

# Standards in Stock 3D Models

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## 1. Introduction

The field of 3D modeling suffers from a lack of standards. This difficulty stems from the relative newness of 3D modeling as compared with older arts such as photography and music, where standards for quality have long been in place. In this presentation, we use the stock 3D industry as a lens to discuss the challenges prevalent in any pipeline that uses 3D models. Currently, stock 3D models available at a variety of venues on the Internet vary widely in topology, texturing, and other technical aspects even within the same category or discipline, making it difficult for production artists to know whether a model will work with their pipelines. The lack of standards creates a specific challenge for artists who create this content, as they continue to work without guidance in meeting production artists' needs.

## 2. Approach

TurboSquid and Falling Pixel, two stock 3D websites, set out to determine quality standards for 3D models with a three-part process:

- Survey and interview stock 3D users to determine standards.
- Apply standards to stock 3D models.
- Compare interest in standardized models from stock 3D users against control group of non-standardized models.

Over 1000 production artists in a variety of disciplines were surveyed and interviewed. The question of topology in particular was deeply studied. Needs that crossed all industries became standards, and a focus group of experienced 3D modelers applied these standards to their stock 3D models. To measure the success of the standards, complying models were posted on the Internet for



public search, and the number of searches, views, and purchases of these models were tracked and compared to the same statistics for similar models to which standards had not been applied.

## 3. Results

Standards determined by the survey were many and detailed, but dealt mostly with these issues:

- Topology: Quads and triangles, good edge flow
- Texturing: Must be correct and easy to edit
- Scene organization: Objects easy to work with after loading/merging scene

The statistics from the focus group test show that professional production artists in a variety of disciplines greatly prefer 3D models that have met these standards. Conversely, hobbyists and students do not show a greater desire for these models over non-standardized models. These findings correlate with similar data for stock content in more established arts such as photography and music.

## 4. Conclusion

With the art of 3D modeling maturing, a set of standards for 3D model topology, texturing, and organization are needed to move the field forward. The standards determined by the TurboSquid/Falling Pixel study can be applied by any artist to create quality 3D models for professionals in a wide variety of disciplines.