
****Supplementary Material****

ITEM3D: Illumination-Aware Directional Texture Editing for 3D Models

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1 This is the supplementary material for the paper entitled “ITEM3D: Illumination-Aware Directional
2 Texture Editing for 3D Models”. Although the main paper stands on its own, it is still worthwhile to
3 provide more details, experimental results and performance analysis. In this supplementary document,
4 we provide

- 5 • More experimental results.
- 6 • Credits of the used objects.
- 7 • Broader impacts of our ITEM3D.

8 The code of our framework used in our experiments will be made publicly available.

9 A Additional Qualitative Results

10 In Fig. 1, we include additional qualitative results of our ITEM3D to show the editing quality and text
11 consistency, consisting of both mesh and rendered images. We also provide a video of 3D objects
12 with the camera following a circular trajectory in our supplementary video.

13 B Object Credits

14 Spot, bob and blub model are from Keenan Crane’s 3D model repository. The NeRF synthetic dataset
15 includes rendered images from blender models on blendswap.com: chair created by 1DInc (CC-0),
16 drums created by bryanajones (CC-BY), ficus created by Herberhold (CC-0), hotdog created by
17 erickfree (CC-0), lego created by Heinzelnis (CC-BY-NC), materials created by elbrujodelatribu
18 (CC-0), mic created by up3d.de (CC-0), ship created by gregzaal (CC-BY-SA). The rest of the objects
19 are located at turbosquid.com.

20 C Broader Impacts

21 Our ITEM3D allows for precise editing of the material properties of 3D objects while retaining their
22 geometric information. This approach has broad applications in the gaming and film industries, where
23 object material information can be edited through textual descriptions to create new 3D objects. Our
24 method greatly facilitates the work of 3D industry professionals and reduces the resources required
25 to generate new 3D objects. However, it is crucial to know that our method carries potential risks of
26 deception. Our work may be used in scene forgery which could become a threat to personal credit.
27 We do not allow any application of our work to such malicious acts.

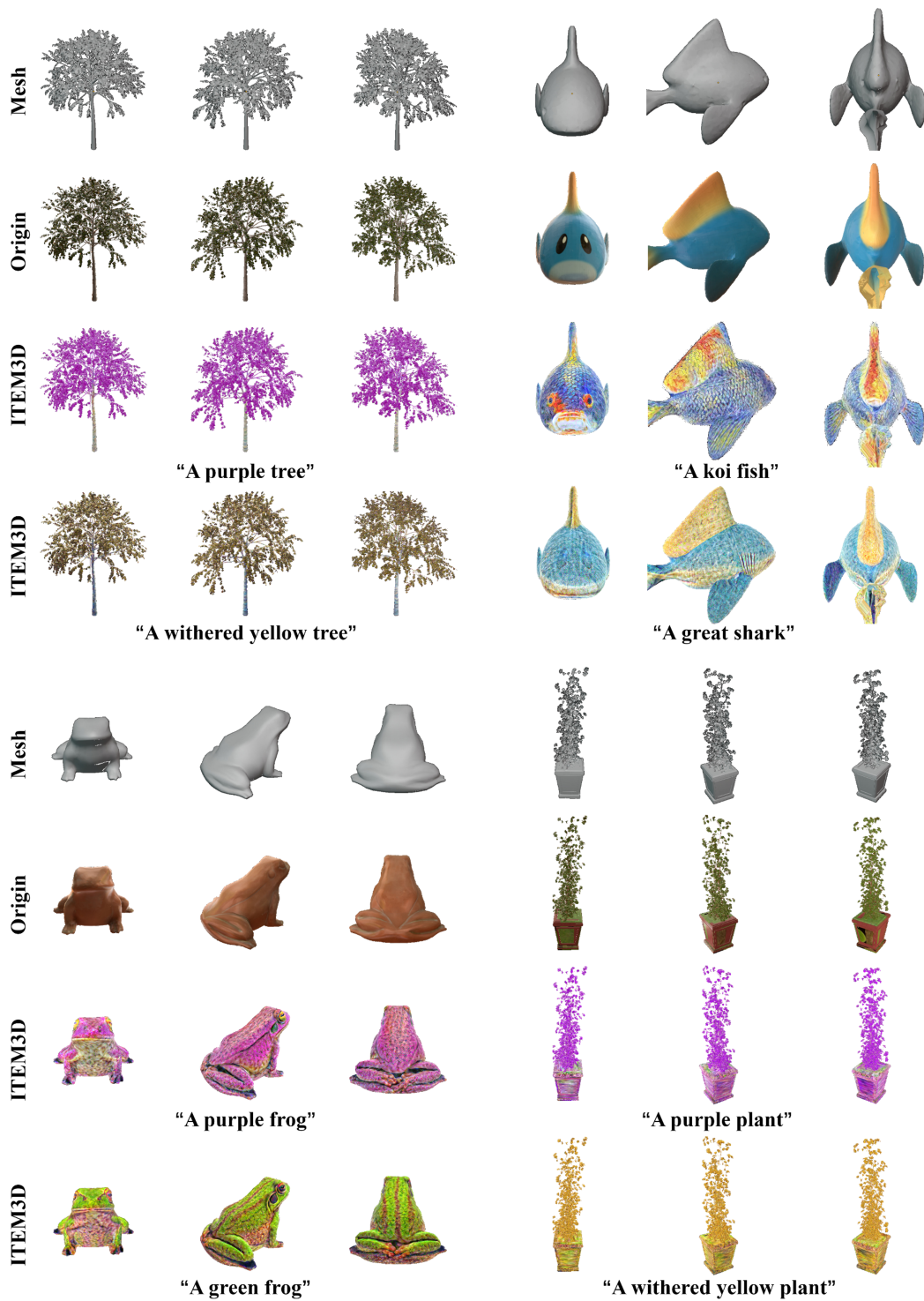


Figure 1: **Additional qualitative results.** The results of both mesh and rendered images are presented. We show the rendered images of two text prompts with multi-views for each 3D object.