Test Notes

Test 10/11 — Indoor room scan (controlled artificial light)

Capture

- Two inward-facing perimeter orbits: ~1.2 m (waist) and ~1.7 m (eye), ~70–80% overlap; extra shots at corners.
- Center rotations for ceiling and floor (~10–15 images each), angled up then down; crouched for floor variation.
- Tripod, slow perimeter moves; camera ~10–15° toward room centre.

Camera

- f/5.6, 1/60, ISO 200, WB Auto.

Markers

- Full A4, bold “X”.
- ~1.5–2 m spacing on each wall; markers near corners/90° joints.
- Several on floor (taped) and near ceiling; evenly distributed; no duplicates (rotated/labeled).

Meshroom (2025.1.0)

- FeatureExtraction: Quality High, Density High, Type SIFT only
- DepthMap: Downscale 2, Max Nb Neighbour Cameras 10
- DepthMapFilter: Min Consistent Cameras 4, Bad Similarity 8
- Meshing: Max Input Points 18,000,000; Max Points 3,000,000; Weakly Supported Surface Off
- MeshFiltering: Keep Only the Largest Mesh ON
- Texturing: TextureSize 8192; Texture Downscale 2

Results

- Pros: Floor nearly production-ready; walls sharp and aligned; minimal holes; markers improved structural stability; tripod workflow yielded consistent overlap and clean wall definition.
- Cons/Next: Textures slightly dark (ISO 200, artificial light); white walls show mild noise/softness. Plan to test ISO 400–800, controlled natural-light variant, and higher meshing for finer detail.

