Born digital: a symposium exploring digital architectural and built environment records

WORKSHOP PRESENTERS AND PRESENTATION SUMMARIES

Monday 18 April 2016

Morning Session 9am-12.30pm
Venue: Council Room, Hawke Building Level 5

Welcome and Introduction

Assoc Prof Christine Garnaut, Director: Architecture Museum, School of Art Architecture and Design, University of South Australia
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Archaeology of the Digital and born-digital archives at CCA

Tim Walsh, Digital Archivist, Canadian Centre for Architecture, Montreal

The last few decades have seen radical changes in the tools, education, and practice of architecture and design. Archaeology of the Digital is part of a multi-year research project launched by the Canadian Centre for Architecture (CCA) to investigate the development and use of computers in architecture, and the first step in the CCA's strategic objective of creating a collection of digital architecture. The project, spanning a period of three years and including exhibitions, seminars, public programs and publications, has fostered research around two crucial under-addressed topics: how to collect, preserve, and catalogue born-digital architectural archives, and how to make this material accessible to the public and to researchers. Tim Walsh will share details and experiences from the project, and speak to the opportunities and challenges of archiving born-digital files of architecture and design.

Tim Walsh is the Digital Archivist at the Canadian Centre for Architecture, an international research centre and museum in Montreal dedicated to the study of architecture as a public concern. He holds an MS in Library and Information Science from Simmons College, where he concluded his studies with a research paper entitled "Preservation and Access of Born-Digital Architectural Design Records in an OAIS-Type Archive," and a BA in English from the University of Florida. Prior to joining CCA, Tim held positions at Tufts University Digital Collections and Archives and Harvard Business School's Baker Library, and was the first Born-Digital Intern at the University of Wyoming's American Heritage Centre. E: twalsh@cca.qc.ca

Securing and enabling access to knowledge for the future: archiving digital architectural records –project findings

Chris Burns, School of Art Architecture and Design, University of South Australia

Digital records are vulnerable to loss through technological obsolescence and degradation of physical media. Unlike traditional paper-based archives, digital records require constant maintenance in order to remain viable. Digital technology was introduced into Australian

architectural practice during the 1980s and early 1990s, and digital files associated with this era are at particular risk. This pilot project investigates the challenges associated with archiving digital architectural records by examining the surviving digital archives related to two case study buildings. The Ridgway apartment building (Charlick Court, Adelaide 1995), part of the East End Market residential redevelopment, was designed by Adelaide-based Woods Bagot architects. Storey Hall (Swanston Street, Melbourne 1995), an award-winning renovation and extension of a heritage building for RMIT University, was designed by Melbourne-based ARM Architecture (Ashton Raggatt McDougall).

Chris Burns is the Research Assistant for the project 'Securing and enabling access to knowledge for the future: archiving digital architectural records'. *The project is supported by a University of South Australia Research Themes Investment Scheme grant, with in-kind support from Woods Bagot, (Adelaide) and ARM Architecture (Melbourne). Chris holds a B .Industrial Design and a M. Education (Design and Technology) from the University of South Australia. He teaches within the School of Art, Architecture and Design.* E: Chris.Burns@unisa.edu.au

Extracting metadata from the RMIT Storey Hall and the Ridgway Building digital corpus

Dr Georg Grossman, School of Information Technology and Mathematical Sciences, University of South Australia

The combined file corpus of RMIT Storey Hall in Melbourne and the Ridgway Apartments in Adelaide contained more than four thousand digital objects. *Brunnhilde,* a Python-based reporting tool for born-digital files, was used to extract metadata from the corpus and compile a detailed database. Findings from analysis of this database are presented along with a brief discussion of the challenges encountered. *Brunnhilde* was developed in part by Tim Walsh from CCA.

Dr Georg Grossmann is working on the integration of business processes and complex data structures for systems interoperability and has applied his knowledge successfully in industry projects. He received a PhD from UniSA in 2008 and the Ian Davey Research Thesis prize for the most outstanding PhD thesis. Current research interests include integration of service processes, ontology-driven integration and distributed event-based systems. He is currently Co-Chief Investigator in the Data to Decisions CRC (D2D CRC) and on a Premier's Research Infrastructure Fund (PRIF) funded project on 'Software Interoperability for the Oil and Gas Sector'. E: Georg.Grossman@unisa.edu.au

Observations and reflections from practice

Glen Collingwood, Woods Bagot, Adelaide

Glen will reflect on his involvement as an architect on the Ridgway project and comment on practices in relation to archiving and reusing digital files.

Glen is an Adelaide-based architect employed by Woods Bagot. Along with David Holliday, Archivist at Woods Bagot, he has represented the firm on the 'Securing and enabling access to the future project'.

Monday 18 April 2016

Afternoon Session 1.30pm-5pm

Venue: Bradley Forum, Hawke Building Level 5

BIM digital: An archiving problem, and a solution?

