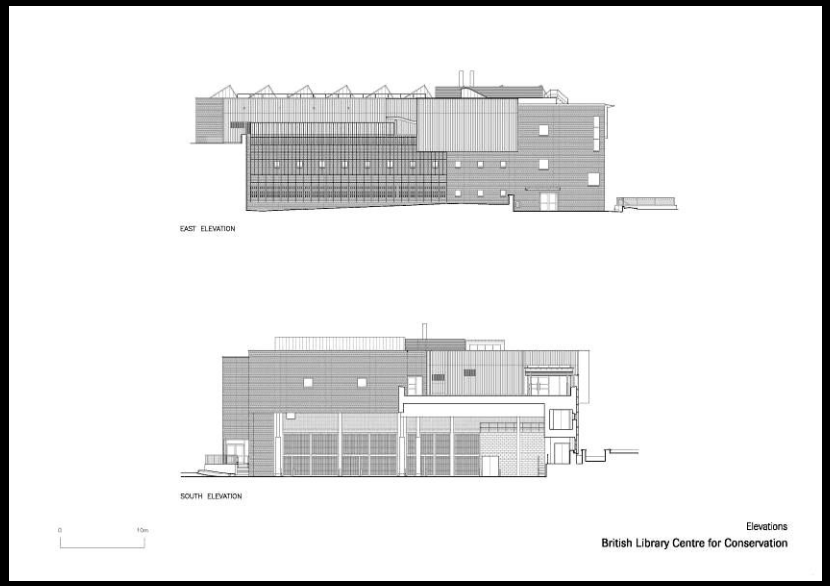
Computer-Aided Design (CAD)