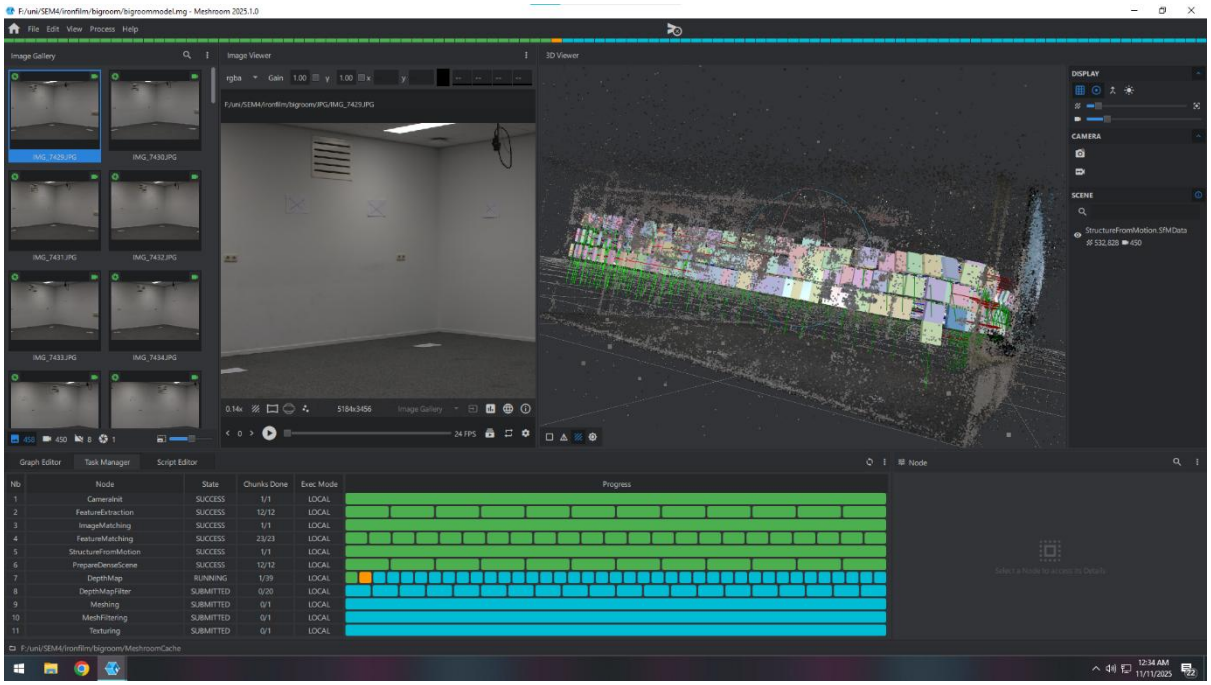
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Image Gallery
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2 FeatureExtraction SUCCESS 12/12 LOCAL
3 ImageMatching SUCCESS 1/1 LOCAL
4 FeatureMatching SUCCESS 23/23 LOCAL
5 StructureFromMotion SUCCESS 1/1 LOCAL
6 PrepareDenseScene SUCCESS 12/12 LOCAL
7 DepthMap RUNNING 1/39 LOCAL
8 DepthMapFilter SUBMITTED 0/20 LOCAL
