settings

Edit lights group's settings
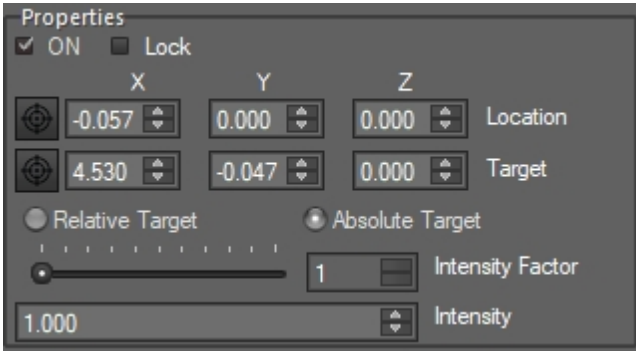
ON	Activate/deactivate the lights group
Lock	If lock is applied, it becomes impossible to change the group's settings
Location	Group's position. Use the icon to define the group's position by clicking directly on the screen preview.
Target	Group's target. Use the icon to define the light's target by clicking directly on the screen preview.
Relative target	Each light present in the group has its own target
Absolute target	All light follow the same group's target
Intensity	Multiplies each light's intensity by the factor entered
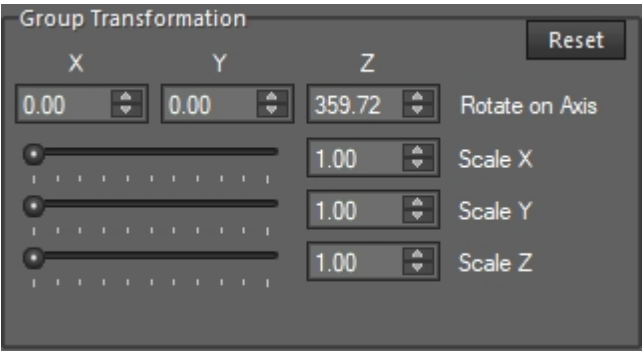
Re set	Resets all inputs to default
Rot ate on Axi s	Rotate the lights group on X,Y or Z axis
Sc ale X	Re scales the group's size along X axis
Sc ale Y	Re scales the group's size along Y axis
Sc ale Z	Re scales the group's size along Z axis
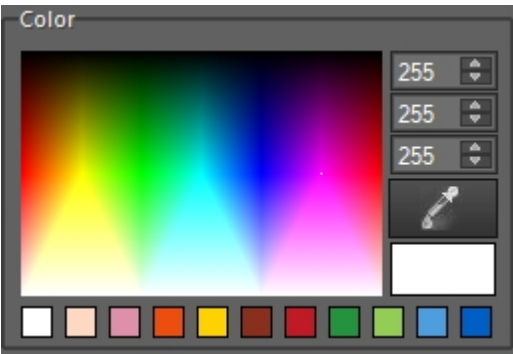
Modifies all lights tint by the one selected here.

 : use the color picker to select a specific color on screen or from an external image.

Presets

Presets

Unicorn Render allows you to create artificial lights presets that can be linked to any scene created.

It means that you can create a day scene with all artificial lights OFF and a night scene with all the artificial lights ON :

| + | - | R | Default | ⇕ | Configuration |

- Configure the light settings (Lights ON and lights OFF) and click on the ⊞ icon
- Name the preset created

[-] : remove one preset

[R] : Rename a preset

- select a scene / Go in artificial lights panel / Chose the requested template

Images database

Images database

This sections describes the role of the images's database. The interface allows you to manage pictures used for background and materials's textures, HDRI etc...

Images sections
Add an image
Manage folders

Images sections

01	Library folders. Session images : all images present/used in the file. (the textures added here will be available only in this model). User library : Personal user's library. This is where you can create your own texture's libraries. Texture library : library used by the system (can't be modified or deleted).
02	Images present in the selected folder
03	Image's description (if available)
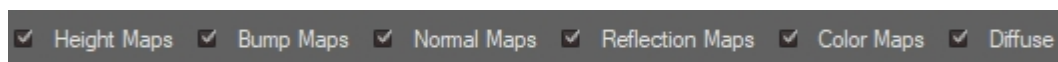
These filters allow you to see only the selected box's types of images present in the selected folder.

Add an image

Add an image

To add an image please, first select one folder (in images sections). As explained you can add an image in any folder you want, the only folder where adding/deleting images are forbidden is the "system library" folder.
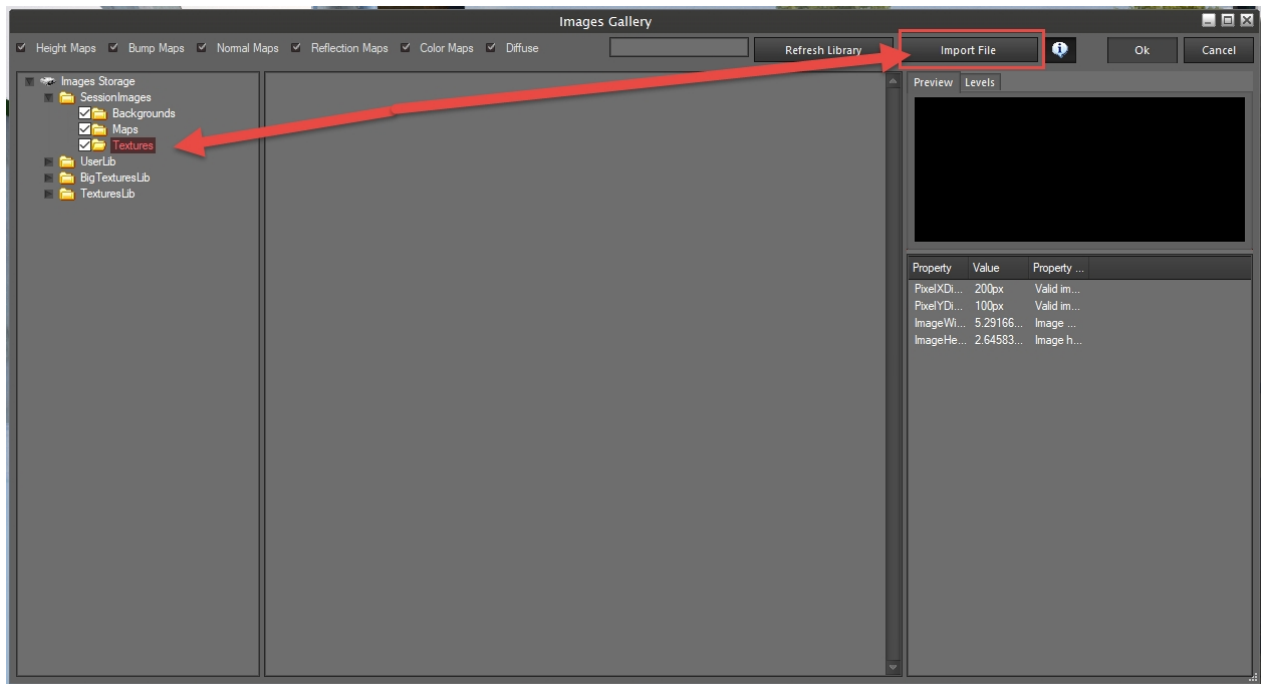
1. Select an available folder
2. Click on import file
3. Select the file(s) to transfer in the folder.
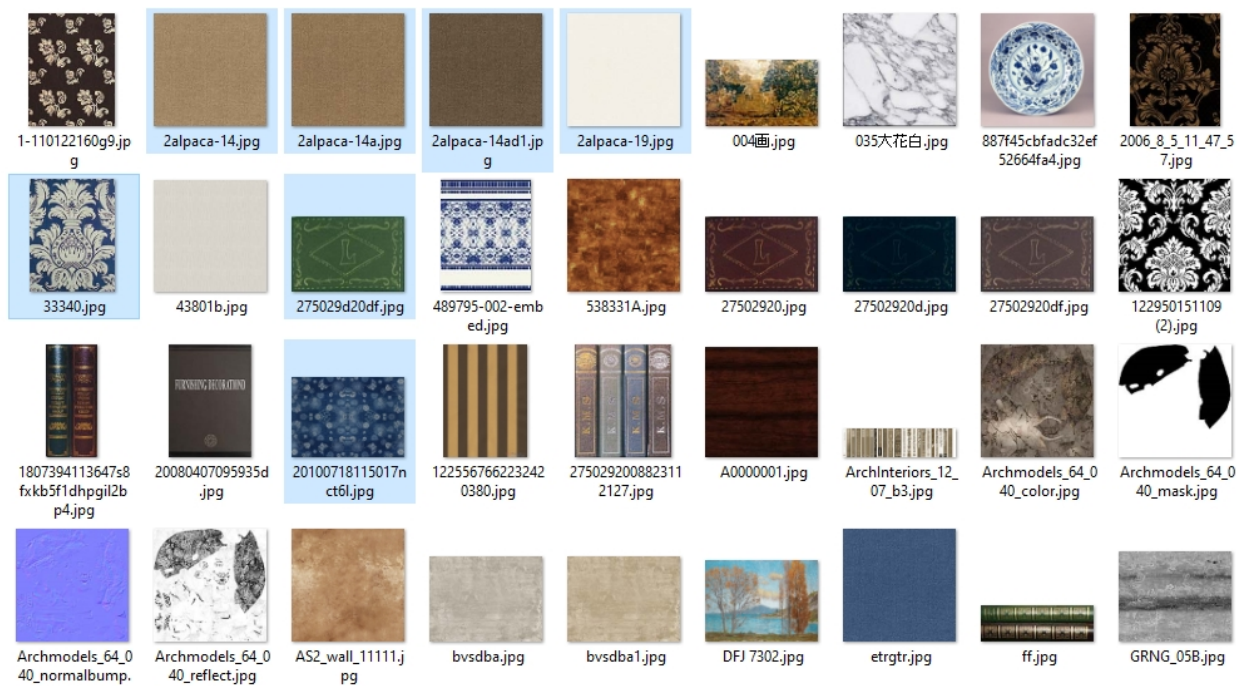
And click OK : the selected images will be transferred in the selected folder :
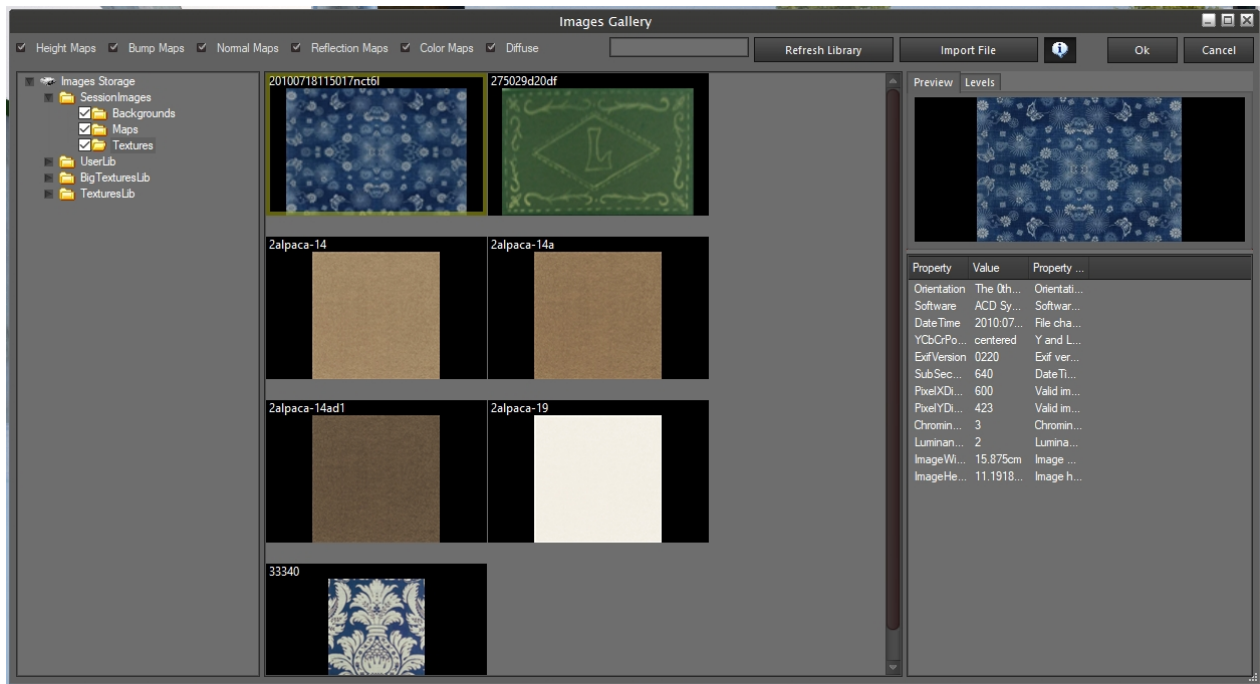
You can then simply select the texture you need.

Right click on an image :
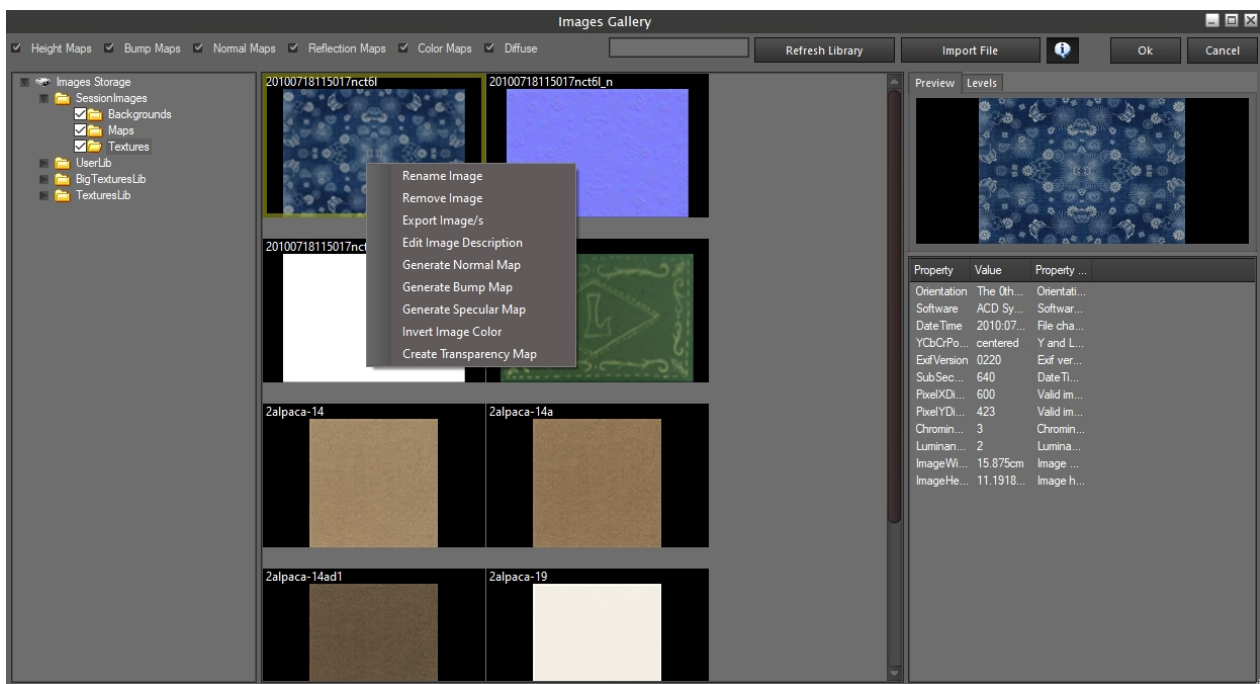
Rename image	Rename the selected image
Remove image	Delete the selected image
Export image	Export the selected image in a specific folder
Edit image description	Edit manually the image description
Generate normal map	Automatically generates the normal map of the selected image
Generate bump map	Automatically generates the bump map of the selected image
Generate specular map	Automatically generates the specular map of the selected image
Invert image color	Inverts the color range of the selected image

Create transparency map	Automatically generates the transparent map of the selected image

