URBN Vendor 3D Process & Virtual Quality Standard (VQS)

Table of Contents

Part 1. Introduction

1.1 Brief overview of URBN and its requirements.

URBN, or Urban Outfitters, Inc., is a multinational lifestyle retail corporation headquartered in the United States. Known for its diverse brands including Urban Outfitters, Anthropologie, and Free People, URBN offers a wide range of clothing, accessories, and home products with a focus on contemporary fashion and urban culture.

This standard instructs vendors in facilitating the creation and submission of 3D samples to URBN's technical design department through CLO 3D and CLO-set. Vendors are expected to

grasp the design concept and adhere to technical specifications, ensuring the accurate development of virtual prototypes that closely align with the brand's identity and design vision.

1.2 Purpose of the Vendor CLO 3D Process & VQS document.

The primary purpose of this document is to establish clear and comprehensive guidelines for vendors collaborating with URBN to utilize CLO3D and meet the Virtual Quality Standard.

Part 2. Clo3D Implementation

2.1 Explanation of why CLO 3D is being used.

the adoption of CLO 3D aligns with URBN's commitment to efficiency, sustainability, and excellence in product development, ultimately enhancing the customer experience.

2.2 Requirements for vendors to implement Clo3D.

Vendors engaging in CLO 3D implementation for URBN must adhere to the following requirements:

- **Software and Hardware**: Vendors are responsible for procuring and maintaining the necessary software licenses and hardware equipment compatible with Clo3D.
- **Training**: Vendors must provide training for their design teams to ensure proficiency in Clo3D operation.
- **File Format Compatibility**: All design files, including pattern files and 3D prototypes, must be in formats compatible with URBN's systems.
- **Version Compatibility**: Vendors must use the approved version of CLO3D that is compatible with URBN's systems and workflows.
- **Data Security**: Vendors are expected to maintain rigorous data security protocols to safeguard intellectual property and confidential information.
- **Data Transfer**: A secure and standardized method for transferring design data to URBN's technical design department is to be established by the vendor.
- **Quality Standards**: Vendors are required to meet URBN's Virtual Quality Standard (VQS) in all 3D samples and prototypes.
- **Timely Submission**: Adherence to specified timelines for the submission of 3D samples and prototypes is essential.
- **Collaboration**: Vendors must actively participate in collaborative efforts with URBN, including feedback incorporation and design adjustments as needed.
- **Communication**: Effective and clear communication channels must be maintained for design discussions and issue resolution.
- **Intellectual Property**: Vendors must respect and protect URBN's intellectual property rights, and a clear agreement regarding ownership of 3D design assets must be in place.
- **Documentation**: Comprehensive documentation of design processes and adjustments in CLO3D should be maintained and provided upon request.

Part 3. Technical Requirements

3.1 System and software specifications for CLO 3D usage.

Please follow the system and software specifications from CLO 3D website or consult with regional CLO office to effectively utilize CLO 3D in the design and prototyping process.

3.2 File formats, storage, and compatibility guidelines.

3.2.1 File formats

Files must be saved in the specified formats compatible with CLO 3D and URBN's systems. These formats include:

Digital fabrics	ZFAB files
Digital fabric textures	ZFAB files, U3M(xTex, Apex Fiz), SBSAR(Substance)
Digital pattern	DXF files in AAMA standard
CLO 3D project file	ZPRJ files within 500 MB
Artwork	JPEG, TIF or PNG within 50 MB
Renders	JPEG or PNG

3.2.2 Storage

Bamboo Rose PLM	Construction, Spec, POM, BOM, pattern, artwork.
CLO-set	3D file, avatar, block, trim, comments, artwork, render.
OneDrive	Render, any large file or folder.

3.2.3 Other Resources

Avatar	CLO-set: URBN/Company Library/URBN FIT Avatar
Fabric	CLO-set: URBN/Fabric Team

Part 4. Design Process

4.1 Step-by-step explanation of the design process using Clo3D.

4.1.1 Kick Off

Receive and review virtual fabrics, sketch, technical specs, and construction details.

4.1.2 Pattern Creation

Create digital patterns, ensuring accurate measurements and proportions.