9 Meshing SUBMITTED 0/1 LOCAL
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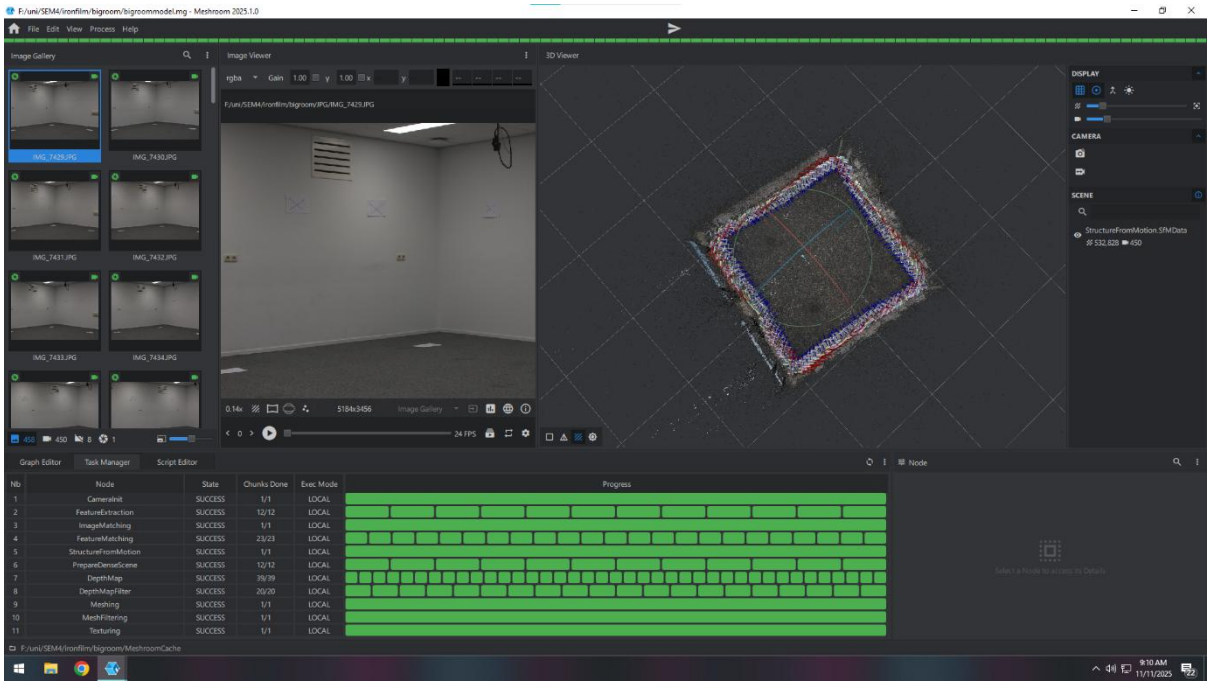
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4 FeatureMatching SUCCESS 23/23 LOCAL
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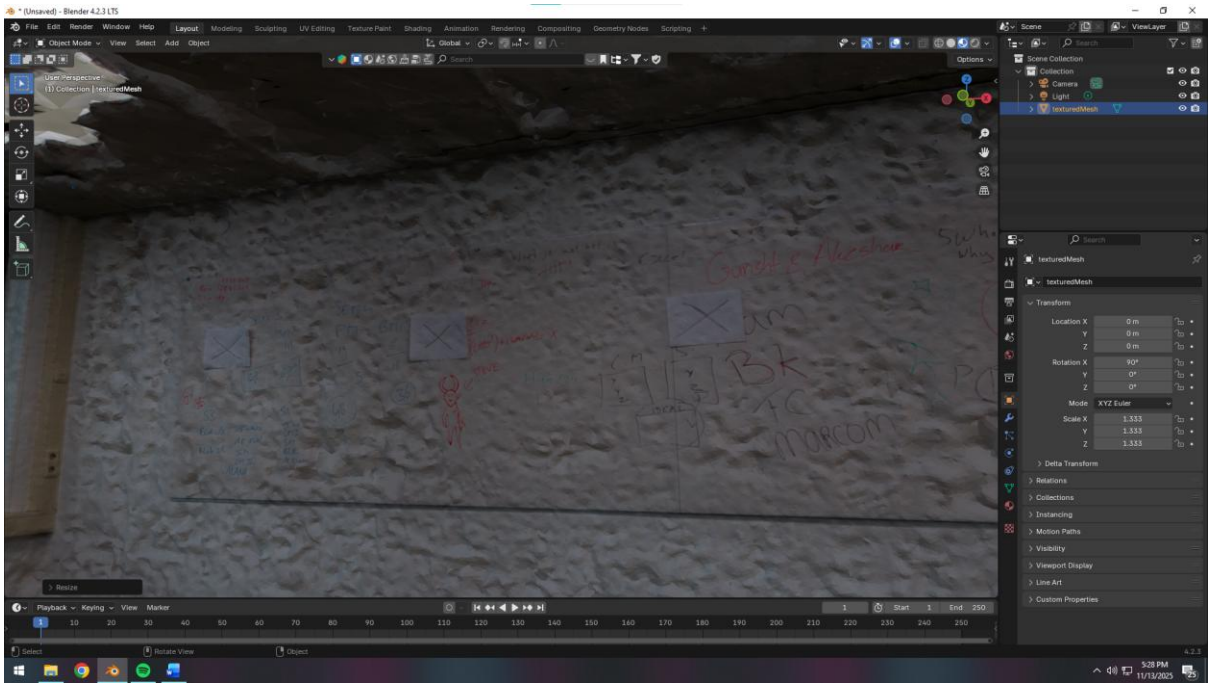
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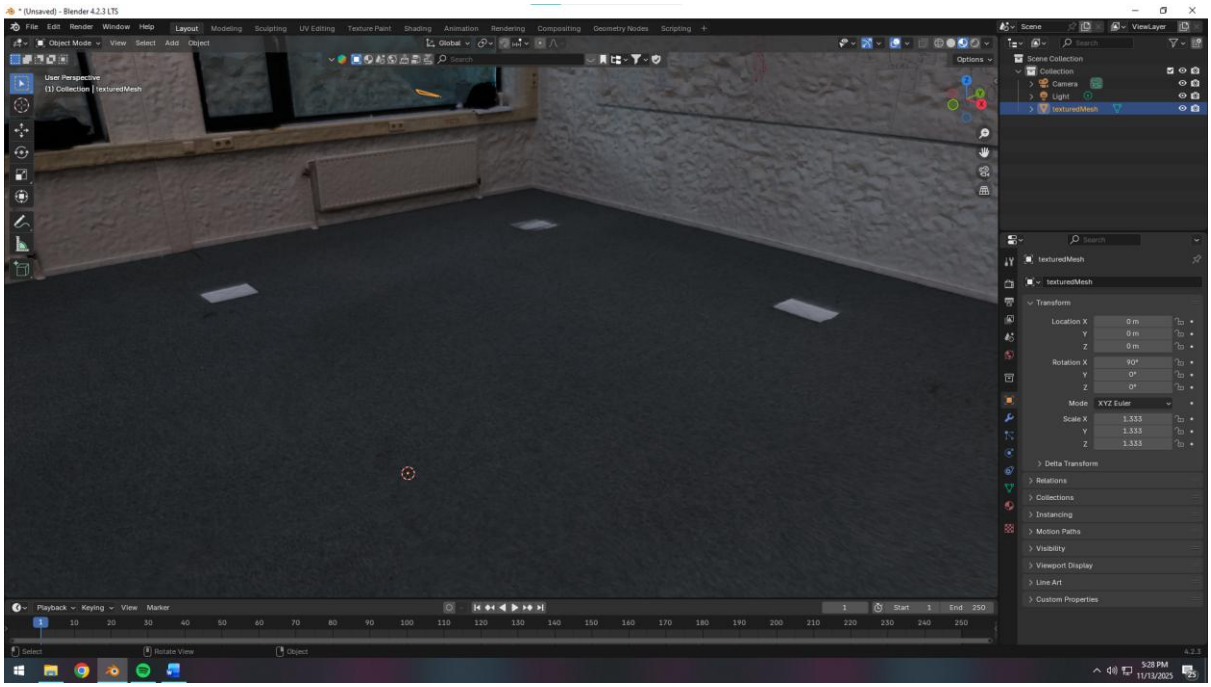
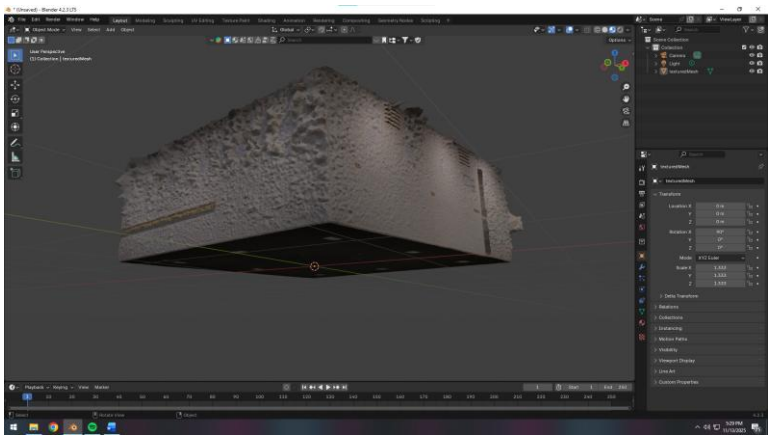