Manage folders

Manage folders

This section describes how to add and manage folders in the images sections.
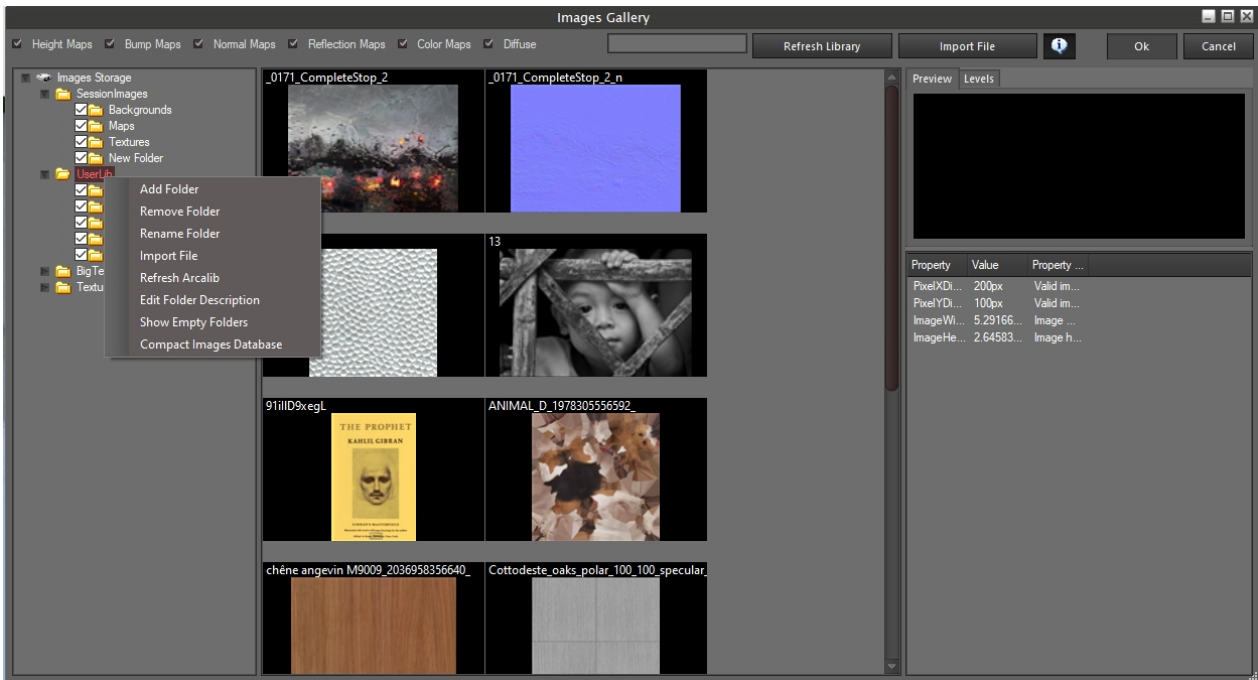
Right click on one existing folder allows you to :

Add folder	Add a new folder
Remove folder	Delete the selected folder
Rename folder	Rename the selected folder
Import file	Import file into the selected folder
Edit folder description	Edit manually the folder's description
Show empty	Show folder(s) that don't contain any image.

folder s	
Comp act image datab ase	Compress the folder's size

Materials

Materials

This section explains how to use the material's section :

Interface
Materials library
Create a new material
Apply one material
Materials properties
Materials assignment and geometry management
Coatings

Interface

Interface

O1	Real time preview
O2	Materials library Contains the system's library and allows you to create your own materials library.
O3	Sessions materials Contains all materials mapped/created in the model. These materials are saved in the project's file. Any modification done on on session's material will only affect the model where the material has been mapped or created.
O4	Geometry list Contains the list of meshes and geometry present in the model and displays the materials applied. For more information see section : Materials assignment and geometry management
O5	Material's properties Contains all material's properties that can be edited.

 : Material picker : this icon when enable allows you to click on any geometry in the model and check which material is applied. The material (if) applied will be highlighted in the session materials area and in the geometry list.

To be faster you can use the keyboard shortcut : ctrl + alt and left click on the geometry.

Materials library

Materials library

The materials library contains the system's library provided by Unicorn Render and allows you to create your own materials library.
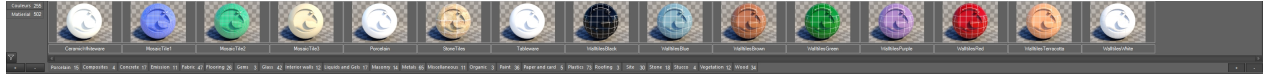
To create a new category, click on the + icon :
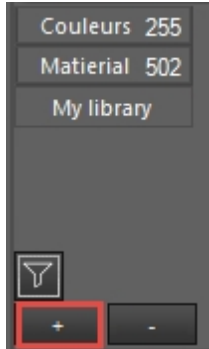
Double click on the created category to rename it.

To delete a category, click on the - icon :
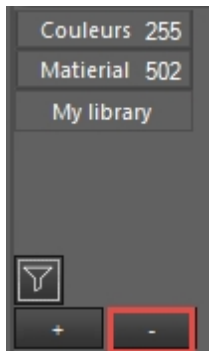
Note : The system's library can't be deleted.

To add one sub-category click on the + icon :

To rename a sub-category double click on it.

To delete one category, click on the - icon :

To search for a material you can use the materials filter :

Enter the material's name and press enter.
Simply delete the content of the filter in order to see again all materials.

Create a material

Create a material

A material can be created in session (the material will only be available in the working project) or in the material's library (in order to be reused in future projects).

Session's materials are only available in the project where it has been created.

Right click in the session materials section allows you to :

Add New Material
Remove Material
Duplicate Material
Rename Material
Purge Session Materials
Purge Session Images
Refresh Material Preview ▶
Set As Default Material
Export Material
Import Material
Save all Materials Gallery Changes
Select any geometries with this materials
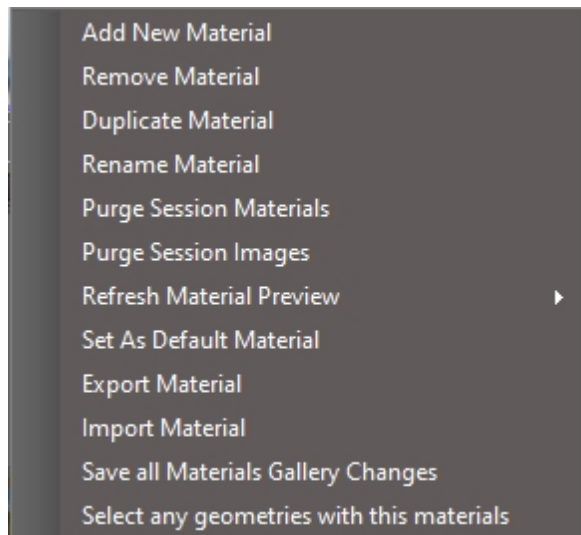
Add new material	Create a new material
Remove material	Delete the selected material
Duplicate material	Duplicate the selected material
Purge session materials	Deletes all materials not mapped in the project
Purge session images	Deletes all images not used in the project
Refresh material preview	Creates a more realistic preview (3 options : fast, good ar
Export material	Export the material in .mdl format in order to be used by t
Import material	Import .mdl materials from external sources
Select any geometry using these materials	Selects geometries that have this material applied

To create a material in order to be saved for future projects, right click in the materials library, the same
options are available allowing you to rename, duplicate, delete or change the material's preview.

Apply one material

Apply one material

To apply one material, simply click (left click) on the material you need to apply, and drag & drop it onto the geometry.

The real time preview will be updated automatically.

Another option is :

1. use the shortcut ctrl + alt to check highlight the geometry selected in the materials assignment and geometry management array :

*

As you can see, the session's material applied is also highlighted. You can then simply drag & drop the material to assign directly on the "front material" line :

Materials assignment and geometry management

Material assignment and geometry management

This section describes the list of geometries present in the model, the materials assigned and some features related to geometry's management :

	ID ▲	Front Material	Rear Material	Color	Layer	Object Name	Show
Geometries	74:263:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+189	☑
	74:264:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+190	☑
	74:265:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+191	☑
Colors	74:266:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+192	☑
	74:267:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+193	☑
	74:268:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+194	☑
Layers	74:269:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+195	☑
	74:270:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+196	☑
	74:271:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+197	☑
Models	74:272:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+198	☑
	75:75:new	Acero inoxidable cepilla...	N/A	43 -	0 -	ID:279318	☑
	76:76:new	inoxidooo	N/A	9 -	0 -	ID:268228	☑
	77:77:new	*6	N/A	23 -	0 -	ID:348437	☑
	78:78:new	inoxidooo	N/A	9 -	0 -	ID:274500	☑
	79:79:new	*23	N/A	43 -	1 -	ID:362429	☑
	80:80:new	*23	N/A	43 -	1 -	C:FF_Lauren_Hot_Spr...	☑
	81:81:new	inoxidooo	N/A	9 -	0 -	ID:278833	☑
	82:82:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:363327	☑
	83:83:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:364726	☑
	84:84:new	cromado_vaso_w04a8...	N/A	253 -	0 -	ID:398567	☑
	85:85:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:369714	☑
	86:86:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
	86:87:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
	86:88:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
	87:87:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:371712	☑
	88:88:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
	88:89:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
	88:90:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
	89:89:new	inox	N/A	9 -	1 -	ID:252112	☑
	90:90:new	inox	N/A	9 -	0 -	ID:619071	☑
	91:91:new	inox	N/A	9 -	0 -	ID:305265	☑
	92:92:new	inox	N/A	9 -	0 -	ID:305265	☑
	93:93:new	inox	N/A	9 -	0 -	ID:305265	☑
	94:94:new	inox	N/A	9 -	0 -	ID:305265	☑
	95:95:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:372496	☑
	96:96:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:361055	☑
	97:97:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664	☑
	97:98:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+1	☑
	97:99:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+2	☑
	97:100:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+3	☑
	97:101:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+4	☑
	97:102:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+5	☑
	97:103:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+6	☑
	97:104:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+7	☑
	97:105:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+8	☑
	97:106:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+9	☑
	97:107:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+10	☑
	97:108:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+11	☑
	97:109:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+12	☑
	97:110:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+13	☑
	97:111:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+14	☑
	97:112:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+15	☑
	97:113:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+16	☑
	97:114:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+17	☑
	97:115:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+18	☑
	97:116:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+19	☑
	97:117:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+20	☑
	97:118:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+21	☑
	97:119:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+22	☑
	97:120:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+23	☑

Materials assignment

Materials assignment

Materials assignment

ID	Front Material	Rear Material	Color	Layer	Object Name	Show
74:263:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+189	☑
74:264:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+190	☑
74:265:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+191	☑
74:266:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+192	☑
74:267:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+193	☑
74:268:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+194	☑
74:269:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+195	☑
74:270:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+196	☑
74:271:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+197	☑
74:272:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+198	☑
75:75:new	Acero inoxidable cepilla...	N/A	43 -	0 -	ID:279318	☑
76:76:new	inoxidooo	N/A	9 -	0 -	ID:268228	☑
77:77:new	*6	N/A	23 -	0 -	ID:348437	☑
78:78:new	inoxidooo	N/A	9 -	0 -	ID:274500	☑
79:79:new	*23	N/A	43 -	1 -	ID:362429	☑
80:80:new	*23	N/A	43 -	1 -	C:FF_Lauren_Hot_Spr...	☑
81:81:new	inoxidooo	N/A	9 -	0 -	ID:278833	☑
82:82:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:363327	☑
83:83:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:364726	☑
84:84:new	cromado_vaso_w04a8...	N/A	253 -	0 -	ID:398567	☑
85:85:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:369714	☑
86:86:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
86:87:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
86:88:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
87:87:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:371712	☑
88:88:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
88:89:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
88:90:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
89:89:new	inox	N/A	9 -	1 -	ID:252112	☑
90:90:new	inox	N/A	9 -	0 -	ID:619071	☑
91:91:new	inox	N/A	9 -	0 -	ID:305265	☑
92:92:new	inox	N/A	9 -	0 -	ID:305265	☑
93:93:new	inox	N/A	9 -	0 -	ID:305265	☑
94:94:new	inox	N/A	9 -	0 -	ID:305265	☑
95:95:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:372496	☑
96:96:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:361055	☑
97:97:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664	☑
97:98:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+1	☑
97:99:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+2	☑
97:100:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+3	☑
97:101:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+4	☑
97:102:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+5	☑
97:103:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+6	☑
97:104:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+7	☑
97:105:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+8	☑
97:106:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+9	☑
97:107:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+10	☑
97:108:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+11	☑
97:109:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+12	☑
97:110:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+13	☑
97:111:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+14	☑
97:112:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+15	☑
97:113:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+16	☑
97:114:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+17	☑
97:115:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+18	☑
97:116:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+19	☑
97:117:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+20	☑
97:118:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+21	☑
97:119:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+22	☑
97:120:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+23	☑

Geometries · Colors · Layers · Models

Geometries	Displays all materials assigned by geometry
Colors	Displays all materials assigned by color
Layers	Displays all materials assigned by layers
Models	Displays the list of placed objects (.blo) and models merged

Note : Every material mapped by geometry will overlap a material mapped by color or layers on the same geometry. Material assignment by geometry has the highest level of priority.

ID	Displays the geometry's ID
Front material	Displays the material applied on the geometry's front face
Rear material	Displays the material applied on the geometry's rear face (if available, otherwise N/A will be displayed)
Color	Displays the material applied by color
Layer	Displays the material applied by layer
Object name	Displays the object's name where the geometry/mesh comes from
Show	Show/hide the selected geometry

Geometry management

Geometry management

In the same array, right click on any geometry allows you to :

ID	Front Material	Rear Material	Color	Layer	Object Name	Show
74:263:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+189	☑
74:264:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+190	☑
74:265:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+191	☑
74:266:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+192	☑
74:267:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+193	☑
74:268:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+194	☑
74:269:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+195	☑
74:270:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+196	☑
74:271:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+197	☑
74:272:new	Metal_Corrogated_Shiny	N/A	9 -	0 -	ID:273730+198	☑
75:75:new	Acero inoxidable cepilla...	N/A	43 -	0 -	ID:279318	☑
76:76:new	inoxidooo	N/A	9 -	0 -	ID:268228	☑
77:77:new	*6	N/A	23 -	0 -	ID:348437	☑
78:78:new	inoxidooo	N/A	9 -	0 -	ID:274500	☑
79:79:new	*23	N/A	43 -	1 -	ID:362429	☑
80:80:new	*23	N/A	43 -	1 -	C:FF_Lauren_Hot_Spr...	☑
81:81:new	inoxidooo	N/A	9 -	0 -	ID:278833	☑
82:82:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:363327	☑
83:83:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:364726	☑
84:84:new	cromado_vaso_w04a8...	N/A	253 -	0 -	ID:398567	☑
85:85:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:369714	☑
86:86:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
86:87:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
86:88:new	Material #6	N/A	63 -	0 -	I:3DGeom~8\C:3DGe...	☑
87:87:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:371712	☑
88:88:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
88:89:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
88:90:new	Material #8	N/A	76 -	0 -	I:3DGeom~9\C:3DGe...	☑
89:89:new	inox	N/A	9 -	1 -	ID:252112	☑
90:90:new	inox	N/A	9 -	0 -	ID:619071	☑
91:91:new	inox	N/A	9 -	0 -	ID:305265	☑
92:92:new	inox	N/A	9 -	0 -	ID:305265	☑
93:93:new	inox	N/A	9 -	0 -	ID:305265	☑
94:94:new	inox	N/A	9 -	0 -	ID:305265	☑
95:95:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:372496	☑
96:96:new	FMH_Wamsutta_tex_c...	N/A	43 -	1 -	ID:361055	☑
97:97:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664	☑
97:98:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+1	☑
97:99:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+2	☑
97:100:new	V-Ray proxy - piedra bo...	N/A	53 -	0 -	ID:252664+3	☑
97:			53 -	0 -	ID:252664+4	☑
97:			53 -	0 -	ID:252664+5	☑
97:			53 -	0 -	ID:252664+6	☑
97:			53 -	0 -	ID:252664+7	☑
97:			53 -	0 -	ID:252664+8	☑
97:			53 -	0 -	ID:252664+9	☑
97:			53 -	0 -	ID:252664+10	☑
97:			53 -	0 -	ID:252664+11	☑
97:			53 -	0 -	ID:252664+12	☑
97:			53 -	0 -	ID:252664+13	☑
97:			53 -	0 -	ID:252664+14	☑
97:			53 -	0 -	ID:252664+15	☑
97:			53 -	0 -	ID:252664+16	☑
97:			53 -	0 -	ID:252664+17	☑
97:			53 -	0 -	ID:252664+18	☑
97:			53 -	0 -	ID:252664+19	☑
97:			53 -	0 -	ID:252664+20	☑
97:			53 -	0 -	ID:252664+21	☑
97:			53 -	0 -	ID:252664+22	☑

Context menu (overlay):

- Remove Row Associations
- Remove All Geometry Associations
- Show/Hide Geometry
- Edit Geometry Displacement Data
- Show only Selected Geometry
- Show All
- Invert Selection
- Include All Instances in Selection
- Select all BF entities
- Select any geometries with this materials
- Remove Selected Geometry
- Merge Selected Geometries
- Make a new model from selected geometry
- Merge Geometries By Material
- Recalculate Normals on Selected Geometries
- Recalc Texture Coordinates on Geometry Bounds
- Stretch Texture Coordinates on Geometry Bounds
- Recalculate Texture Coordinates as Box

Sidebar tabs: Geometries, Colors, Layers, Models

| Remove row associations	Remove the material's assignment of the selected geometry
Remove all geometry associations	Remove all materials assignment
Show/hide geometry	Show or hide the selected geometry
Edit geometry displacement data	Edit displacement information linked to the selected geometry
Show only selected geometry	Show only the geometries which are selected
Show all	Show all geometries
Invert selection	Invert the geometry's selection
Include all instances in selection	Select all similar instance of the selected geometry
Select all BF entities	Select all bi face entities (only from sketchup models that contain backface material
Select any geometry using this material	Select all geometries that have this material mapped
Remove selected geometry	Delete the selected geometry(ies)
Merge selected geometries	Merge in one line the selected geometries
Make a new model from selected geometry	Create a new model from selected geometry in order to be able to move it and mana
Merge geometries by material	Merge all geometries that have the same material applied
Recalculate normals on select geometries	Recalculate the normals on selected geometries
Recalculate texture coordinates on geometry bounds	Used to map a texture on a geometry using a planar texture mapping approach.
Stretch texture coordinates on geometry bounds	Stretches a texture on the geometry bounds : the texture won't be repeated.
Recalculate texture coordinate as box	Used to strech a texture on each bound of a face.