Emerging Professional Practice and Archival Challenges



Autodesk AutoCAD PDF

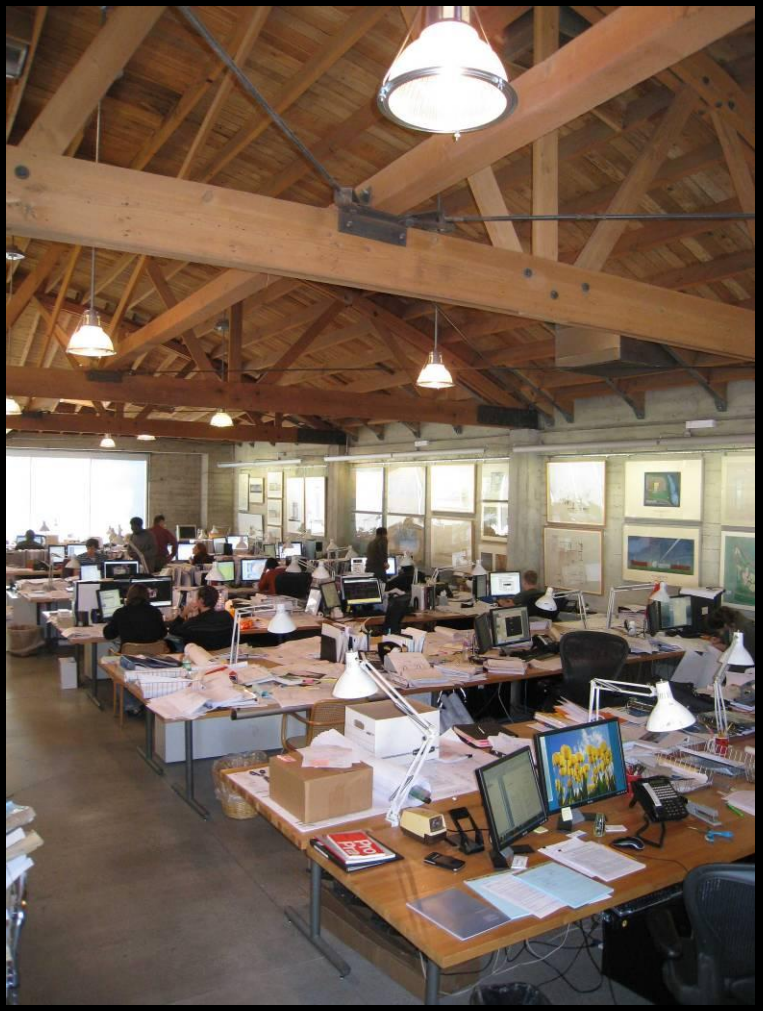
Autodesk Revit MEP .jpg

Adobe *Illustrator* CS4 .jpg

Kurt Helfrich
British Architectural Library

RIBA Trust

1997



2007

2009

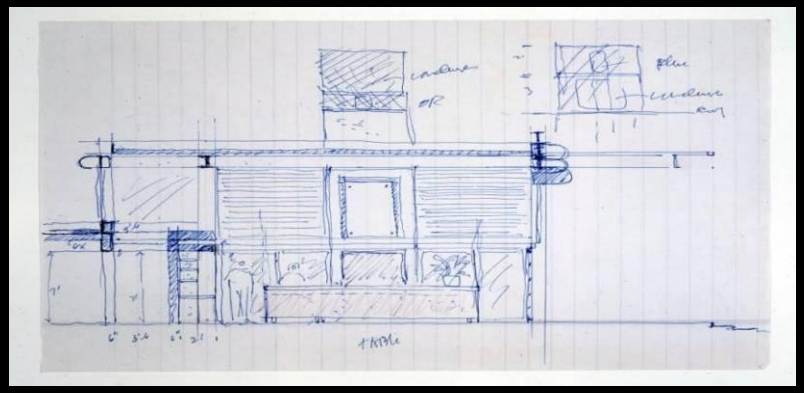
Barton Myers & Associates
Los Angeles

Virtual Practice

www.aberrantarchitecture.com

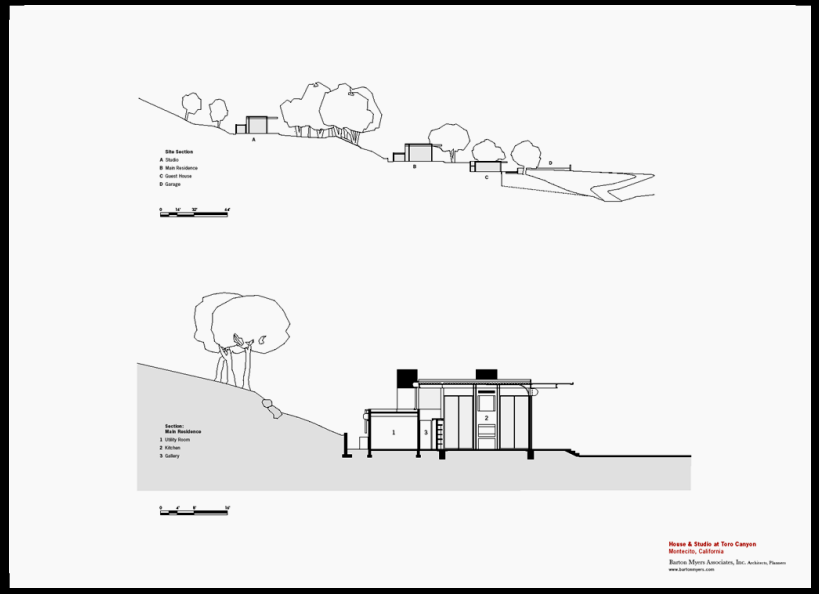
2010

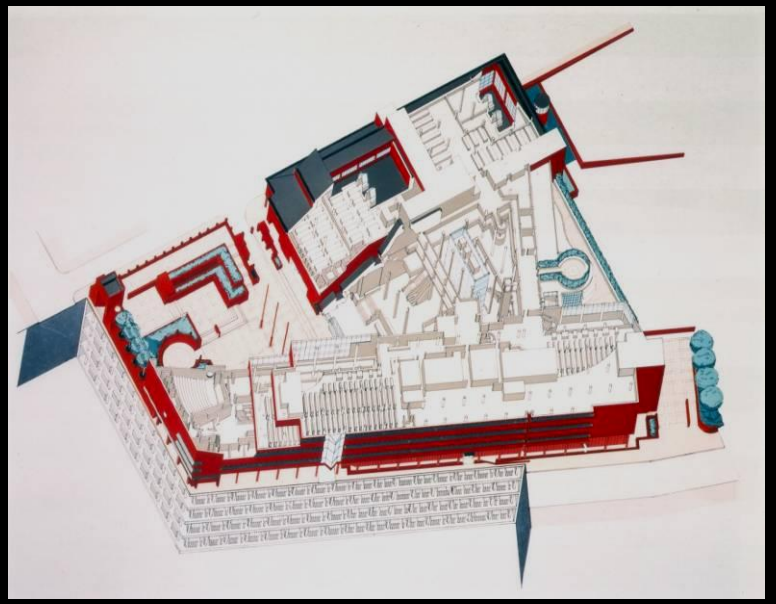
Architectural Records: Born-Digital or Hybrid



Barton Myers Residence, Santa Barbara 1997-99

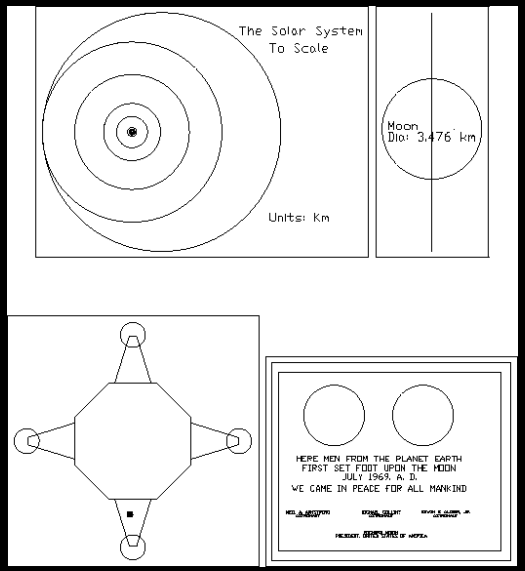
Colin St John Wilson & Associates
British Library St Pancras Completion Phase 1991-97