Test 11/11 — Indoor room scan (higher ISO + daylight WB + ultra settings)

Camera

- f/5.6, 1/60, ISO 400, WB Daylight.

Room/Markers

- Same room; printed markers on walls (≈4 per wall); X/circle combos at corners and wall–floor intersections for large uniform areas.

Capture

- Same orbital method, two heights (~1.20 m, ~1.70 m), plus floor/ceiling passes with overlap.

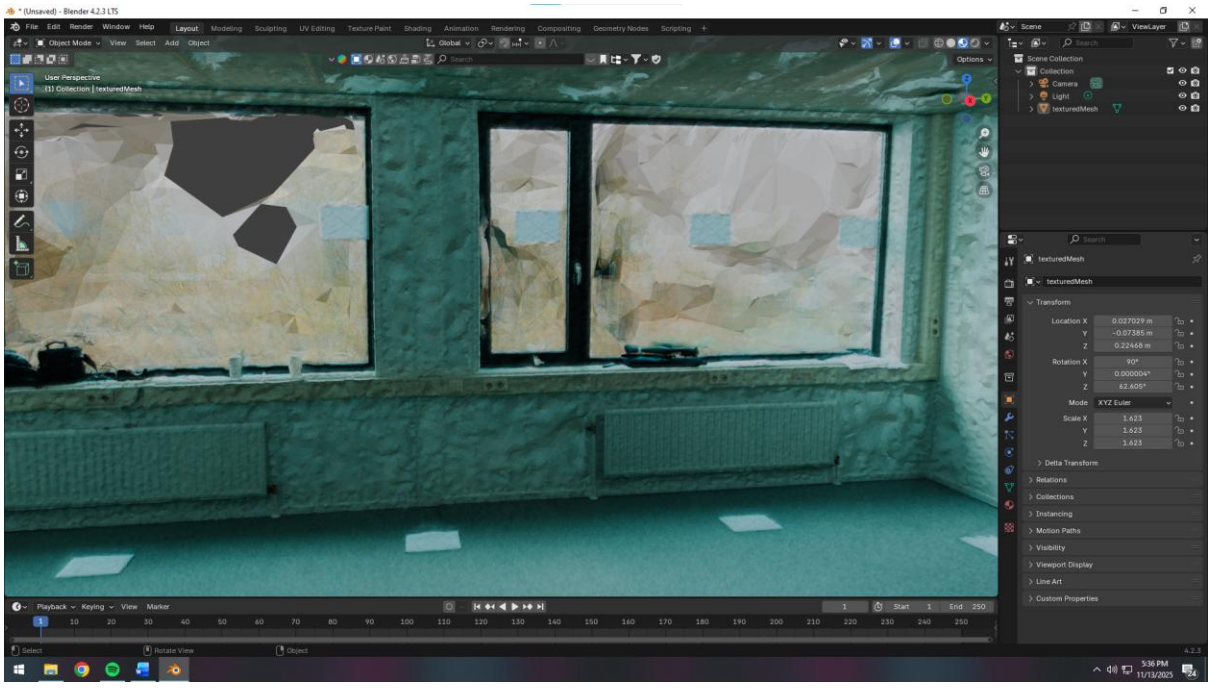
Processing

- University workstation; higher computational budget; intent: test denser reconstruction.