When a geometry is selected (or shortcut CTRL + ALT and click) the raw is automatically highlighted in red. Selecting other geometries will highlight new rows. To cancel all selections, simply use the mouse right click.

Materials properties

Materials properties

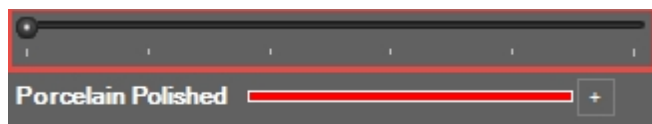
A material is made from a color or a texture (image) with added effects.
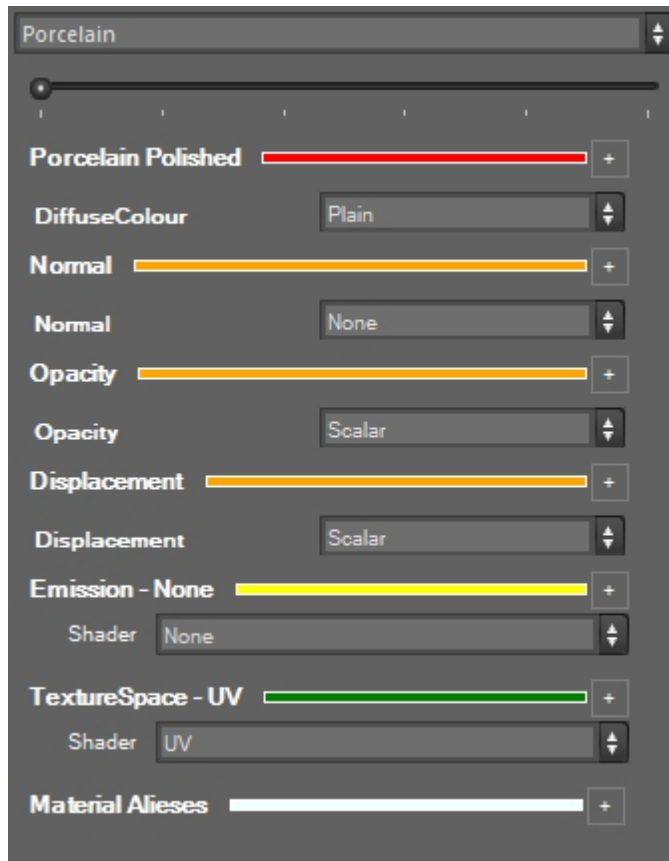
Unicorn Render provides a full range of material's presets :
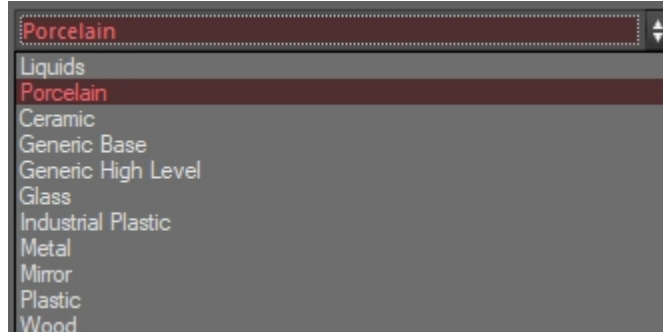
Each preset such as "porcelain" is automatically defined and ready to use, sub-types of materials are displayed below if available :

"Generic base" and "Generic high level" are two materials categories presets providing low and high level materials :

To make it simple, a material is a sort of sum of many different parameters. We are going to cover the most important ones :
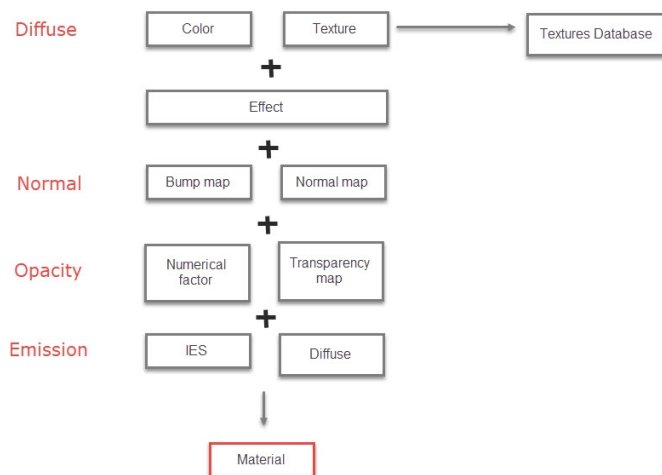
Diffuse

Diffuse

Chose a color or a texture image :
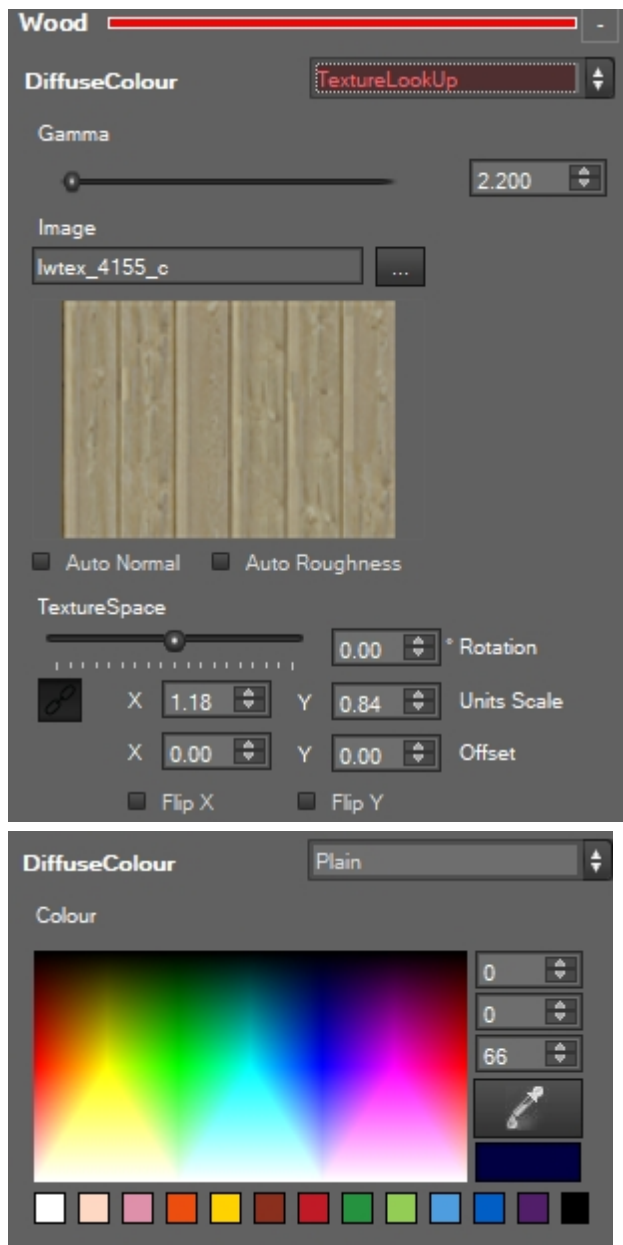
Image	Change the texture here
Gamma	Adds brightness and shadows contrast to the selected texture
Auto Normal	Automatically calculates the normal map from the selected texture in order to generate
Auto Roughness	Automatically calculates the bump map from the selected texture in order to generate
Rotation	Rotates the texture
Units scale	Changes the proportions of the texture applied on the geometry
Offset	Apply a translation of the texture along X or Y axis
Flip X	Mirrors the texture (X axis)
Flip Y	Mirrors the texture (Y axis)

Normal
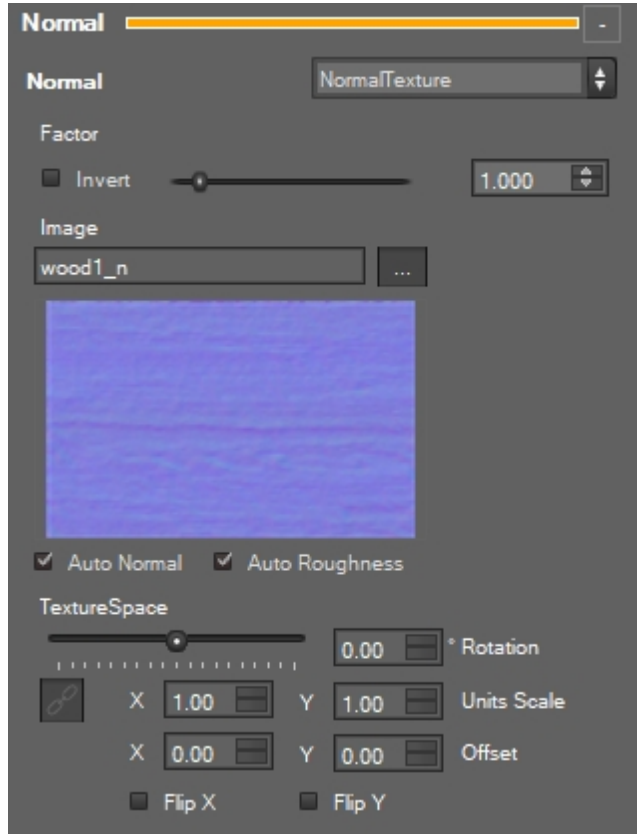
To simulate a bump effect, the most effective way is to use the concept of "normal mapping". A **normal map** is an RGB texture, where each pixel represents the difference in direction the surface should appear to be facing, relative to its un-modified surface normal.
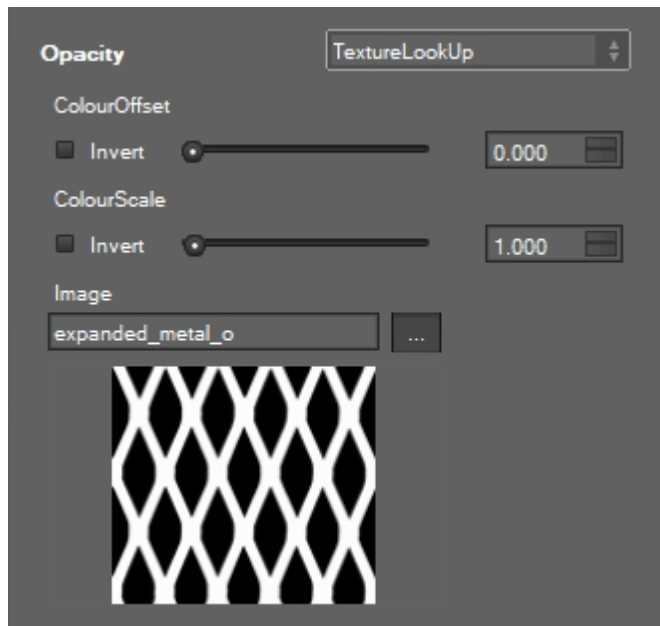
Image	Image's preview
Factor	Bump's amplitude

Units scale and offset should remain untouched as the values have to be the same as the texture's ones, so that the normal map overlaps perfectly the diffuse texture.

Opacity

Opacity can be managed by using the scalar option (number between 0 and 1) or by using a transparency map :

The white part defines the visible parts, the black ones define the invisible parts.

Displacement

Displacement

**Displacement mapping** is an alternative computer graphics technique in contrast to normal mapping using a texture to cause an effect where the actual geometric position of points over the textured surface are *displaced*, according to the value the texture function evaluates to at each point on the surface.
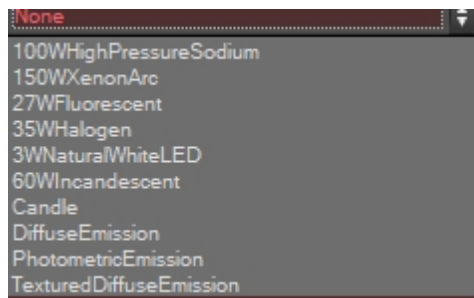

Select the geometry (ctrl+ alt) and right click on the geometry's row allows you to change the displacement's parameters :
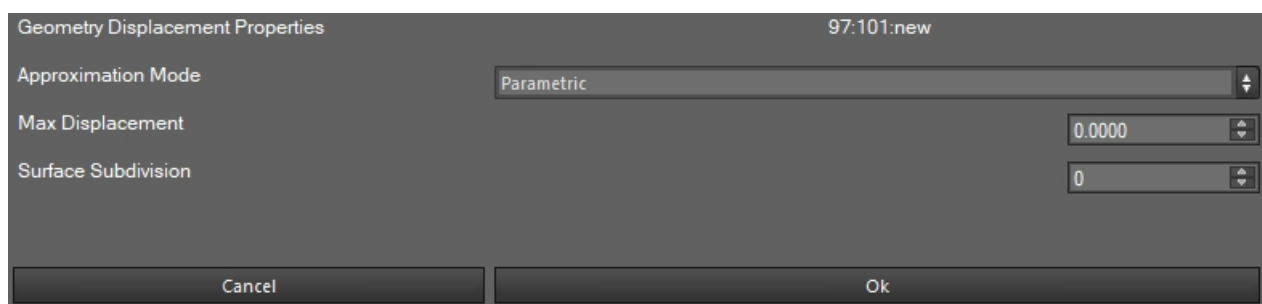
Emission

Emission

Unicorn Render provides emitting materials that can generate physical light into your scene.