CAD History

- 1961 *Sketchpad* MIT
  Ivan Sutherland
- 1964 *DAC-1 (Design Augmented Computer)*
  General Motors/IBM
- 1982 *CATIA*
  Dassalt/IBM 3D Design tool
- 1982 *AutoCAD*
  Autodesk 2D drawing
- 1990 *3D Studio*
  Autodesk 3D imaging
- 1999 *Revit*
  Building Information Models (BIMs)

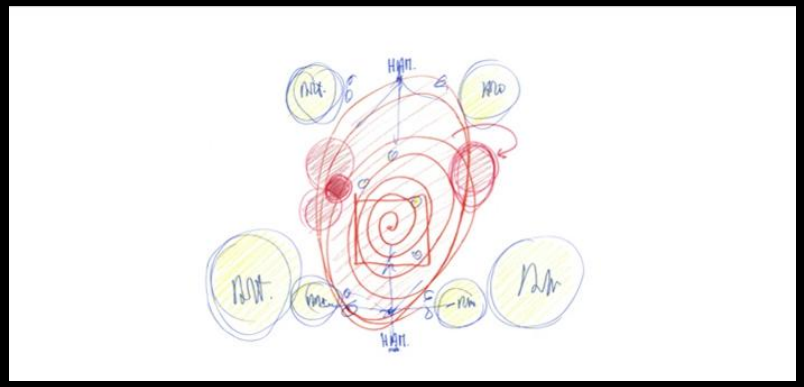


http://mbinfo.mbdesign.net/CAD-History.htm

CAD Layer Guidelines 2010

- US National CAD Standard 4.0 (2008)
- AEC UK CAD Standard Basic Layer Version 2.0 (2002)
- BS1192:2007
- ISO 13567
- AEC UK BIM Standard for Autodesk Revit 1.0 (2010)

Harvard University Planning Office:
Standards & Guidelines for Digital Submissions