Verify that patterns conform to the design concept.

4.1.3 3D Prototyping

Apply virtual fabrics to simulate the look, including textures and colors.

Generate a 3D prototype by simulating fabric draping and garment assembly in CLO 3D.

Review the prototype to evaluate design accuracy, fit and aesthetics.

4.1.4 Virtual Fitting

Submit 3D sample to URBN 3D Tech team and receive comments.

Make necessary adjustments to achieve the desired fit.

Ensure that the virtual prototype accurately mirrors the intended fit.

4.1.5 Realistic Rendering

Create high-quality, realistic 3D renderings with accurate lighting and texture.

Inspect the renderings for adherence to design aesthetics and brand standards.

4.1.6 Quality Assurance
Thoroughly review the 3D sample against URBN's Virtual Quality Standard(VQS). Rectify any discrepancies, ensuring the prototype meets the required quality benchmarks.

4.1.7 Submission
Submit the 3D samples and renders, following the submission process and timeline.

4.1.8 Final Approval
Once the 3D sample aligns with the design concept and meets VQS, obtain final approval from URBN's technical design department.

4.2 Clarification of roles and responsibilities during this process.

4.2.1 URBN Teams

- **Product Development Team**: Allocates the styles for CLO 3D development.
- **Fabric Team**: Supplies or supports accurate digital fabrics.
- **Print and Artwork Team**: Supplies print and graphic files.
- **Design Team**: Creates concepts and provide the sketches. Participate in virtual fitting and contributes design feedback and comments.
- **Technical Design Team**: Provides setups to Vendor. Leads virtual fitting and is responsible for providing fit comments. Verifies that the virtual prototypes meet URBN's Virtual Quality Standard (VQS).
- **3D Technical Design team**: Develop 3D samples internally, Offering consultation and guidance on the vendor's CLO 3D workflow.

4.2.2 Vendor

The Vendor plays a pivotal role in bringing the design concepts to life using CLO 3D. Their responsibilities encompass:

- Creating and developing 3D designs with precision and adherence to design concepts and brand standards.
- Provide timely and accurate 3D samples and prototypes, following submission guidelines.
- Maintain open communication with URBN, responding promptly to feedback and queries.
- Ensure the security of URBN's intellectual property and confidential information.
- Conduct training and development for vendor team members in CLO 3D usage.
- Conduct comprehensive quality assessments, ensuring adherence to URBN's Virtual Quality Standard (VQS).
- Identify and report any discrepancies or non-compliance with VQS.

4.2.3 Project Manager or Lead*:

- Coordinate and oversee the entire CLO 3D design process, from conceptualization to final approval.

- Monitor project timelines and ensure the submission of 3D samples and prototypes as scheduled.
- Serve as a point of contact between vendors, the technical design department, and other relevant teams.

* Note: The role of the project manager and lead may be fulfilled by either URBN or vendor personnel and is not mandatory in the initial stages. However, it is strongly advised to designate a project manager if monthly style submissions exceed 100 to ensure efficient coordination and communication.

Part 5. Virtual Prototyping

5.1 Guidelines for creating virtual prototypes.

Creating accurate and high-quality virtual prototypes in Clo3D is crucial. To achieve this, adhere to the following guidelines:

5.1.1. **Pattern Accuracy**:
Ensure patterns are precise and follow the provided specifications, including measurements and proportions.

5.1.2. **Realistic Fabrics**:
Apply assigned virtual fabrics to simulate drape, texture, and behavior.

5.1.3. **Texture and Color Matching**:
Match fabric textures and colors to the design concept accurately.

5.1.4. **Seams, Stitching and Details**:
Pay attention to the seams, stitching and other details, such as shirring, puckering and pleats to replicate real garment construction accurately.

5.1.5. **Fit Realism**:
Achieve a realistic fit by simulating accurate draping and garment assembly. Verify that the virtual prototype reflects the intended real-world fit.

5.2 Requirements for fit, color, and texture accuracy.

To prevent 3D sample rejection, it is imperative that the following requirements are met:

5.2.1 Fit Requirements
The fit must accurately correspond to the point of measurements (POM) and harmonize with the proportion of design sketch. 3D sample should simulate the fit with using the assigned virtual fabric.