Presets are already defined. For more realistic results, chose Photometric Emission that uses IES profiles in order to generate light.
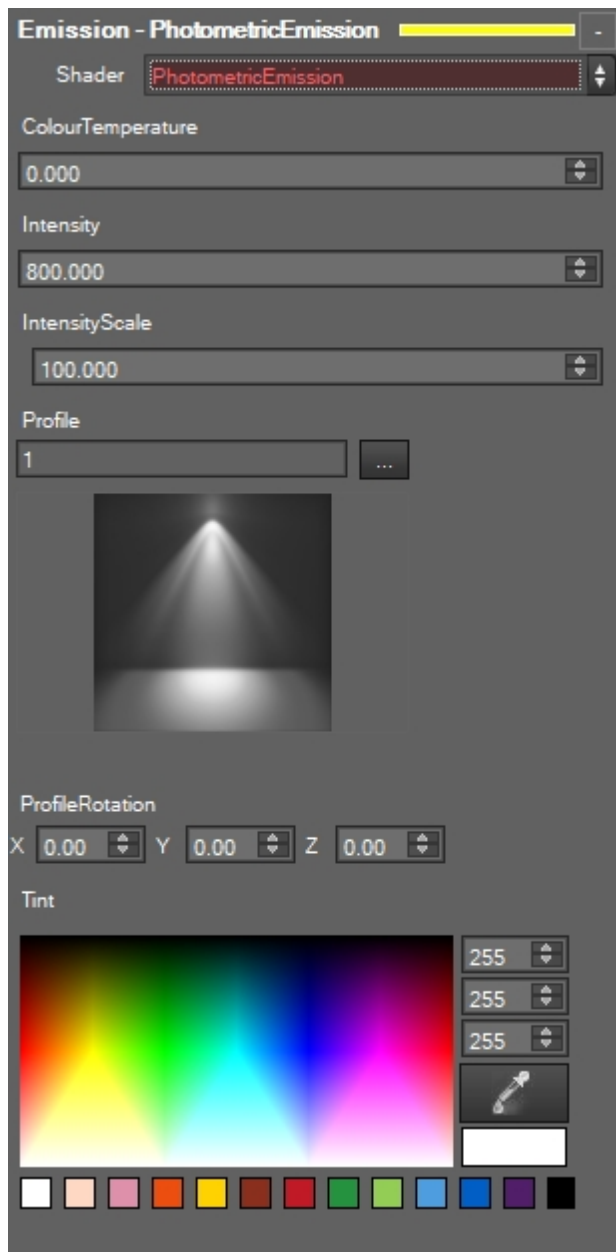
Color temperature	Simulates the right light's color according to the temperature (Kelvin) defined.
Intensity	Intensity of light
Intensity scale	Multiplies the intensity by the factor entered
Profile	IES's profile
Profile rotation	Rotate the profile along X, Y, Z axis

Tint	Manually define the light's color by selecting a color

Coatings

Coatings

Unicorn Render provides a full range of coatings that act as layers on top of the material in order to add some complex effects.
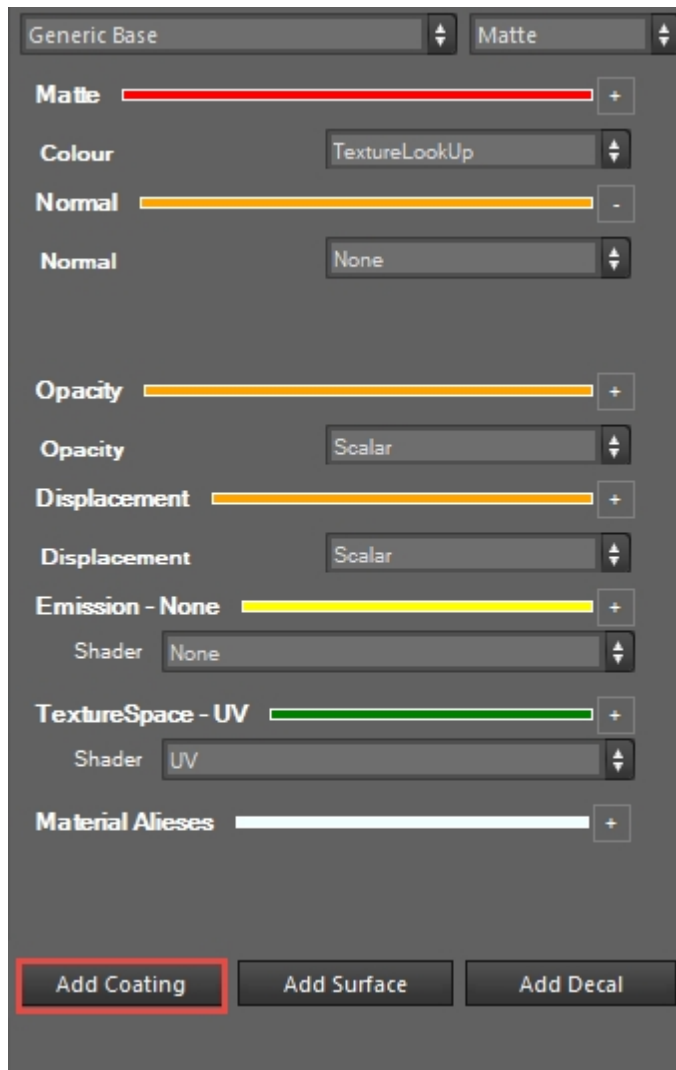
To add a coating, click on "Add coating" :
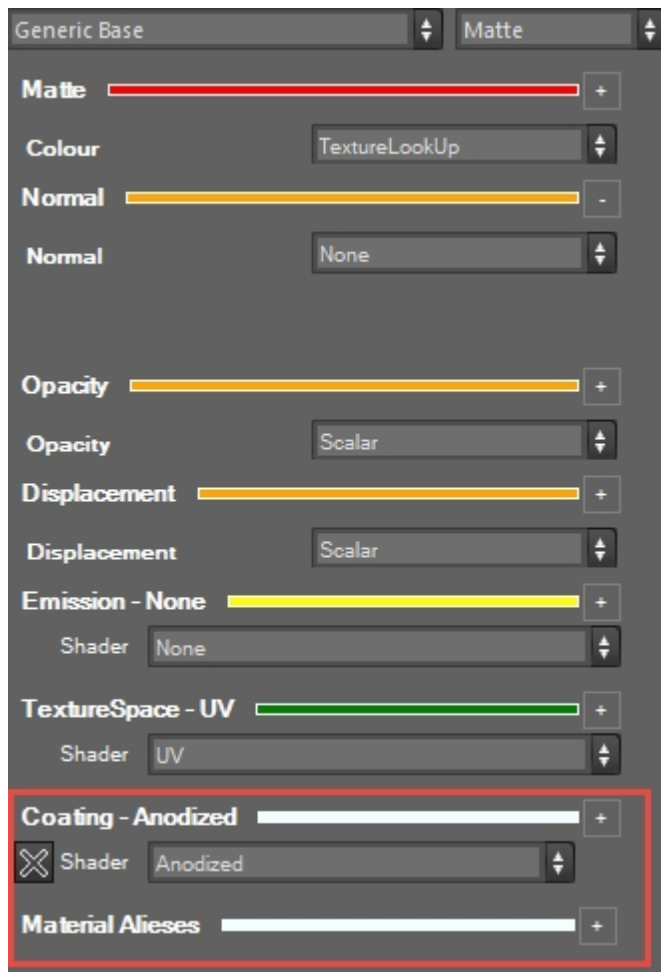
To delete a coating, click on the icon ⊠

Number of coating's layers is unlimited.

When the coating is added and the type of coating has been selected click on the [+] to access to all coating's parameters :

The most important parameter is the "Weight", it defines the amplitude of the effect on the material's definition.

Objects

Objects

Unicorn Render allows you to create and place native BLO objects into your scene. It allows you to compose the scene directly in Unicorn Render.

An object can be made from any imported geometry, it saves materials and textures and embeds them inside the .BLO object.

Place an object
Save an object

Place an object

Place an object

Insert library object

To place a .BLO object, simply use the "open icon" and chose "Insert library object" :
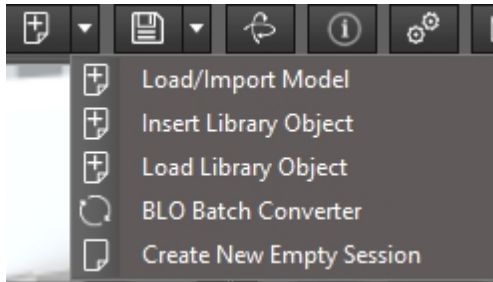
Select the object to be placed. A red box (object's bounding box) will show up on screen. To place the object simply click on the surface where you want the object to be placed.

Few shortcuts are useful :

ALT+8	Changes origin
ALT+3/4	Rotates the object
ALT+5/6	Change the object's scale
ALT+7	Resets parameters to default

After having been placed, the object can be visible from the geometry management section :

The position, scale and rotation's angle are displayed. To move again the object, use the icon and place it again in the scene.

The object can also be hidden.

Load library object

Load a library object allows you to open it in a single session in order to add modifications to it.

Save an object

Save an object

This section describes how to save a file into a BLO object ready to be placed in future projects.

To do so, open the file you want to save as an object, add the changes required in terms of materials and textures.

Once done, to save the object, simply use the option "Save as library object" :
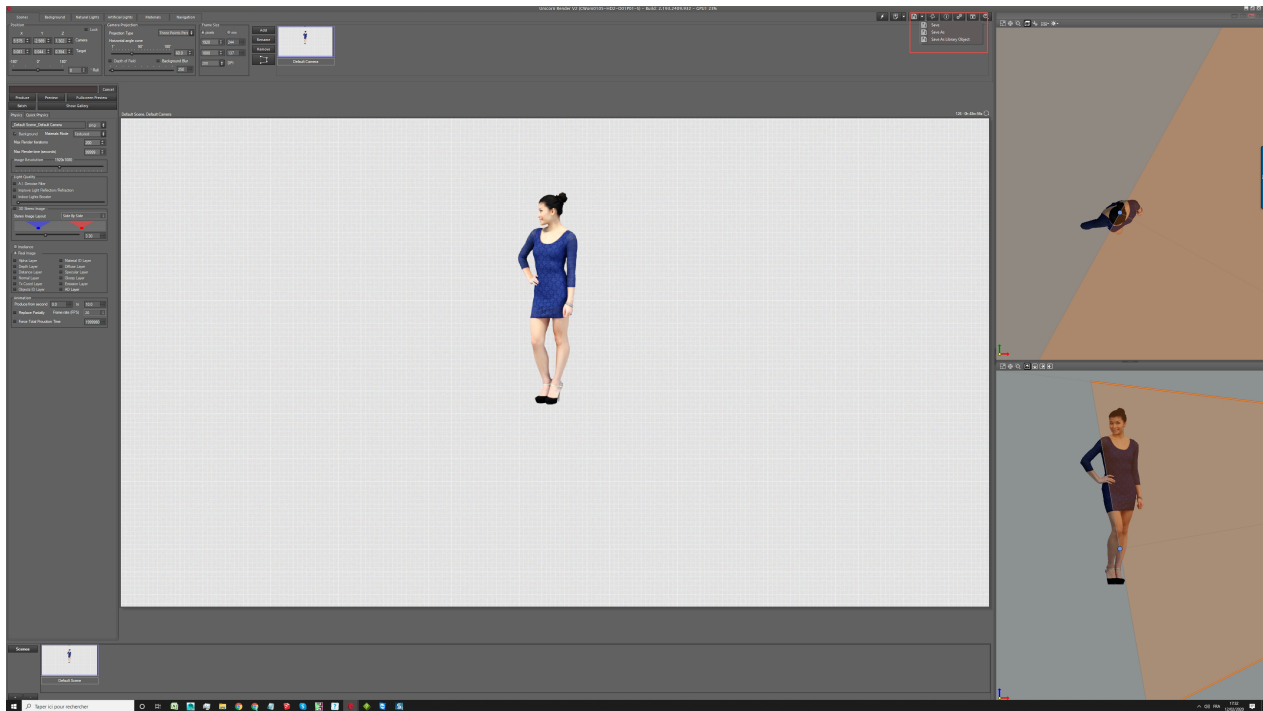
A dialog box will pop up on screen allowing you to optimize the object :
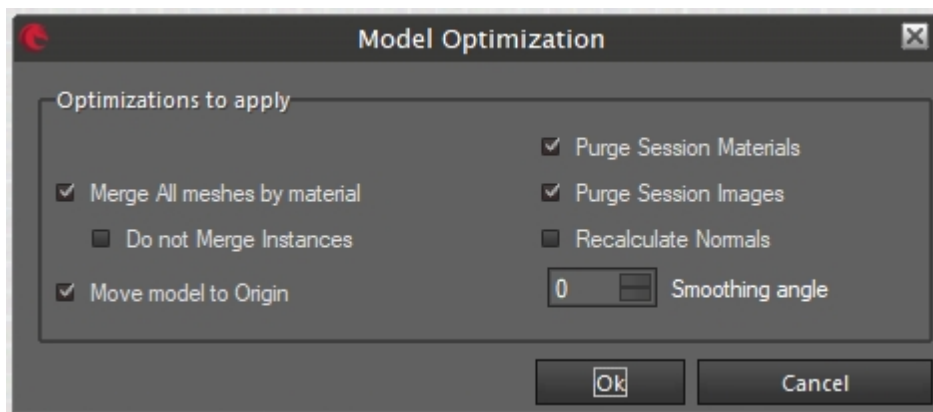
Merge all meshes by material	All geometries (meshes) that have the same material mapped onto it will be merged as a single mesh
Move model to origin	Moves model to origin in order to facilitate the object's placement
Purge session materials	Delete unused materials
Purge e	Delete unused images

sessi on imag es	
Reca lculat e norm als	Recalculate the object's normal

Simply click OK and save your new object in your custom library.

Animation

Animation

Unicorn Render provides a full animation's module that can be used in order to create "walk through" videos.

Create an animation
Produce an animation

Create an animation

Create an animation

Select the scene from which the animation should be created and click on the following icon :

Once done, the animation's editing panel will appear on screen.

To come back to your scene in order to change materials or natural lighting etc.. Click again on the same icon. You can identify which scene contains an animation :

Scene 1
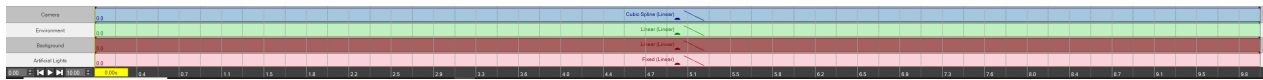
This is the time frame where you can define all actions to be applied during your animation process.

Camera	Camera's key frames transitions.
Environment	Environment's key frames transitions
Background	Background's key frames transitions
Artificial lights	Artificial lights key frames transitions
0.00	Start of animation
10.00	Animation's duration and position of last key frame
▶	Play the animation (preview)
◀	Comes back to the animation's beginning
▶	Comes back to the animation's end
0.00s	Current position

- First move the position to the end by clicking on the icon : ▶

- In the 2D navigation panels, select the camera and move it to the ending point where you want your animation to stop.

O1	First camera's position at t = 0s
O2	Last camera's position at t = ending time (s)

The same process can be simulated again using Environment / Background / Artificial lights :

- Environment : You can set at t = 0 a certain sun's orientation and at t = animation's end another sun's orientation (example : day to night) : the animation will then show the sun moving its own orientation.
- Artificial lights : You can for example decide to create a key frame at a specific time and set the lights ON before and OFF after.