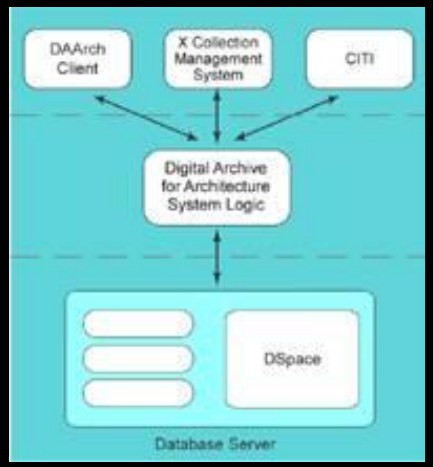


Renzo Piano Building Workshop
Fogg Art Museum Renovation (2008 -)

http://www.upo.harvard.edu/CampusProjects/standards.html

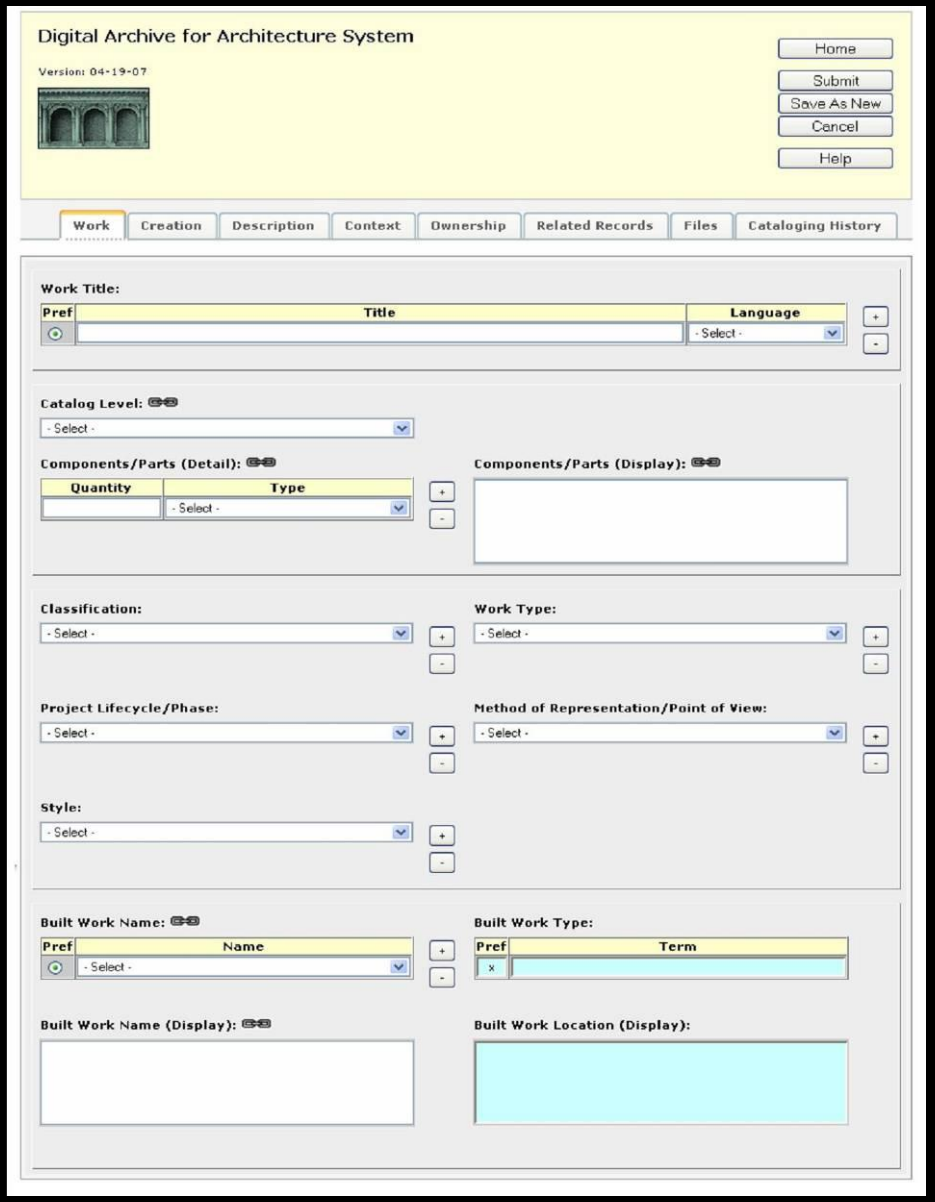
UNIVERSITY PLANNING OFFICE

