

# UnBox3D TestRail Report – Snapshot 3

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## 1 Overview

Snapshot 3 adds:

- Bounding-box filtering to remove small mesh parts.
- Mesh simplification using Blender's decimation modifier.
- Retesting of all Snapshot 2 functionality.

This test cycle validates model processing and ensures rendering remains stable following geometry modifications.

## 2 Test Environment

- OS: Windows 10/11
- Blender installed
- OpenTK/OpenGL rendering
- Snapshot 3 build

## 3 Test Cases

ID	Title	Preconditions	Steps	Expected Result
TC-3-01	Regression: Launch + UI	Build installed	Launch app.	UI loads successfully.
TC-3-02	Regression: Import port	Valid .obj	Import file.	Imports and renders normally.

ID	Title	Preconditions	Steps	Expected Result
TC-3-03	Small Parts Removed	Multi-object scene	1. Import scene 2. Apply filter	Small objects removed based on threshold.
TC-3-04	Filter Threshold	Filter adjustable	1. Import 2. Raise threshold Lower threshold	Higher threshold removes more, lower removes fewer.
TC-3-05	Filter Disabled	Filter off	Import scene	No filtering occurs.
TC-3-06	Mesh Decimation	Blender installed	1. Import mesh 2. Apply decimation	Polygon count reduced.
TC-3-07	Blender Missing	Blender missing	Trigger decimation	Clear error; app does not crash.
TC-3-08	Combined Performance	Scene loaded	Filter → Decimate	App stays responsive.
TC-3-09	Camera Interaction	Processed mesh loaded	Move camera	Camera interacts properly.

## 4 Test Run Results

ID	Result	Tester	Notes
TC-3-01	Passed	Vivian Casas	UI stable.
TC-3-02	Passed	Nicholas Sisneros	Rendering unchanged.
TC-3-03	Passed	Alexander Ramirez	Small parts removed correctly.
TC-3-04	Failed	Jacky Lim	Slider lacks visible numeric value.
TC-3-05	Passed	Vince Wang	Correct behavior.
TC-3-06	Passed	Vivian Casas	Polygon count reduced 50%.
TC-3-07	Passed	Jacky Lim	Error message readable.
TC-3-08	Passed	Nicholas Sisneros	Slight CPU spike but stable.
TC-3-09	Passed	Vince Wang	Camera works smoothly.

## 5 Metrics

- Total Tests: 9
- Passed: 8
- Failed: 1

- Pass Rate: 88.9%

## 6 Conclusion

Snapshot 3 confirms stable model manipulation via filtering and decimation, with only minor UI improvements needed.