



LIBRECAD

Introduction to LibreCAD and Its Uses in Cultural
Heritage Documentation and Analysis (03.01)

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ASOR TUTORIALS FOR CULTURAL HERITAGE DOCUMENTATION

ASOR and its partners have developed a series of tutorials and training modules aimed to help cultural heritage specialists perform surveys and condition assessments through open source tools and software, including QGIS, KoboToolbox, LibreCAD, and RealityCapture.

These modules provide step-by-step tutorials on how to download, install, and effectively use applications and software during data collection, analysis, and output. All tutorials can be found on ASOR's website: <https://www.asor.org/chi/chi-tutorials>.

WHAT IS COMPUTER-AIDED DESIGN (CAD)?

CAD stands for (C)omputer-(A)ided (D)esign.

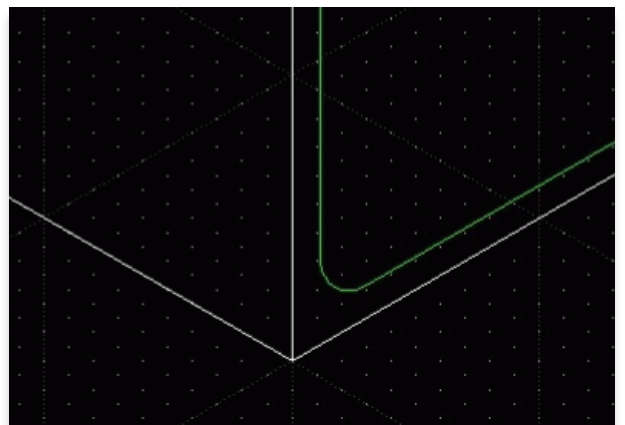
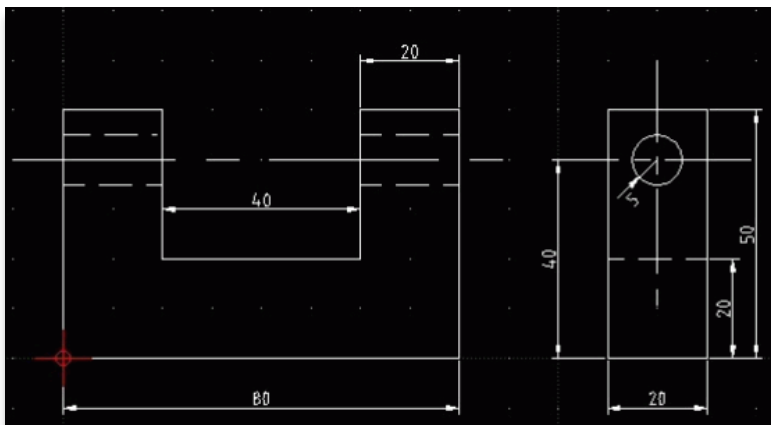
Computer-aided design (CAD) programs are used by many different industries. For cultural heritage work, these tutorials will focus on the LibreCAD toolkit, which is an open source application for 2D drafting and drawing that is designed for architectural purposes.

Before CAD, heritage specialists who focused on architectural features would draw and edit designs using pen-and-paper, which was often a time-consuming and inaccurate process. Cultural specialists can now create detailed drawings thanks to the precision, accuracy, and 2D/3D capabilities offered by CAD programs. These drawings are much easier to edit, revise, and share with colleagues and the public. Specialists no longer need to start from the beginning every time they revise a drawing.

SOME COMMON USES OF CAD IN CULTURAL HERITAGE WORK

Architectural Documentation | Cultural Heritage Site Recording | Archaeological Survey

Interpretative Modeling | Visualization and Reconstructions | Inscriptions and Petroglyphs Tracing



REASONS TO USE CAD PROGRAMS

There are several important reasons to consider using CAD in cultural heritage projects:

1. **CAD models utilize layers, which facilitate the organization of complex datasets visually.**
 - a. Examples include:
 - i. Thematic layering of a building, landscape, or site,
 - ii. Layers by time-period or date of construction
 - iii. Feature type
 - iv. Overlapping drawing objects.
2. **CAD models can be rotated to view a structure, object or site from different aspects.**
3. **Accurate dimensions and coordinates of structures and landscape features are measurable within a CAD model.**
 - a. Scaled drawings using pen/paper require the original measurements to be re-calculated.
 - b. Measurement data in a CAD program can also be projected into coordinate systems easily.
4. **Textual data (such as images) may be attached to drawing elements in CAD.**
 - a. See ASOR Tutorials 03.08 (Importing an Image) and 03.09 (Tracing an Imported Image) for steps to trace an architectural feature from an image.
5. **CAD files are transferable to other useful tools in heritage work, such as GIS and 3D visualization programs.**

ABOUT LIBRECAD



[LibreCAD](#) is a free Open Source computer-aided design (CAD) application for 2D design. LibreCAD works for Windows, Apple and Linux operating systems. Most of the interface and concepts are analogous to AutoCAD, making it easier to use for users with experience of this type of commercial CAD application. [Support and documentation](#) are free from a large, dedicated community of users, contributors and developers.



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