DAArch (Digital Archive for Architecture)



ART INSTITVTE CHICAGO

2003-2007



http://www.artic.edu/aic/depts/architecture/ddd.html

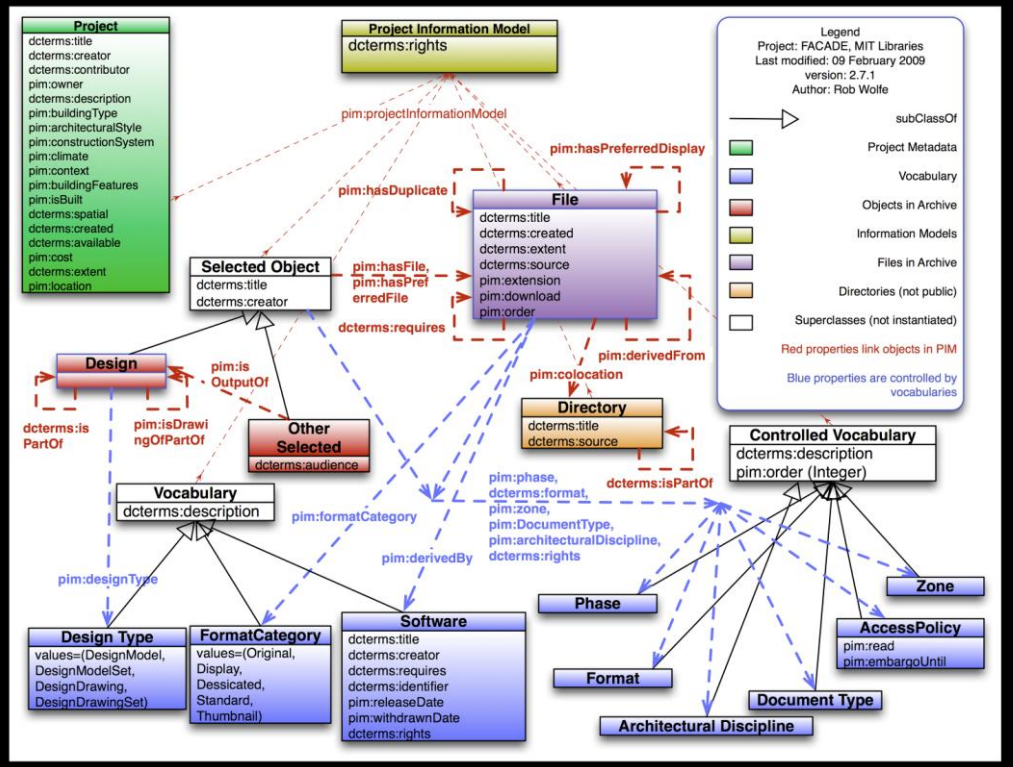
http://www.kfa-inc.com/DAArch/DAArch.htm

