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Rendering generated with Cuttlefish:Proof (left) predicts the appearance of the 3D print (right).

Cuttlefish and Cuttlefish::Proof

Cuttlefish® controls multi-material 3D printers to reproduce the shape and appearance (color, translucency, gloss) of input 3D models.

Cuttlefish® is printer-agnostic 3D printer driver, controlling a wide range of multi-material 3D printers at their native voxel resolution to reproduce the shape and appearance of 3D input models. It has some unique features particularly suited for complex 3D assets. Cuttlefish::Proof generates a physically-accurate preview of the 3D print.

Cuttlefish® takes a volumetric approach to natively provide robustness to 3D assets containg holes or open surfaces, and allows adaptive thickening of thin parts. It supports displacement mapping at printer resolution, enriching low-poly models with fine geometrical details. Shape dithering prevents staircase artifacts due to geometric quantization caused by finite print resolution. Cuttlefish® delivers high color accuracy, enabling color-critical applications such as printing prosthetic eyes in which their appearance must match a reference. Translucency, from fully opaque to fully transparent, can be seamlessly controlled for spatially varying joint color and translucency prints.

Cuttlefish® saves money by automatically hollowing models to reduce the build material used, which can save hundreds of Euros in build material for large prints. Adjusting the thickness of support material layers provides additional savings for each tray. Cuttlefish® saves time with an automated »hot folder« workflow, reducing technician workload up to 60% compared to loading and placing parts individually. Cuttlefish::Proof is a new tool to save even more time and money: A physically accurate softproof directly integrated with Cuttlefish®, which simulates light transport on the exact slicing result to avoid surprises when printing.

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exhibit overview