Add and remove a key frame

Add and remove a key frame
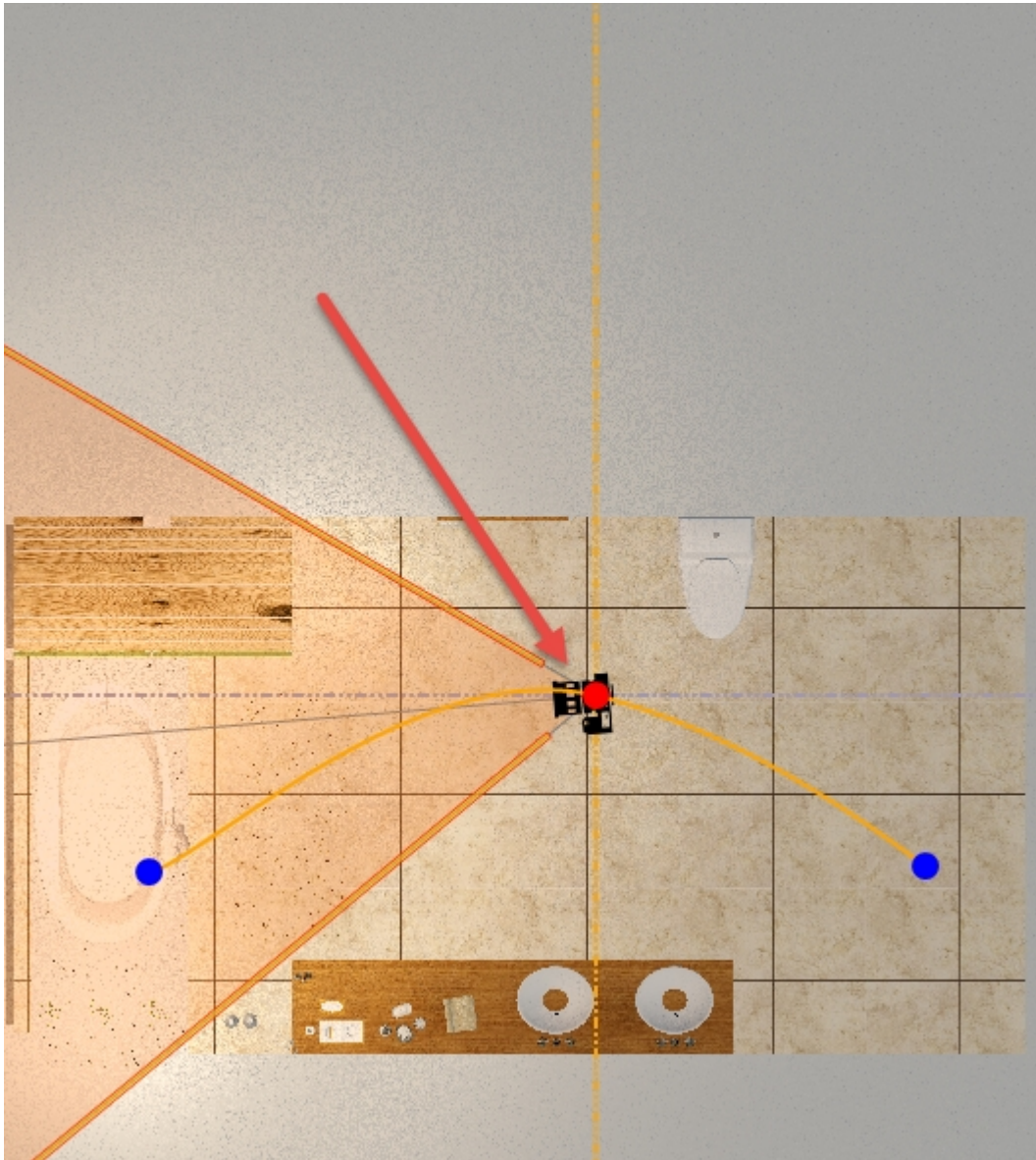--

To add a key frame, simply move the time position where you want the key frame to be added and click on the ➕ icon.
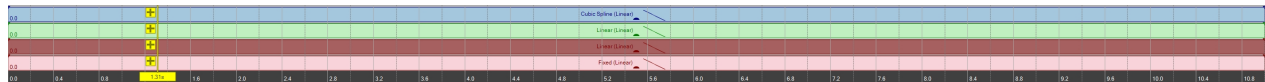
Once the key frame has been created it appears on the time progression bar :
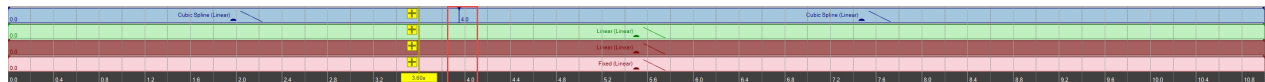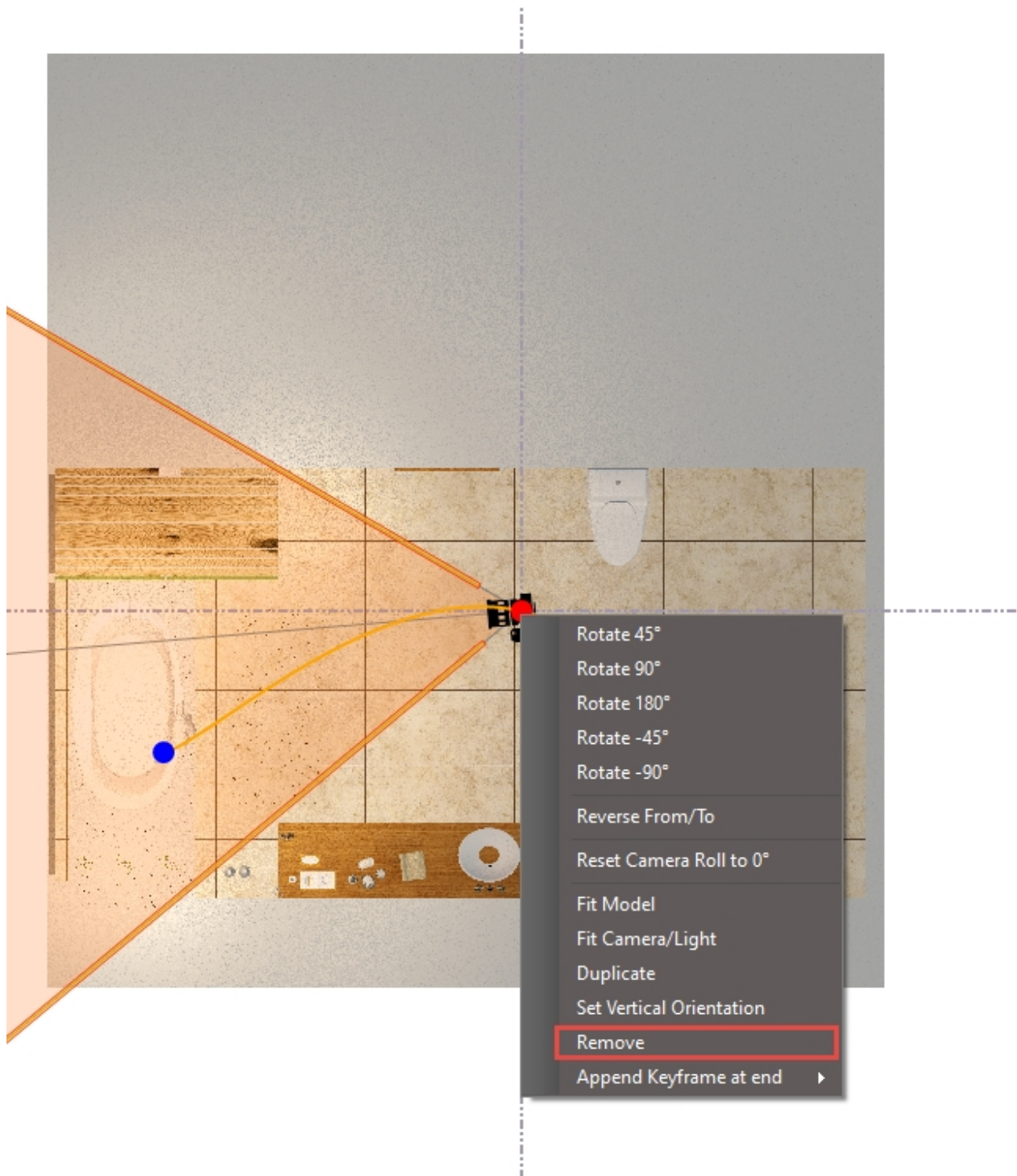

From the 2D navigation panel, you can move the camera's position by moving the camera's key frame to set the new camera's position :

Another option to add a key frame :

From the 2D navigation panel, press MAJ and click on one point of the curve to add a key frame at that specific time :

To remove one key frame :

The context menu shows the following options:

- Rotate 45°
- Rotate 90°
- Rotate 180°
- Rotate -45°
- Rotate -90°
- Reverse From/To
- Reset Camera Roll to 0°
- Fit Model
- Fit Camera/Light
- Duplicate
- Set Vertical Orientation
- Remove
- Append Keyframe at end ▶

Transitions

Transitions

Unicorn Render allows you to define the behaviour of the animated camera between 2 key frames. You can chose to make the camera movement slow at begin and be faster at the end by clicking on :
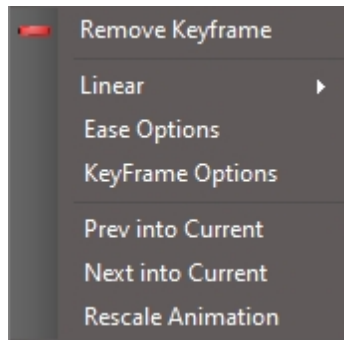
Remove Keyframe	Removes the previous key frame created	
Linear	Behavior of the animation between 2 key frames	
Ease options	Easing effect's options	
Keyframe options	Full animation	All parameters are animated
	Fixed target offset	The target direction remains unchanged between the 2 key frames
	Fixed eye position	The target direction changes but the eye's position remains fixed between the 2 key frames
Prev into current	Copies the previous key frame options in the current one	
Next into current	Copies the next key frame options in the current one	
Rescale animation	Resize the animation duration, start and end	

Produce an animation

To produce an animation, be sure to select the requested scene where the animation has been created. In the scene tab you will find all production parameters available :
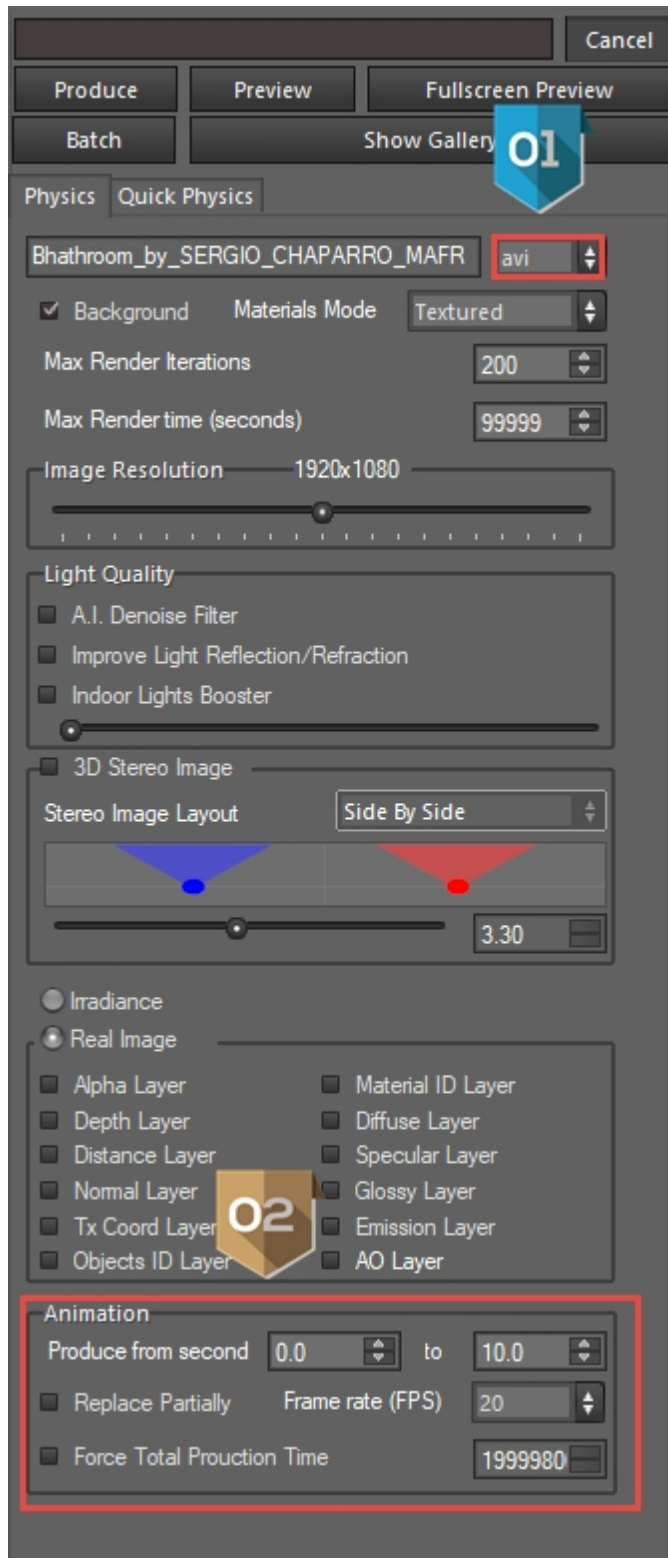
 : Chose the animation's output format. (.avi / .mp4 / .mpg / .flv)

Unicorn Render will produce one by one each frame as a picture. We recommend you to use Quickphysics mode so that each frame can be calculated in the fastest way. Define the maximum number of iterations / maximum calculation time for each frame / the frame's resolution (HD is recommended)

Produce from/to	Defines where the animation should start and end
Replace partially	When this option is enabled, Unicorn Render will save each frame in order to be reused if the same animation is recalculated later
Frame rate (FPS)	Frame rate = number of frames per second (20, 24 and 30 are recommended values)
Force total production time	Specifies to Unicorn Render the maximum rendering time available (in seconds)

Glossary

A glossary, also known as a vocabulary or clavis, is an alphabetical list of terms in a particular domain of knowledge with the definitions for those terms. Traditionally, a glossary appears at the end of a book and includes terms within that book that are either newly introduced, uncommon, or specialized.

3DS

3DS is one of the file formats used by the Autodesk 3ds Max 3D modeling, animation and rendering software. It was the native file format of the old Autodesk 3D Studio DOS (releases 1 to 4), which was popular until its successor (3D Studio MAX 1.0) replaced it in April 1996. Having been around since 1990 (when the first version of 3D Studio DOS was launched), it has grown to become a de facto industry standard for transferring models between 3D programs, or for storing models for 3D resource catalogs (along with OBJ, which is more frequently used as a model archiving file format). While the 3DS format aims to provide an import/export format, retaining only essential geometry, texture and lighting data, the related MAX format (now superseded by the PRJ format[citation needed]) also contains extra information specific to Autodesk 3ds Max, to allow a scene to be completely saved/loaded.

BLO

BLO Binary Library Object (.BLO) represents a proprietary file of Unicorn Render compressed that contains library file with geometries and material that will be inserted in the current scene as an instance.

BPF

BPF Binary Project File (.BPF) is the proprietary file of Unicorn Render that contains all information of the project such as geometries, illuminations, textures, background and all parameters needed to produce images, VR and animation, all resources are embedded, moving this file all needed for the project will be moved.

Collada

COLLADA (COLLAborative Design Activity) is an interchange file format for interactive 3D applications. It is managed by the nonprofit technology consortium, the Khronos Group, and has been adopted by ISO as a publicly available specification, ISO/ PAS 17506 .DAE is the extention

Copyrights

Copyright is a legal right created by the law of a country that grants the creator of an original work exclusive rights for its use and distribution. This is usually only for a limited time. The exclusive rights are not absolute but limited by limitations and exceptions to copyright law, including fair use. A major limitation on copyright is that copyright protects only the original expression of ideas, and not the underlying ideas themselves.   Copyright is a form of intellectual property, applicable to certain forms of creative work. Some, but not all jurisdictions require "fixing" copyrighted works in a tangible form. It is often shared among multiple authors, each of whom holds a set of rights to use or license the work, and who are commonly referred to as rights holders. These rights frequently include reproduction, control over derivative works, distribution, public performance, and moral rights such as attribution.[

CUDA

CUDA is a parallel computing platform and application programming interface (API) model created by Nvidia. It allows software developers and software engineers to use a CUDA-enabled graphics processing unit (GPU) for general purpose processing - an approach termed GPGPU (General-Purpose computing on Graphics Processing Units). The CUDA platform is a software layer that gives direct access to the GPU's virtual instruction set and parallel computational elements, for the execution of compute kernels. The CUDA platform is designed to work with programming languages such as C, C++, and Fortran. This accessibility makes it easier for specialists in parallel programming to use GPU resources, in contrast to prior APIs like Direct3D and OpenGL, which required advanced skills in graphics programming. Also, CUDA supports programming frameworks such as OpenACC and OpenCL. When it was first introduced by Nvidia, the name CUDA was an acronym for Compute Unified Device Architecture, but Nvidia subsequently dropped the use of the acronym.

DAE

DAE is the extention type of COLLADA (COLLAborative Design Activity) is an interchange file format for interactive 3D applications. It is managed by the nonprofit technology consortium, the Khronos Group, and has been adopted by ISO as a publicly available specification, ISO/ PAS 17506

Download

In computer networks, to download is to receive data from a remote system, typically a server[1] such as a web server, an FTP server, an email server, or other similar systems. This contrasts with uploading, where data is sent to a remote server.

DPI

Dots per inch (DPI, or dpi) is a measure of spatial printing or video or image scanner dot density, in particular the number of individual dots that can be placed in a line within the span of 1 inch (2.54 cm).

Instance

Instance is an Object placed from Library that is exact copy of library but can be placed in different position, scale and rotation.

License Agreement

A software license agreement is a legal instrument (usually by way of contract law, with or without printed material) governing the use or redistribution of software. Under United States copyright law all software is copyright protected, in source code as also object code form.

MD5

The MD5 algorithm is a widely used hash function producing a 128-bit hash value. Although MD5 was initially designed to be used as a cryptographic hash function, it has been found to suffer from extensive vulnerabilities. It can still be used as a checksum to verify data integrity, but only against unintentional corruption.

Monitor

A computer monitor is an output device which displays information in pictorial form. A monitor usually comprises the display device, circuitry, casing, and power supply. The display device in modern monitors is typically a thin film transistor liquid crystal display (TFT-LCD) with LED backlighting having replaced cold-cathode fluorescent lamp (CCFL) backlighting. Older monitors used a cathode ray tube (CRT). Monitors are connected to the computer via VGA, Digital Visual Interface (DVI), HDMI, DisplayPort, Thunderbolt, low-voltage differential signaling (LVDS) or other proprietary connectors and signals.

OBJ

OBJ (or .OBJ) is a geometry definition file format first developed by Wavefront Technologies for its Advanced Visualizer animation package. The file format is open and has been adopted by other 3D graphics application vendors. The OBJ file format is a simple data-format that represents 3D geometry alone – namely, the position of each vertex, the UV position of each texture coordinate vertex, vertex normals, and the faces that make each polygon defined as a list of vertices, and texture vertices. Vertices are stored in a counter-clockwise order by default, making explicit declaration of face normals unnecessary. OBJ coordinates have no units, but OBJ files can contain scale information in a human readable comment line.