FACADE: Future-proofing Architectural Computer-Aided DEsign

Moshe Safdie & Associates

Frank Gehry & Associates

Morphosis Architects



http://facade.mit.edu/

Archival Challenges: CAD Formats

5 – 10 years and beyond
Lifecycle of active use

Proprietary or open source

Standardized or customized

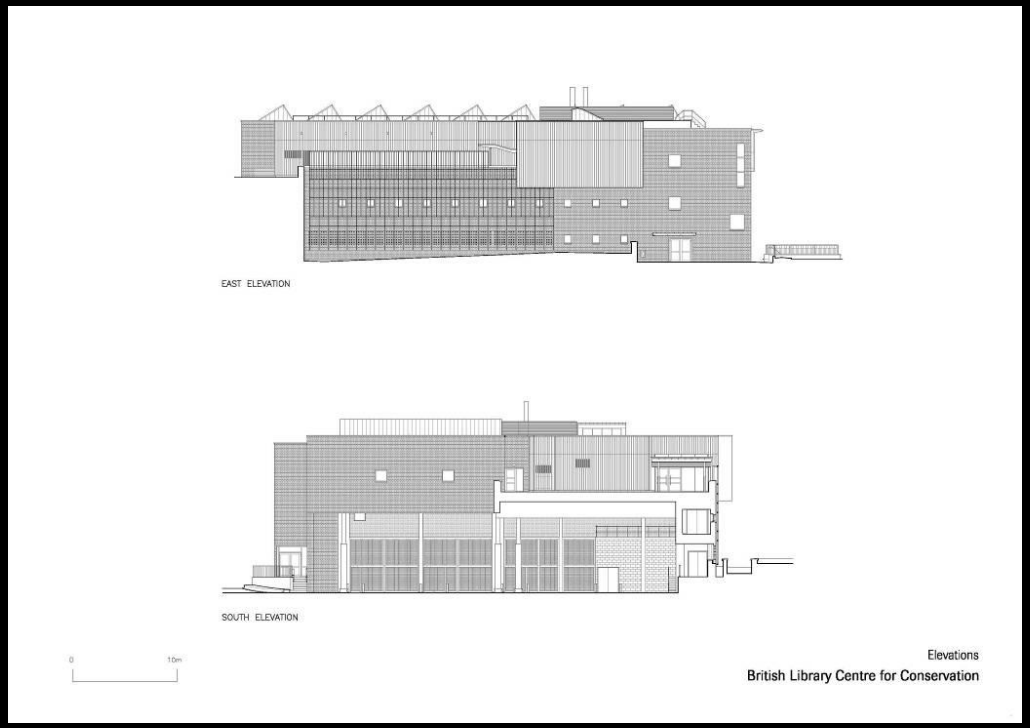
Original or normalized

Migration or emulation

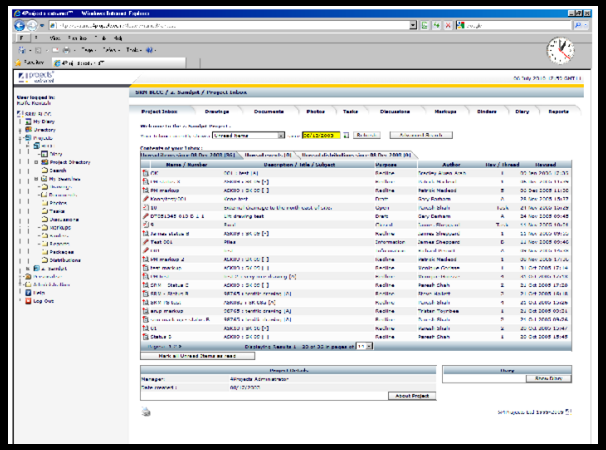
Preservation Metadata

Created in 1998 by Clinton Wallace using Form*Z
exported as DWG
imported into Adobe *Illustrator* v7.0
normalized to TIFF, JPEG, and PDF