5.2.2 Color Requirements
The 3D sample's color must follow closely to the bill of materials (BOM) and its artwork colors. Vendor should provide all variants if the sample requested with multiple colorways in BOM.

5.2.3 Texture Accuracy Requirements

- 3D samples' texture should be seamlessly repeated with utilizing correct 3D material maps and settings. In case where the virtual fabric does not meet expectation, please notify the project manager or URBN point of contact for immediate attention.
- When fabric/garment is washed, please apply wash texture, or notify URBN 3D Technical Design Team for assistance.

Part 6. Virtual Fitting

6.1 Process for virtual fitting and adjustments.

The development of 3D samples can be executed by URBN's internal team or vendors, depending on the project requirements. In some workstreams, URBN may engage factories to create the initial draft pattern, which is then forwarded for internal development.

Upon purchasing the style, the technical team will complete the setup and collect feedback to advance to the 1st fit or reference sample stage. In cases where time and necessity permit, one to two rounds of revisions in 3D sampling may be conducted.

To adjust 3D samples, follow the provided comments and incorporate additional details as outlined in the setup and construction page.

6.2 How to ensure accuracy in fitting simulations.

To guarantee the precision of fitting simulations:

- **Fabric and Avatar Usage**: Always use the designated virtual fabrics and avatars.
- **Pattern Expertise**: Have pattern editing carried out or reviewed by experienced pattern technicians to ensure accurate pattern shapes and adjustments.
- **Detail Optimization**: Pay meticulous attention to 3D details, including sewing, elastic properties, and particle distances, ensuring they are finely tuned.
- **Realism Checks**: Prior to submitting to URBN for virtual fitting, please verify that the styles are not too tight, that they include appropriate opening and closure, and that they can realistically be sewn up and put on an URBN model.
- **Fit Map Review**: Examine fit maps for any abnormal tension or pressure points. If issues are detected, communicate your findings, and propose potential solutions to the URBN technical design team.

Part 7. Materials and Textures

7.1 Standard materials and textures library.

- **Fabric Library**: Locate the fabric library within URBN's CLO-set under the Fabric Team. Search for the fabric code to identify and download the correct fabrics. In the case of digital fabrics with multiple versions, always use the most recent one.
- **Validated Fabric**: The Validated fabrics are indicated with a green status bar in URBN's library. Please prioritize to use validated fabrics over other versions if possible.

- **Trims Creation**: For any trims, generate them using CLO 3D based on provided descriptions. If the tech pack does not specify trim details, exercise informed judgment to create trims.
- **Communication Protocol**: In instances where critical information is missing or unclear, promptly inform the project manager for resolution.

7.2 Guidelines for creating and using custom textures.

To maintain a lifelike virtual fabric appearance:

- Ensure that virtual fabric drapes realistically and closely resemble real-life textures.
- If needed, vendors may enhance texture maps for improved results.
- Every digital fabric must include, at a minimum, both texture and normal maps.
- For sheer or see-through fabrics, create or apply an opacity map for accurate representation.

In situations where timely digitization is unattainable, URBN may provide substitute fabrics for initial 3D sampling, with the correct fabric updated at a later stage.

If URBN does not provide the fabric, and vendors are tasked with digitizing it, they should follow CLO's fabric testing guidelines for digitization or consider reputable third-party testing solutions as alternatives.

Part 8. Rendering Standards

8.1 Guidelines for creating realistic and high-quality renderings.

Depending on brand and project stage, two types of rendering may be requested:

Basic Snapshot:

- Present images of the style from the front, side, and back in multiview.
- Maintain a letter-size preset of each view with 230 dpi.

Advanced Render:

- Create 3D renders of the style with proper lighting.
- Render in letter size at 300 dpi with a solid or transparent background.

Utilize the A-pose and include the avatar, unless URBN technical design requests differently.
In cases where URBN does not specify the render type, default to the basic snapshot.

8.2 Lighting and camera settings.

Use the CLO preset "Studio_LowContrast" lighting and default camera settings as a standard practice.
Propose new lighting and camera settings when they enhance the presentation of 3D samples. To do so, collaborate with the project manager and URBN 3D Technical Design Team, seek approval, and ensure alignment before implementing new settings where applicable.