Operative System

An operating system (OS) is system software that manages computer hardware and software resources and provides common services for computer programs. Time-sharing operating systems schedule tasks for efficient use of the system and may also include accounting software for cost allocation of processor time, mass storage, printing, and other resources.

PLY

PLY is a computer file format known as the Polygon File Format or the Stanford Triangle Format. It was principally designed to store three-dimensional data from 3D scanners. The data storage format supports a relatively simple description of a single object as a list of nominally flat polygons. A variety of properties can be stored, including: color and transparency, surface normals, texture coordinates and data confidence values. The format permits one to have different properties for the front and back of a polygon. There are two versions of the file format, one in ASCII, the other in binary.

CPU

A central processing unit (CPU) is the electronic circuitry within a computer that carries out the instructions of a computer program by performing the basic arithmetic, logical, control and input/output (I/O) operations specified by the instructions. The computer industry has used the term "central processing unit" at least since the early 1960s

RAM

Random-access memory (RAM / ræm/) is a form of computer data storage that stores data and machine code currently being used. A random-access memory device allows data items to be read or written in almost the same amount of time irrespective of the physical location of data inside the memory.

Software License

A software license is a legal instrument (usually by way of contract law, with or without printed material) governing the use or redistribution of software. Under United States copyright law all software is copyright protected, in source code as also object code form.

Stereo-lithography file STL

STL (an abbreviation of "stereolithography") is a file format native to the stereolithography CAD software created by 3D Systems. STL has several after-the-fact backronyms such as "Standard Triangle Language" and "Standard Tessellation Language". This file format is supported by many other software packages; it is widely used for rapid prototyping, 3D printing and computer-aided manufacturing. STL files describe only the surface geometry of a three-dimensional object without any representation of color, texture or other common CAD model attributes. The STL format specifies both ASCII and binary representations. Binary files are more common, since they are more compact.

Unistaller

An uninstaller, also called a deinstaller, is a variety of utility software designed to remove other software or parts of it from a computer. It is the opposite of an installer. Uninstallers are useful primarily when software components are installed In multiple directories, or where some software components might be shared between the system being uninstalled and other systems that remain in use.

Video Card

A video card (also called a display card, graphics card, display adapter or graphics adapter) is an expansion card which generates a feed of output images to a display (such as a computer monitor). Frequently, these are advertised as discrete or dedicated graphics cards, emphasizing the distinction between these and integrated graphics. At the core of both is the graphics processing unit (GPU), which is the main part that does the actual computations, but should not be confused as the video card as a whole, although "GPU" is often used to refer to video cards.

Build Number

Software upgrade versioning is the process of assigning either unique version names or unique version numbers to unique states of computer software. Within a given version number category (major, minor), these numbers are generally assigned in increasing order and correspond to new developments in the software. At a fine-grained level, revision control is often used for keeping track of incrementally different versions of information, whether or not this information is computer software.

Ribbon

In computer interface design, a ribbon is a graphical control element in the form of a set of toolbars placed on several tabs. The typical structure of a ribbon includes large, tabbed toolbars, filled with graphical buttons and other graphical control elements, grouped by functionality. Such ribbons use tabs to expose different sets of controls, eliminating the need for numerous parallel toolbars. Contextual tabs are tabs that appear only when the user needs them. For instance, in a word processor, an image-related tab may appear when the user selects an image in a document, allowing the user to interact with that image.

The usage of the term "ribbon" dates back to the 1980s and was originally used as a synonym for plain toolbar. However, in 2007, Microsoft used the term to refer to its own implementation of tabbed toolbars encompassing a conglomerate of controls for Microsoft Office 2007, which Microsoft calls "The Fluent UI".

Tollbar

In computer interface design, a toolbar (originally known as ribbon)is a graphical control element on which on-screen buttons, icons, menus, or other input or output elements are placed. Toolbars are seen in many types of software such as office suites, graphics editors and web browsers.

GUI

The graphical user interface (GUI /'ᵁu i/ GOO-ee) is a form of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, instead of text-based user interfaces, typed command labels or text navigation. GUIs were introduced in reaction to the perceived steep learning curve of command-line interfaces (CLIs),[2][3][4] which require commands to be typed on a computer keyboard.

SKP

SKP if the file format of SketchUp that is is a 3D modeling computer program for a wide range of drawing applications such as architectural, interior design, landscape architecture, civil and mechanical engineering, film and video game design. It is available as a web-based application, SketchUp Free, a freeware version, SketchUp Make 2017,and a paid version with additional functionality SketchUp Pro.

SketchUp is owned by Trimble Inc., a mapping surveying and navigation equipment company. There is an online library of free model assemblies (e.g. windows, doors, automobiles), 3D Warehouse, to which users may contribute models. The program includes drawing layout functionality, allows surface rendering in variable "styles", supports third-party "plug-in" programs hosted on a site called Extension Warehouse to provide other capabilities (e.g. near photo-realistic rendering www.unicornrender.com) and enables placement of its models within Google Earth.

RevEx

RevEx if the file format of Free plugin of Unicorn Render in order to export a perfect export from Autodesk Revit 2017 - 2018- 2019 - 2020 with Geometries, materials, lights and cameras.

3DM

3D is the file format of Rhinoceros.
Rhinoceros (typically abbreviated Rhino, or Rhino3D) is a commercial 3D computer graphics and computer-aided design (CAD) application software developed by Robert McNeel & Associates, an American, privately held, employee-owned company founded in 1980. Rhinoceros geometry is based on the NURBS mathematical model, which focuses on producing mathematically precise representation of curves and free-form surfaces in computer graphics (as opposed to polygon mesh-based applications).

Trial version is here avalable

CAD - CADD

Computer-aided design (CAD) is the use of computers (or workstations) to aid in the creation, modification, analysis, or optimization of a design. CAD software is used to increase the productivity of the designer, improve the quality of design, improve communications through documentation, and to create a database for manufacturing. The term CADD (for Computer Aided Design and Drafting) is also used.[3]

Smoothing

In 3D computer graphics, smoothing in a group of polygons should appear to form a smooth surface. Smoothing is useful for describing shapes where some polygons are connected smoothly to their neighbors, and some are not.
By identifying the polygons in a mesh that should appear to be smoothly connected, smoothing allows Unicorn Render to estimate the surface normal at any point on the mesh, by vertex normals in the mesh data that describes the mesh. Unicorn Render can use this data to determine how light interacts with the model.
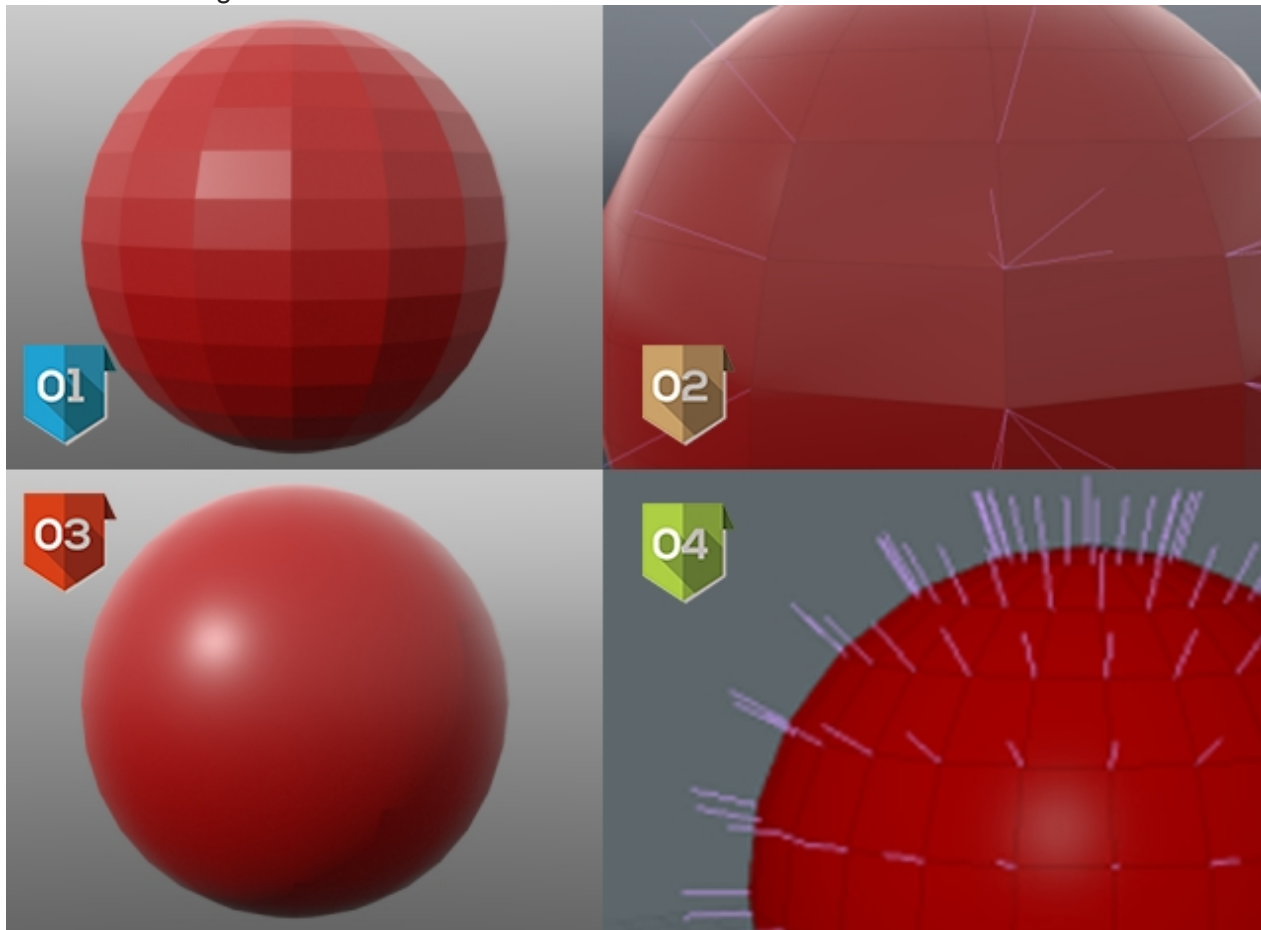
	Visualization of a mesh where each vertex normal is set as surface normal without considering any other polygon adjacent normals.
	Visualization of vertex normal for each polygon of mesh.
	Visualization of a mesh where each vertex normal is set as average direction of all surface normal incident in the vertex.

Visualization of vertex normal for each polygon of mesh.
Note that in the same vertex all vertex normal has the same value, this make the lights going on these surfaces with the same irradiance, meaning that you do not see the edge with different shadow.

It is MANDATORY that the polygons to smooth are in the same mesh, it is not possible to smooth polygons that are in diferent meshes or that have no vertex in common. In case of artifacts in smoothing the problem can be caused from the vertexes in the polygons of mesh that are not shared, maybe they have different vertexes... In that case will need to run some diagnostic to the mesh and join similar vertexes.

Surface nomal

In geometry, a normal is an object such as a line or vector that is perpendicular to a given object. In three dimensions, a surface normal, or simply normal, to a surface at point P is a vector perpendicular to the tangent plane of the surface at P. The word "normal" is also used as an adjective: a line normal to a plane, the normal component of a force, the normal vector, etc. The concept of normality generalizes to orthogonality (right angles).
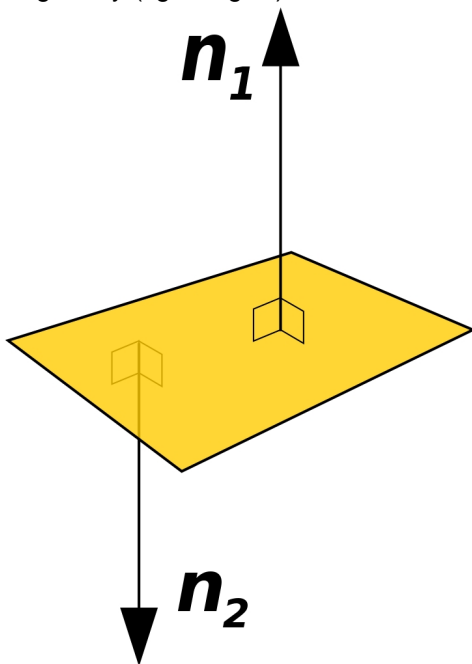
$$n_1$$

$$n_2$$

Vertex Normal

A vertex normal at a vertex of a mesh is a directional vector associated with a vertex, intended as a replacement to the true geometric normal of the surface.
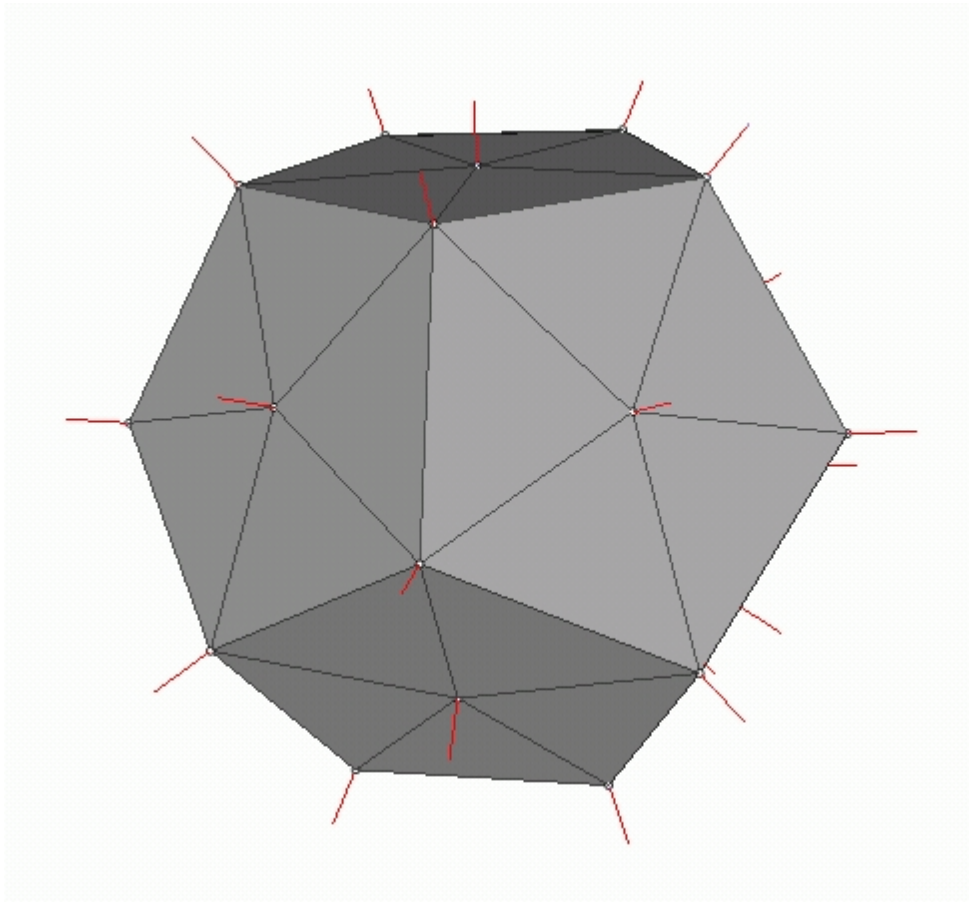
Mesh

A mesh (polygon mesh) is a collection of vertices, edges and faces that defines the shape of a polyhedral object in 3D computer graphics and solid modeling. The faces consist of triangles (triangle mesh), quadrilaterals (quads), or other simple convex polygons (n-gons), since this simplifies rendering.

vertices   edges   faces   polygons   surfaces
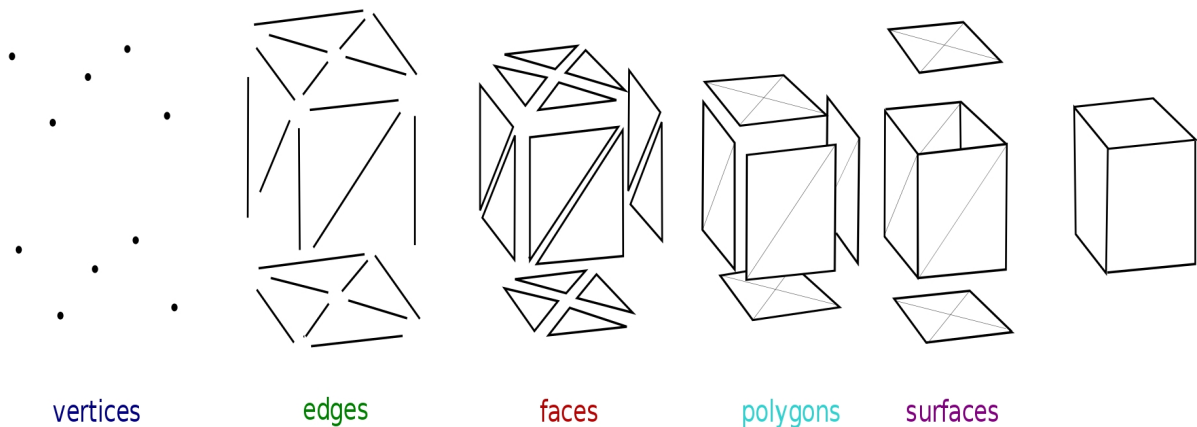
Objects created with polygon meshes must store different types of elements. These include vertices, edges, faces, polygons and surfaces.

vertex

A position (usually in 3D space) along with other information such as color, normal vector and texture coordinates.

edge

A connection between two vertices.

face

A closed set of edges, in which a triangle face has three edges, and a quad face has four edges.

polygon - surfaces

A polygon is a coplanar set of faces. In systems that support multi-sided faces,polygons and surfaces are equivalent.