Meshroom

- FeatureExtraction: Quality Ultra, Describer SIFT only, Density Ultra
- DepthMap: Downscale 1, Max Nb Neighbour Cameras 14
- DepthMapFilter: Min Consistent Cameras 3; Bad Similarity 6
- Meshing: Max Input Points 25,000,000; Max Points 5,500,000; Weakly Supported Surface Off
- MeshFiltering: Keep Only the Largest Mesh ON
- Texturing: Texture Size 8192
- **Results**
- Visual quality worse than Test 10/11: noisier, slight green cast, flatter textures, less distinct surfaces despite higher settings.

- Likely causes: higher ISO noise; mixed/uneven lighting; WB mismatch leading to inconsistent color and reduced contrast. Feature detection suffered; depth data noisier.



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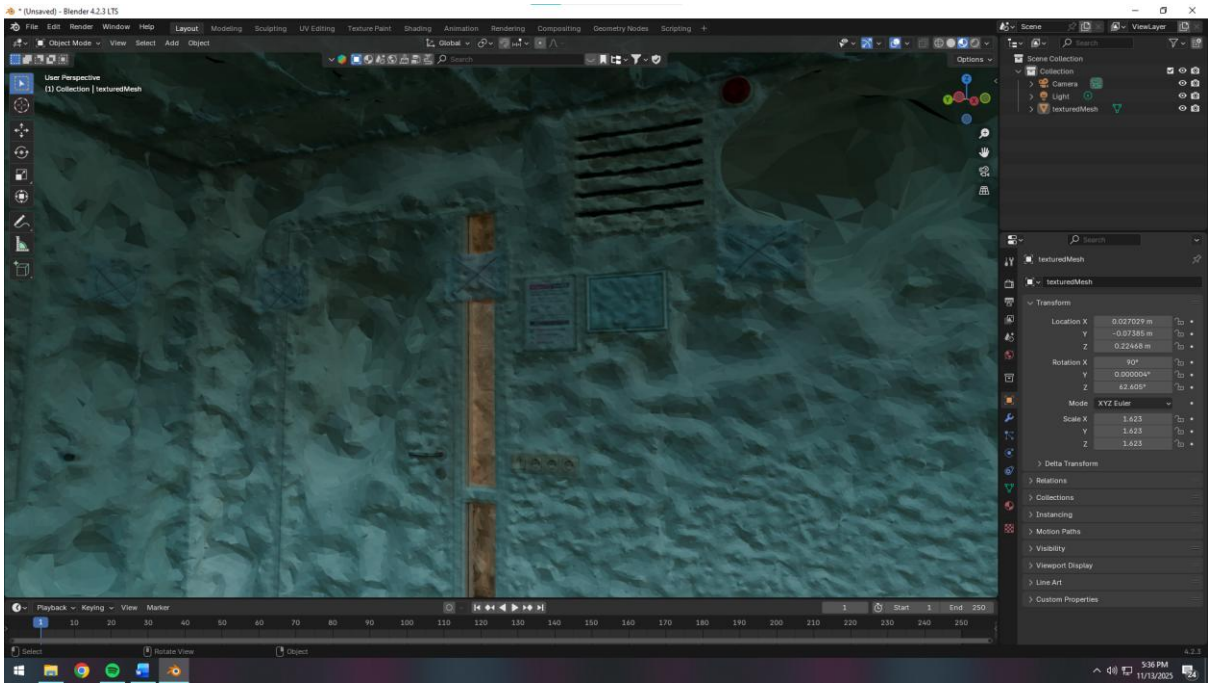
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Conclusion across tests

- Clean, consistent input images dominated outcomes. Low ISO, controlled lighting, and stable WB produced the best geometry and textures.
- Raising Meshroom quality improved results only when input images were already clean; with noisy/mixed lighting, higher settings amplified issues.
- The inward-facing two-height orbit plus center ceiling/floor passes remained robust across both tests; markers
  materially improved alignment on uniform walls.

Next steps

- Lock a single light type and WB; avoid mixed/daylight spill.
- Keep ISO 100–200; match exposure across all images.
- Retest with same capture path and markers; then
  increase meshing/neighbor parameters once inputs are clean.
- Produce side-by-side outputs (Test 10/11 vs 11/11) to illustrate lighting/ISO impact for the report.