URBN Technical Design Team will also share the template and poses that certain teams preferred, please work coordinately to meet team's demand.

Part 9. Quality Assurance

9.1 Steps for ensuring the quality of virtual prototypes.

1. Verify the correct fabric is used.
2. Collaborate with the pattern maker to review pattern corrections.
3. Review technical details and construction with the technical designer.
4. Confirm the accuracy of render settings with 3D technicians.
5. Ensure the style is uploaded to URBN CLO-set.
6. In the submission, provide the following information:
    - Share the CLO-set link to access the style in the Vendor room within URBN's CLO-set. Please use the correct style number and avoid submit duplicates.
    - Input basic specs, such as length, chest, sleeve length, in the CLO-set comment section.
    - Send the email with CLO-set link and a front/side/back snapshot to the URBN technical design team.

9.2 Protocols for identifying and rectifying errors.

When URBN rejects virtual styles for the reasons outlined below, follow the suggested solutions:

- **Unmatching Specs**: Update the 3D sample by refining the pattern to align with specs.
- **Inaccurate Drape**: Utilize the correct fabric and resubmit the 3D samples.
- **Missing Details**: Review the tech pack and incorporate any omitted information.
- **Poor Fitting**: Review and enhance the fitting to achieve the desired result.

Part 10. VQS (Virtual Quality Standard)

10.1 Detailed VQS criteria for different stages.

Follow General Guidelines for Standards as Provided by CLO 3D (see appendices).

10.1.1 Simplified Virtual Sample

Regarding CLO Files:

- Simplify pattern and trims to minimize file size, making it more manageable for URBN technical designers and quicker for vendor to complete.
- Upload all CLO files to your Vendor Workroom in CLO-set and send the link to URBN Technical design.

Regarding to different styles, unless special request from URBN:

- For top styles, use the UO fit avatar with jeans or skinning jeans.
- For bottom styles, use the UO fit avatar with bras and boy shorts.

Below only apply to simplified CLO files:

- Eliminate 2 plies in CLO; cuffs, plackets, collars, etc., can be sewn up as single plies in CLO. However, ensure to follow 2 plies construction in real sample.
- Prefer to receive files without pins or tacks. Freeze pieces or increase friction on the avatar to keep pieces in place.
- Exporting TIFF files for prints to JPEGs to reduce file size, enabling quicker upload and download times in CLO-set.
- Avoid using the "shirring" function to reduce mesh size, as it may slow down files if corrections are needed.
- Avoid creating raw edge details. Ensure understanding with our technicians about where raw edges should be, potentially expediting certain styles.
- Buttons can be used, but we accept graphics to show button placement instead of buttons as objects.
- Ensure all symmetrical pieces are unfolded with symmetrical sewing.
- Increase topstitch TEX count to 150-200 with an SPI of 7-10 to make topstitch details more visible for technical and design virtual fitting.
- Simulate styles in a particle distance of 5mm for the best fabric look and drape.
- Strive to keep mesh type as triangles. Quad mesh can slow down point adjustments during corrections.
- Avoid tiling heavy graphics like sequins or embroidery, as they can slow down CLO file opening. An image of applied sequins as a texture is acceptable. Single graphics, such as those on a T-shirt, are permissible.

10.1.2 When advanced renders are requested.

After the style has been approved or revised, apply any necessary techniques to elevate the 3D samples and achieve the finest rendering results. This includes incorporating details like shirring, raw edges, and 3D trims to enhance the render quality.

10.2 Images and descriptions of what meets VQS and what does not.

Will gather and update later.

Part 11. Communication and Collaboration

11.1 How vendors should collaborate with URBN during the Clo3D process.

Please see the RACI chart below:

Tasks/Roles	PD	TD	Fabric	3DTD	Design	Buying	PM
CLO-set administration	A	I		R			C
Digitize fabric	A		R	C	I		
Send set ups	I	R	A		A		
Virtual fitting	I	R		C	R	R	I
Send comments	C	R		C	A		

Request renders	I	A		C	R		I

R: Responsible A: Accountable C: Consulted I: Informed
PD: Product Development TD: Technical Design
3DTD: 3D Technical Design PM: Project Manager

11.2 Communication tools and expectations.

- **CLO-set**: 3D samples' POM notes. Optional for fit comments.
- **Tradestone**: Tech Pack, BOM, POM, Fit eval.
- **Emails**: Any other communication, such as initial set up, fit comments and rejection.