Archival Challenges: CAD Contexts

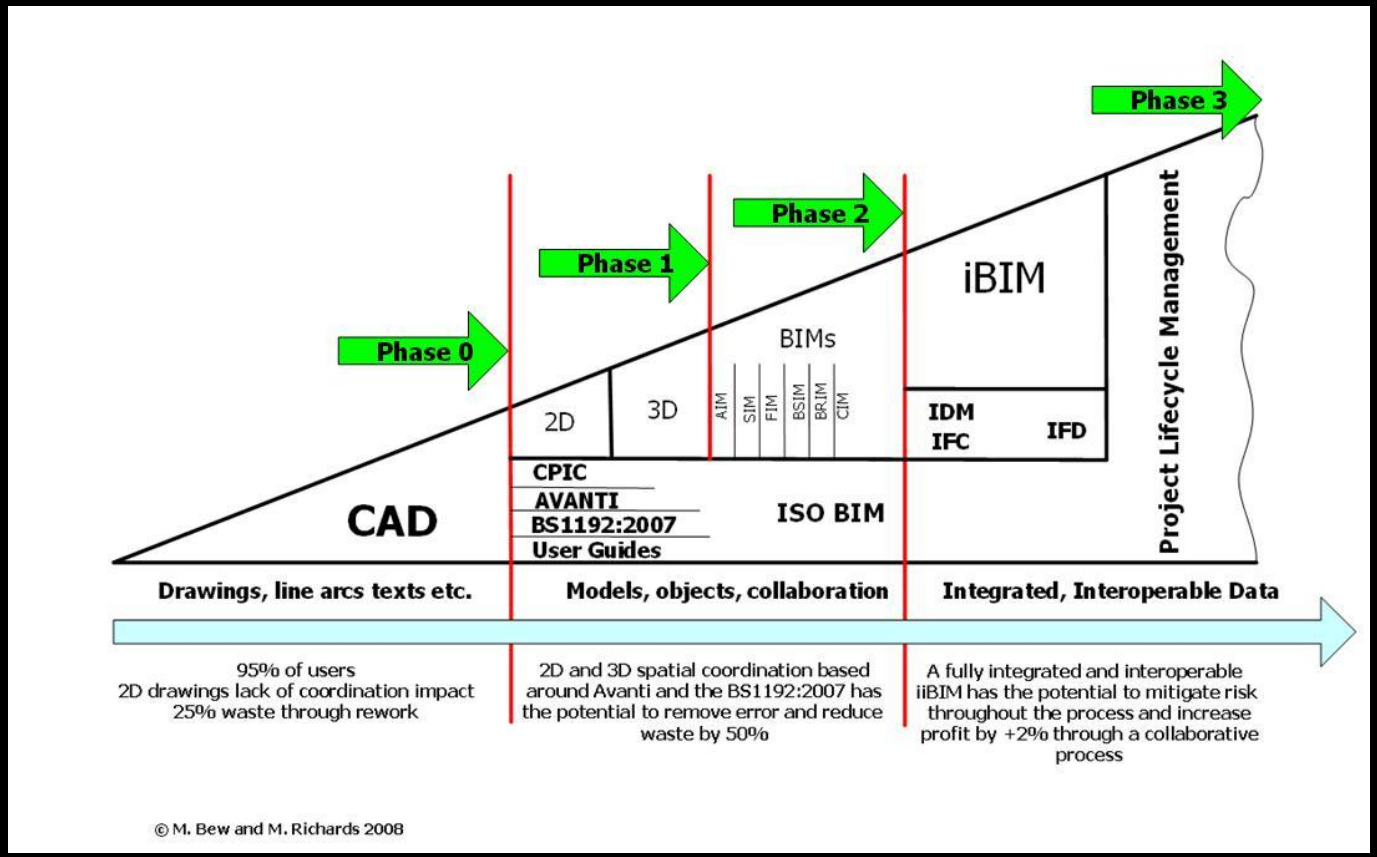


British Library Centre for Conservation
Long & Kentish Architects
2003-2007
Design Quality Indicator Process (DQIP)
Extranet information management system using



Conclusion

"...the full potential of digital technology will only be realized when it is used, not just for abstract or static form-making, as is the current fashion, but as an *instrument of integration* across the entire range of environmental design, production, and use." Chris Abel 2004



Keith Snook
Drawing is Dead – Long Live Modelling
RIBA Research Paper 2009

kurt.helfrich@inst.riba.org

Images courtesy of: Aberrant Architecture, Art Institute of Chicago, Autodesk Inc., Barton Myers & Associates, Harvard University, Long & Kentish, MIT, SANAA, RIBA