UV coordinates

UV coordinates are a separate 2d representation of the mesh "unfolded" to show what portion of a 2-dimensional texture map to apply to different polygons of the mesh. It is also possible for meshes to contain other such vertex attribute information such as color, tangent vectors, weight maps to control animation, etc (sometimes also called channels).

Texture mapping

Texture Mapping is the process of relating texture to geometry

Approaches:
1. Create an intermediate Mapping
   – Map the texture onto a simple intermediate surface
2. – Map the intermediate surface to the final object
   Intermediate objects
     o Plane   (Planar UV MApping)
     o Sphere   (Spherical UV Mapping)
     o Cylinder   (Cylindrical UV Mapping)
     o Cube   (Box UV Mapping)

Planar UV Mapping
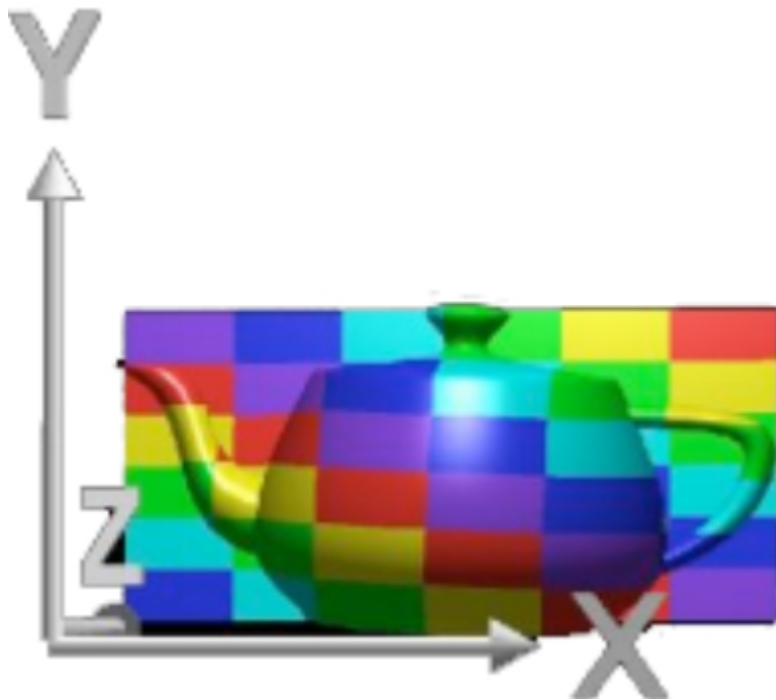
Project to an axial plane, e.g. drop z coord (u,v) = (x, y)

Result:
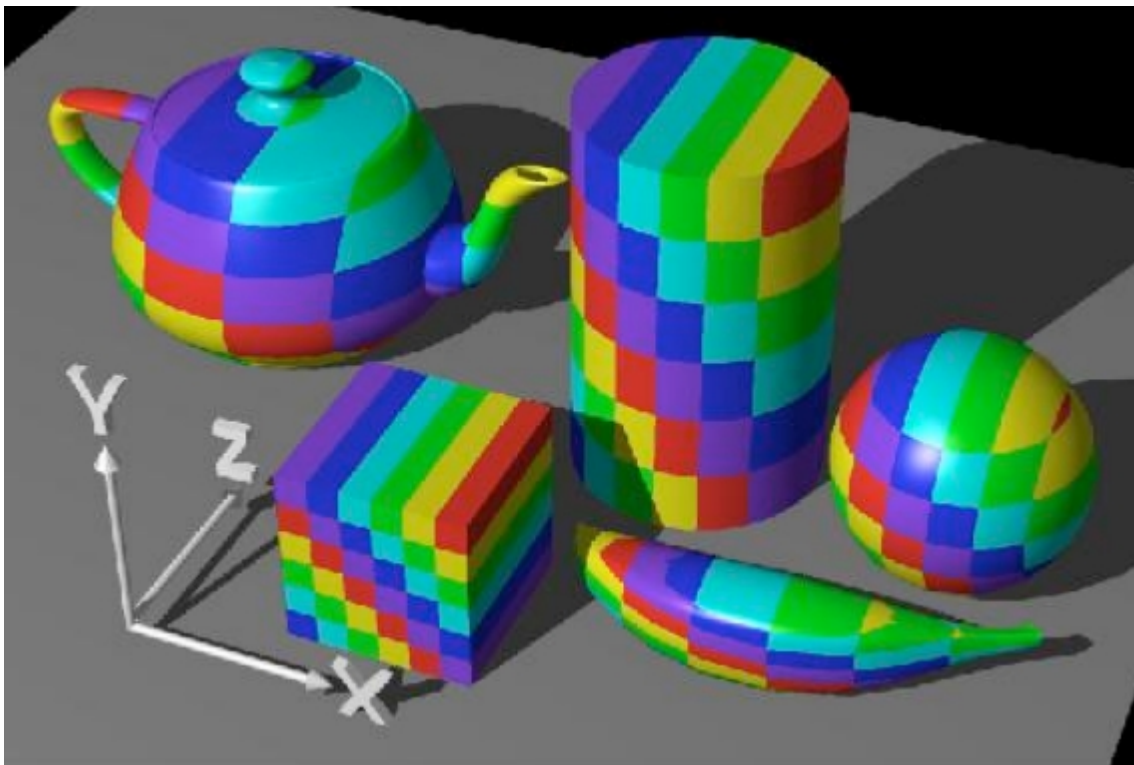
Spherical UV Mapping

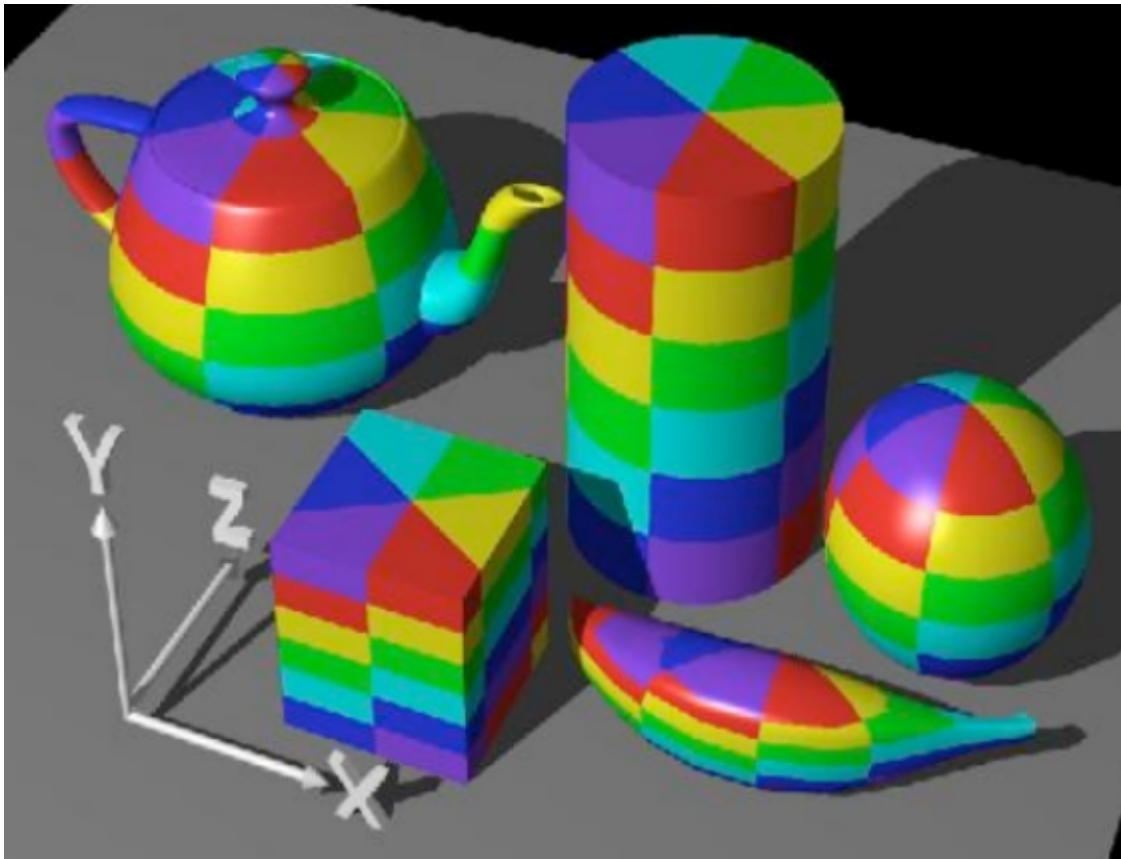Given a point (x,y,z), convert it to spherical coordinate coordinates (theta,phi)
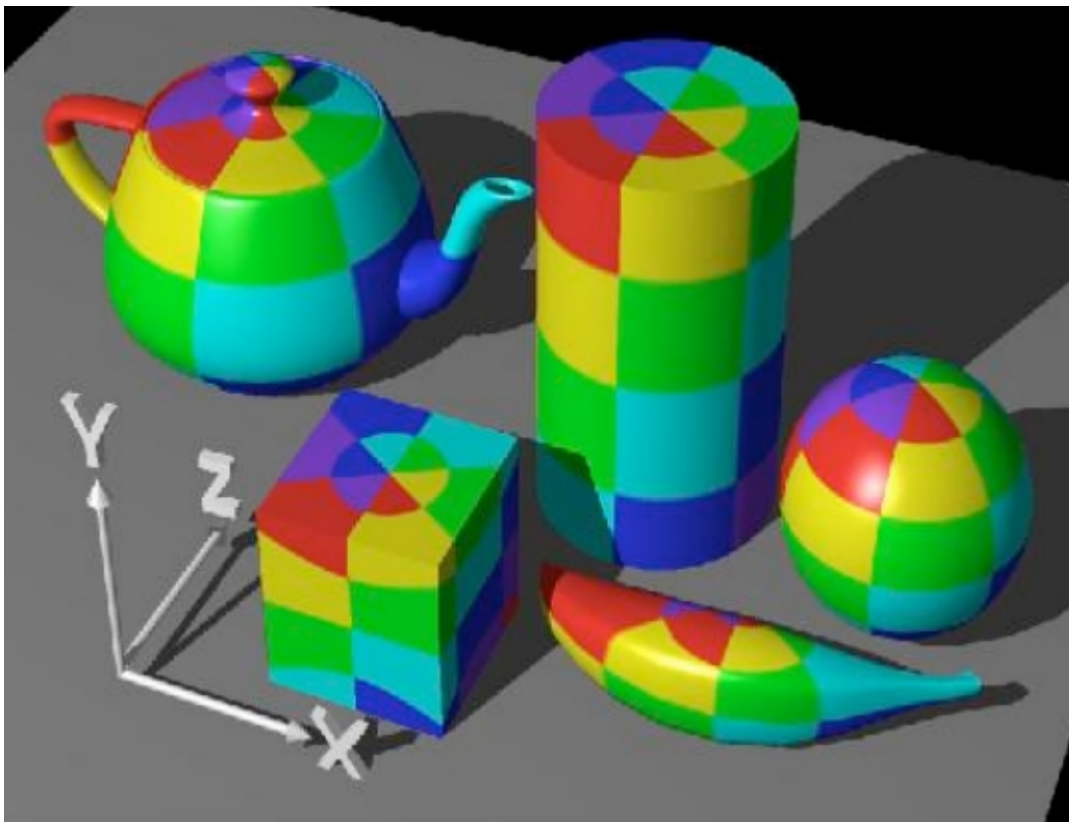
Result:

Cylindrical UV Mapping

Given a point (x,y,z), convert it to cylindrical coordinates (r, theta, z) and use (theta,z) as the 2D texture coordinates

Result:

Texture coordinates

UV Mapping

UV coordinates are a separate 2d representation of the mesh "unfolded" to show what portion of a 2-dimensional texture map to apply to different polygons of the mesh. It is also possible for meshes to contain other such vertex attribute information such as color, tangent vectors, weight maps to control animation, etc (sometimes also called channels).

The letters "U" and "V" denote the axes of the 2D texture because "X", "Y" and "Z" are already used to denote the axes of the 3D object in model space.

3-D Model

UV Map

$p = (x,y,z)$

$p = (u,v)$
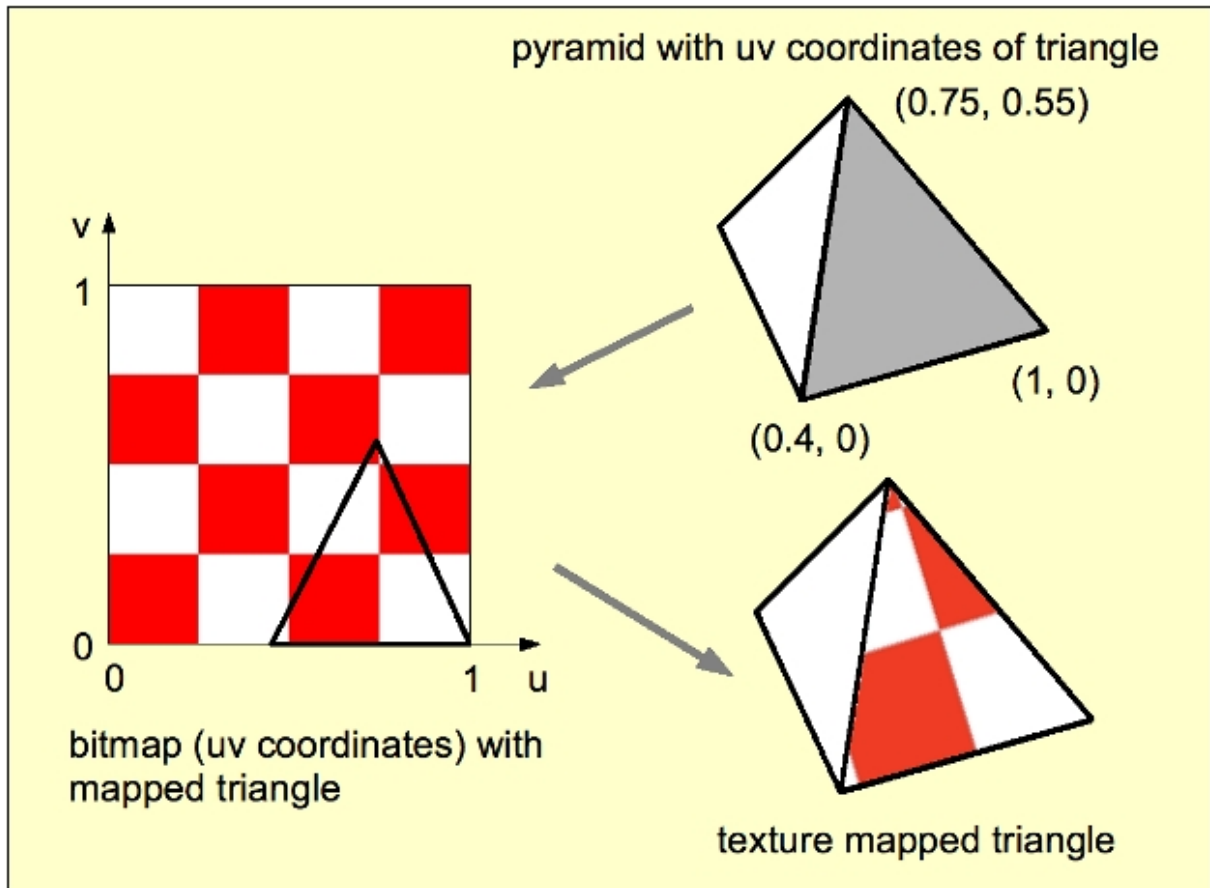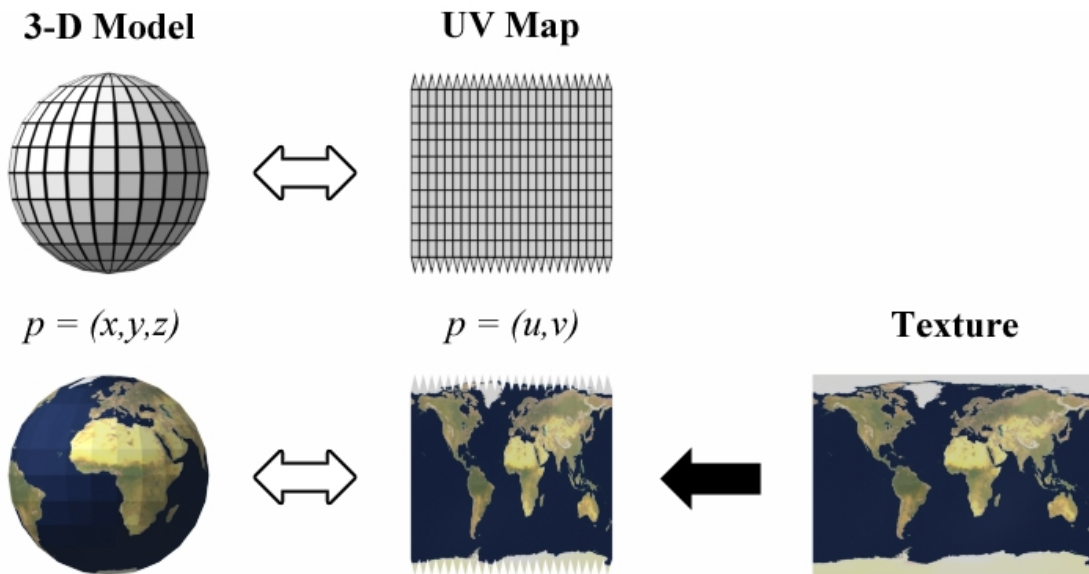
Texture