Part 12. Deadlines and Reporting

12.1 Timelines for various stages of the Clo3D process.

URBN anticipates that the vendor collaboration in the CLO 3D process should adhere to the following timelines:

- Completing the CLO 3D process within timeframe PD advises, starting from the initial request to the receipt of 3D samples for virtual fitting.
- Providing updated 3D samples with corrections within a timely manner, 24 hours preferred after receiving fit comments.
- Providing renders based on PD or Design's request on timing.

If the timeline faces disruption, please promptly notify the project manager and URBN to address and resolve any issues.

12.2 Reporting requirements and frequency.

While working on the development of 3D samples in CLO 3D, it's essential to communicate with URBN as follows:

- Notify URBN when the 3D samples are prepared for virtual fitting.
- Report back after making revisions based on comments received.

We encourage scheduling seasonal meetings with URBN to review the process and explore opportunities for collaborative improvement in our work together.

Part 13. Intellectual Property

13.1 Guidelines for handling proprietary designs and data.

- **Data Confidentiality**: Handle all proprietary designs and data with the utmost confidentiality. Prevent any unauthorized access, sharing, or disclosure.

- **Secure Storage**: Store proprietary design files and data securely on local drives with encryption and access controls. Regularly back up data to prevent loss.
- **Intellectual Property Protection**: Ensure that URBN's intellectual property rights are upheld. Do not use proprietary designs or data for any purpose other than creating CLO 3D samples for URBN.
- **Secure Data Transfer**: When sharing design files with URBN, use secure data transfer protocols to prevent data breaches during submission.
- **Notification of Security Concerns**: Promptly report any potential security breaches or data mishandling to URBN's designated authority.

13.2 Protection of intellectual property rights.

- **Ownership Acknowledgment**: Acknowledge URBN's exclusive ownership of all 3D assets and designs created during the sample development process.
- **Non-Disclosure Agreements**: Consider implementing non-disclosure agreements (NDAs) with individuals or entities involved in the CLO 3D process to formalize the commitment to protect URBN's intellectual property.

Part 14. Appendices

14.1 Supplementary materials, templates, or additional resources.

14.1.1 URBN Womens' Basic Fit Blocks:
https://style.clo-set.com/room/836052

14.1.2 Pre-made trims:
https://style.clo-set.com/room/870857

14.1.3 URBN Contacts:

- Anthropologie:
  Lead 3D Tech – Paige Regan – pregan@urbn.com
  Sr. Tech Manager – Andrey Oshlykov – aoshlykov@urbn.com
- Free People:
  Lead 3D Tech – Heidi Cheng – hcheng@urbn.com
  Tech Director – Diana George – dgeorge@urbn.com
- Urban Outfitters:
  Lead 3D Tech – Mitzi Miraflor – mmiraflor@urbn.com
  Tech Manager – Elizabeth Minett–eminett@urbn.com
- All Brands
  Sr. Tech Director - Karen Wilkins – kwilkins@urbn.com
  3D Tech Team Manager, CLO-set administrator – Lynda Lovell – llovell@urbn.com
  Associate Manager, CLO-set administrator – Wei Peng – wpeng@urbn.com
  3D Training and special projects – Sugu Tomar – stomar@urbn.com
  3D Raw Material Coordinator – Zach Walsh - zwalsh@urbn.com

14.2 CLO VQS Guide

Link to file: https://urbn-my.sharepoint.com/:f:/p/wpeng/EsP0_9_BP1JKmR_1sFOTq-sBi-7UNqRdi-56jM4rSEdrkw?e=rwovhj

- 3D Garment Quality Standard_2022
- CLO_Cylinder_Verification Guide
- [ENG] CLO_Fabric_Kit_Guideline_7.1_v1.[76] Updated 2023.04.28