



Free and Low-Cost 3D Tools for Libraries and Small Museums

Everything here is free or under a few hundred dollars. Pricing and features checked July 2026; app pricing changes often, so verify before budgeting.

Scan with the phone you already have

All four produce real 3D models from an ordinary smartphone camera. Results are rough compared to professional capture, and shiny, dark, or featureless objects will frustrate you, but for programming, teaching, and experiments they're remarkable.

- **Scaniverse** (iOS/Android, free): on-device scanning is fully free with no export paywall. Owned by Niantic Spatial; paid cloud tiers exist but the core workflow doesn't need them. A solid first choice.
- **RealityScan** (iOS/Android, free): Epic Games' mobile app, free with no paid tier, up to 300 photos per scan. Strong on well-textured objects.
- **KIRI Engine** (iOS/Android, free tier): the most generous free tier for actually exporting editable meshes, which matters if you plan to clean up or print your scans.
- **Polycam** (iOS/Android, free tier): polished and popular, but the free tier exports only glTF format; other formats require a paid plan (\$150/year as of 2026). Fine for viewing, limiting for printing.

Practical tip for any of them: even, diffuse light, a matte object, and slow overlapping coverage matter more than the app you pick.

Desktop photogrammetry, from any camera

For a step up in quality using a real camera (or even good phone photos), these run on a normal computer:

- **Meshroom** (free, open source): the standard free desktop photogrammetry pipeline. Steeper learning curve, real results. Wants a computer with a dedicated graphics card.
- **RealityScan 2.0 for desktop, formerly RealityCapture** (free for individuals and organizations under \$1M annual revenue): professional-grade software from Epic Games, which most libraries and small museums qualify to use at no cost. Not to be confused with the phone app of the same name above; this is the full desktop tool.
- **Agisoft Metashape Standard** (~\$179 one-time): the budget edition of a long-established professional tool, common in archaeology programs.

Clean up and prepare models

- **Blender** (free, open source): the everything-tool for 3D. Cleanup, repair, decimation for web, rendering, animation. The learning curve is real but the tutorial ecosystem is enormous. A walkthrough for repairing scans for printing: museumscan.com/blog/repair-3d-photogrammetry-scan-printing.
- **MeshLab** (free, open source): lighter-weight tool for mesh repair and simplification. Less to learn if cleanup is all you need.

Put models online

- **Sketchfab** (free accounts; free PRO accounts for cultural institutions via museums@sketchfab.com): still the most common home for museum 3D models, with a polished viewer and embeds that work on any site that supports iframes. Step-by-step embed guides: museumscan.com/blog/display-3d-models-wordpress-

[sketchfab](#) and [museumscan.com/blog/display-3d-models-webflow-sketchfab](#). Worth knowing: Epic Games moved Sketchfab's paid marketplace into its Fab platform in 2024 and has said free downloads will eventually follow. Hosting and embeds work fine today; just keep your master files on your own storage and treat any platform as a replaceable display layer.

- **model-viewer** (free, open source, from Google): a small piece of code that displays an interactive 3D model on any web page. No platform dependency; the model file lives on your own site. For phone-based AR from WordPress, see [museumscan.com/blog/add-native-ar-buttons-wordpress](#).
- **Smithsonian Voyager** (free, open source): the Smithsonian's own museum-grade 3D viewer, built specifically for cultural heritage, with support for annotations and guided tours. More setup than model-viewer, more capability.

Get models printed

You don't need to own a printer. In rough order of cost:

- **Public library makerspaces:** many libraries print for patrons at the cost of materials, often a few dollars per object, and that includes staff visiting from neighboring institutions. If your own library doesn't have a printer, one in your system or council probably does.
- **Community makerspaces:** membership workshops with printers, staff who know them well, and often larger or higher-end machines than a library can house (Artisans Asylum in the Boston area is one example). Day passes or single-project arrangements are common; ask.
- **University makerspaces and fabrication labs:** policies vary, but many are open to community members, and campus libraries increasingly run their own print services. A nearby college is worth a phone call, especially for a partnership framed around education or local history.
- **Order online:** upload a model file and a finished print arrives by mail. **Craftcloud** compares quotes across many print services at once, **Treatstock** can match you with local print shops, and **Shapeways** is a long-running service that prints in plastics and metals. Useful for materials and sizes a hobby printer can't handle.

Skip scanning entirely: ready-made models for programming

Free, high-quality models you can download today for printing, teaching, and exhibits:

- **Smithsonian 3D** ([3d.si.edu](#)): thousands of scanned objects, from the Wright Flyer to the Apollo 11 Command Module, many downloadable and printable under open access.
- **Scan the World** (via MyMiniFactory): a large community archive of scanned sculptures and monuments from museums worldwide, free to download and print. A guide to using it for tactile education programs: [museumscan.com/blog/scan-the-world-tactile-models-education](#).
- **NASA 3D Resources** ([nasa3d.arc.nasa.gov](#)): spacecraft, terrain, and asteroid models, free.

A tabletop of 3D-printed artifacts from these archives is a ready-made library program that costs a spool of filament.

Where professional scanning fits

Phone apps and makerspace gear cover experimentation, programming, and low-stakes documentation well. Professional capture earns its cost when the result has to be archival (a permanent record of the object), public-facing (a web exhibit or replica where quality is the experience), or tactile (accessibility pieces, where accuracy is the point). The two tiers aren't competitors; most institutions that hire a scanning studio started by playing with a phone app, and that's the right order to do it in.