The application of a texture in the UV space related to the effect in 3D.
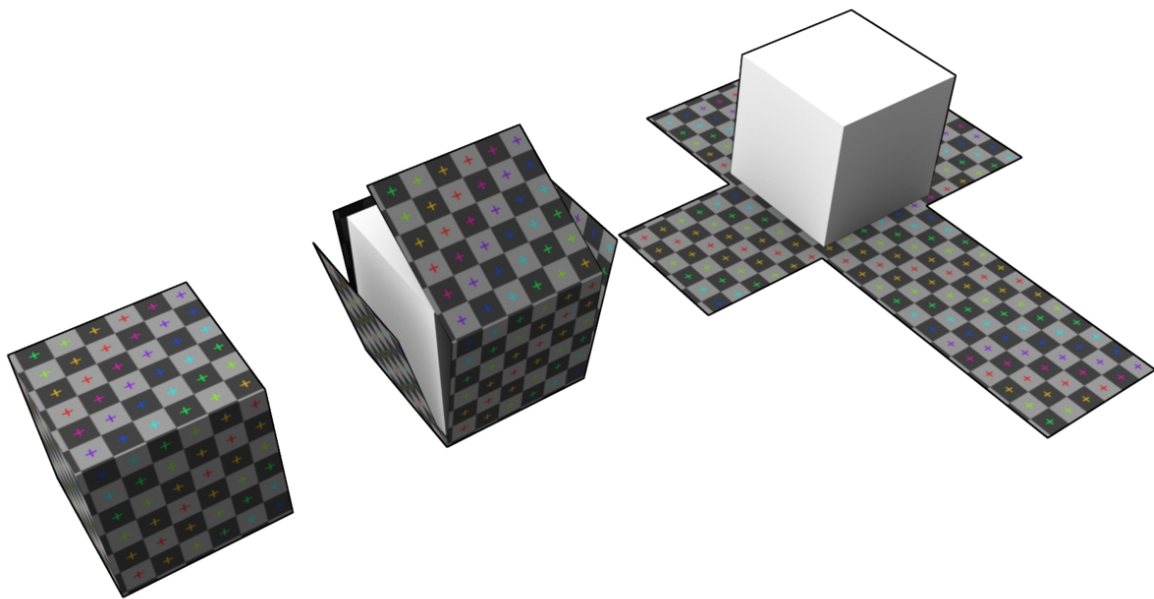
*A representation of the UV mapping of a cube. The flattened cube may then be textured to texture the cube.*
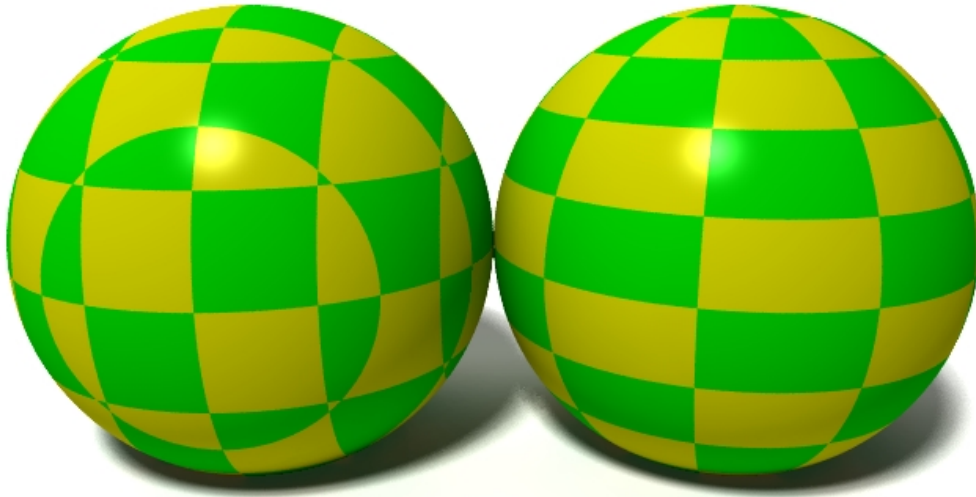
A checkered sphere, without (left) and with (right) UV mapping (3D checkered or 2D checkered).

BREP

Boundary representation

boundary representation abbreviated as B-rep or BRE is a method for representing shapes using the limits. A solid is represented as a collection of connected surface elements, the boundary between solid and non-solid.
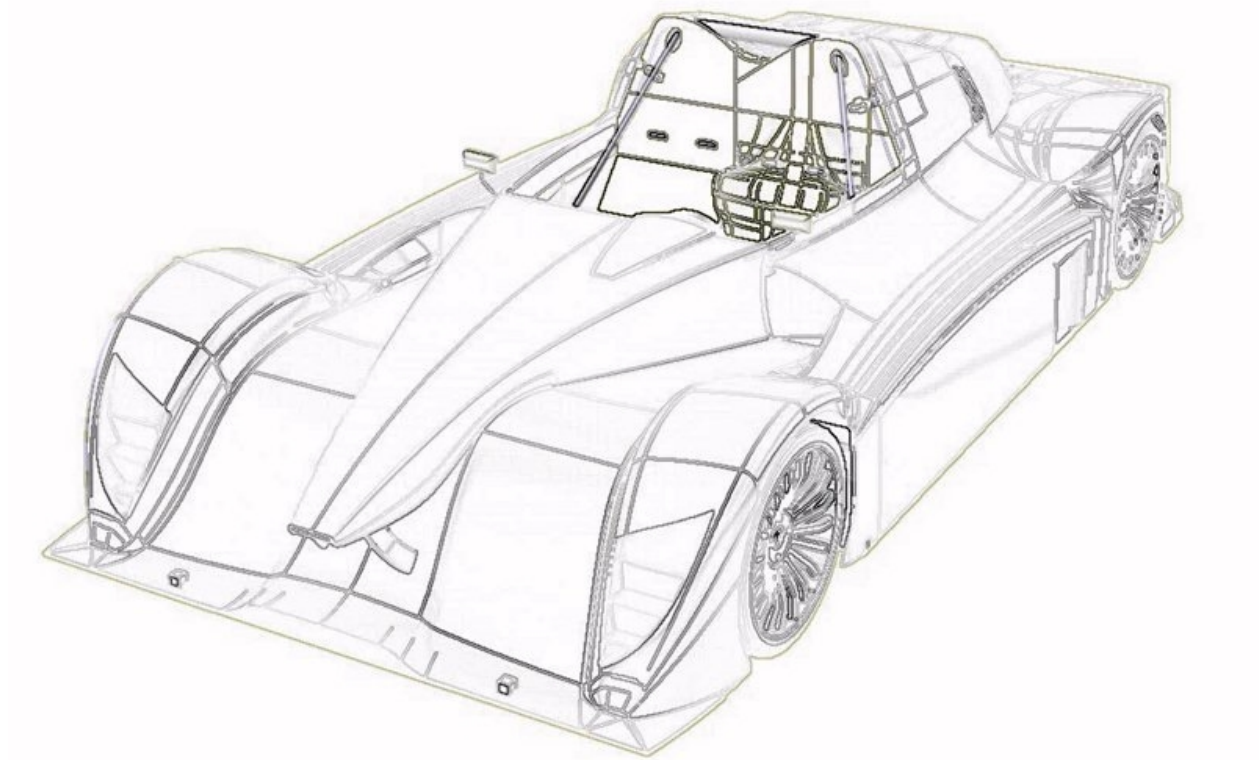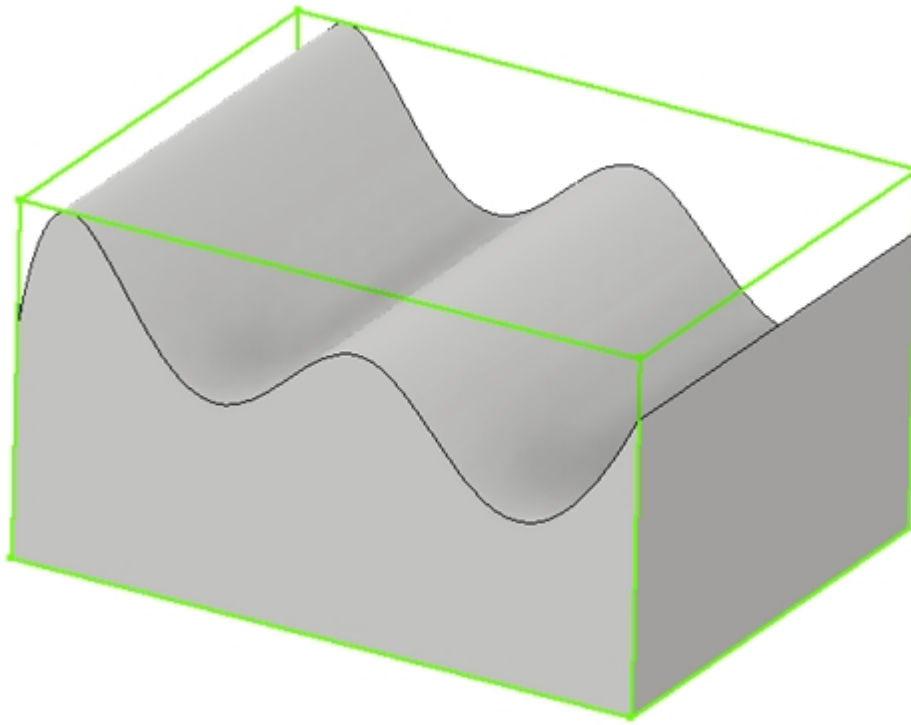
Bounding Box

Bounding Box

The Bounding Box is the minimum or smallest bounding or enclosing box for a point set (S) in N dimensions is the box with the smallest measure.

Physics

Physics

Physics is the main mode of calculation. Light realism is simulated with high fidelity and allows the engine to generate best realistic results.

Quick Physics

Quick Physics

Quick Physics is a mode calculation providing fastest results with less realism, it can be used on exterior scenes where less details appear on screen. Light realism is calculated by approximation, such as emissive materials preview.

Irradiance

Irradiance

In radiometry, **irradiance** is the radiant flux (power) *received* by a *surface* per unit area. The SI unit of irradiance is the watt per square metre (W·m^{-2}). The CGS unit erg per square centimetre per second (erg·cm^{-2}·s^{-1}) is often used in astronomy. Irradiance is often called intensity, but this term is avoided in radiometry where such usage leads to confusion with radiant intensity. In astrophysics, irradiance is called *radiant flux*.[1]

Spectral irradiance is the irradiance of a surface per unit frequency or wavelength, depending on whether the spectrum is taken as a function of frequency or of wavelength. The two forms have different dimensions: spectral irradiance of a frequency spectrum is measured in watts per square metre per hertz (W·m^{-2}·Hz^{-1}), while spectral irradiance of a wavelength spectrum is measured in watts per square metre per metre (W·m^{-3}), or more commonly watts per square metre per nanometre (W·m^{-2}·nm^{-1}).


FPS

Frame rate

Frame rate (expressed in **frames per second** or FPS) is the **frequency** (**rate**) at which consecutive images called **frames** appear on a display. The term applies equally to film and video cameras, computer graphics, and motion capture systems.

IES

IES stands for the **Illuminating Engineering Society**, which has defined a file format for describing the distribution of light from a light source.
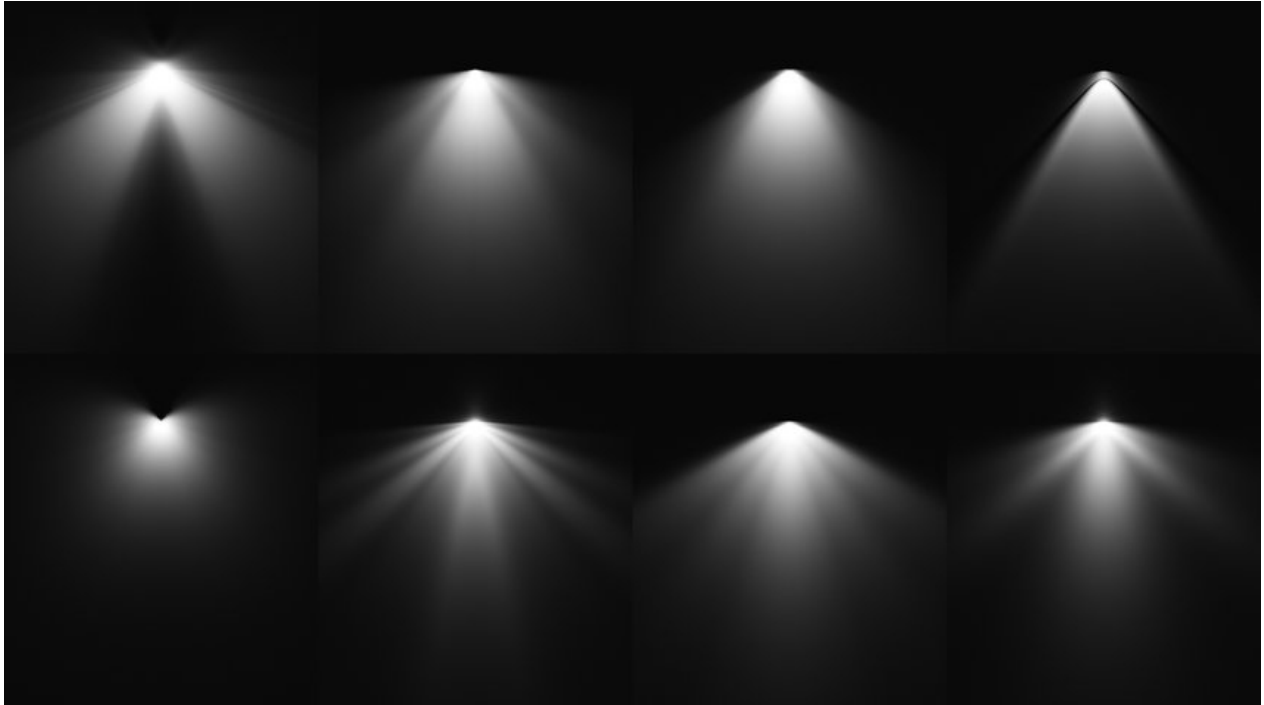
Keyframe

A **keyframe** in animation and filmmaking is a drawing that defines the starting and ending points of any smooth transition. The drawings are called "frames" because their position in time is measured in frames on a strip of film.