John Gelder, School of Natural and Built Environments, University of South Australia

Building information modelling (BIM) is more than the output from a piece of software. There is a developing 'ecology' of software tools which collectively generate and manage the model. The model pervades all aspects of design, construction and maintenance processes, and is culturally and technologically disruptive. The scope of BIM is moving beyond architecture. BIM, then, is a large, complex and evolving beast, creating a particular problem for archiving. What is known as 'open BIM' provides at least a partial solution, through the use of a common interoperable file format – IFC – which is needed to allow the ecology to function. Increasingly, as the IFC standards are developed and implemented, this will mean that archivists will need to deal less and less with proprietary software tools, simplifying the task. Secondly, the on-cost of maintaining the model could be offset by making it available, for a fee, for operation and maintenance purposes during the life of the building.

John Gelder is an Adelaide-trained architect who worked in the UK before joining UniSA in 2014. He is a specialist in project documentation. He has extensive knowledge of Building Information Modelling (BIM) which derives from his work in developing a BIM specification library (NBS Create) and a BIM classification (Uniclass 2015). E: John.Gelder@unisa.edu.au

Long Term Model Management and Model Transformations

Prof Markus Stumptner, School of Information Technology and Mathematical Sciences, University of South Australia

The rapid evolution of digital technologies means that complex engineering artefacts quickly become obsolete and even standards evolve over time at an accelerated rate. Model transformations provide an approach to bridge gaps between complex standards for long-term interoperability and information access in a changing landscape.

Markus Stumptner is a Professor of Computer Science at UniSA, with a background in databases, software engineering and Artificial Intelligence. He has worked extensively on interoperability, exchange, and long-term management of design data. Past projects include management of engineering design knowledge in multiple industries, as well as support for multiple design perspectives in urban planning. He has also worked on formal ontologies and information models for designed artefacts. E: Markus.Stumptner@unisa.edu.au

Archiving born digital project files: The why and the how, and the implications and challenges for architectural and built environment practitioners

Facilitated by Prof Harriet Edquist, Director RMIT Design Archives, RMIT University
E: Harriet.Edquist@rmit.edu.au

Participants will contribute to developing archiving tips and guidelines for practitioners.

Tuesday 19 April 2016

Morning Session 9.00am-12.00pm
Venue: Bradley Forum, Hawke Building Level 5

A 4-D digital record of construction: From student learning to use in practice?

Stephen Ward, School of Art Architecture and Design, University of South Australia

This presentation will refer to an Office for Learning and Teaching funded project that developed an interactive inter-disciplinary digital learning environment incorporating 4D visualisation and other resources associated with the design and construction of the University of Queensland's Advanced Engineering Building. Whilst the time-based 3-dimensional (4D) environment provides a realistic context for the development of simulated problems that activate student learning, the project has revealed the potential for the environment's future adoption by industry for multiple uses such as record keeping and communication, to demonstrate compliance, and to assist in the resolution of disputes related to time and construction.

Stephen Ward is a South Australian trained architect who worked in professional practice before joining UniSA in 2002. He is a Fellow of the Australian Institute of Architects, an Architectural Practice Examination (APE) Examiner and National Program of Assessment (NPrA) Assessor. Having worked in architectural practices in the 1990s, Stephen has personal experience and knowledge of the use of digital environments since their introduction. E: Stephen.Ward@unisa.edu.au

Archiving X: An agile approach to documenting parametric architecture

Dr Tim McGinley, School of Art Architecture and Design, University of South Australia

Architecture students in the School of Art Architecture and Design at the University of South Australia are using parametric CAD tools to design a pavilion for the National Architecture Conference (Adelaide, April 2016) to be constructed at the Office of Design and Architecture (ODASA), Adelaide. This presentation introduces the Agile X project and discusses the new possibilities that agile design approaches offer to project documentation practice.

Tim McGinley completed his Architecture studies and Engineering doctorate in the UK, and joined UniSA in April 2014. He has worked in professional practice in the UK (Foster + Partners, 2007-9) and at ONL [Oosterhuis_Lénárd] in The Netherlands (2006-7). He has recent experiences of designing buildings in fully digital environments including the concept development for the Apple HQ in Cupertino and the development of parametric models for a 720m tower from concept through to detail design. The practices where Tim has worked provide industry-leading examples of the management of digital projects. E: Tim.McGinley@unisa.edu.au

Tuesday 19 April 2016

Afternoon Session 2.00pm-4.30pm

Venue: Bradley Forum, Hawke Building Level 5

Valuing the Intangible: Reflections on the concept of cultural significance and the digital architectural record

Dr Julie Collins, Collections Manager: Architecture Museum, School of Art Architecture and Design, University of South Australia

Buildings play an important role in forming the places in which we live and our identities both individually and as a society. Aesthetic, historic, scientific, social and spiritual values of a place all contribute to a building's cultural significance and hence to the significance of their records, be they paper or digital. In this presentation the concept of cultural significance, particularly as it relates to digital architectural records, will be critically examined. It will be argued that while it is not possible, nor even desirable, to retain all architectural files, or even assess their cultural significance, the act of recognising their value is the first step in creating an awareness - both within and outside of the profession of architecture - of the importance of their cultural significance and the ways in which such records can be used. Valuing such records has many potential benefits as there are layers of memory and meanings for many different groups recorded therein, from the creator to the intended user. Importantly, architectural records also quite often become one of the few traces of its existence once a building is demolished.

Julie Collins holds a B. Arch. and a PhD in architecture. She is Collections Manager and researcher at the Architecture Museum, School of Art Architecture and Design. She has extensive collection management knowledge including of best practice in architectural archival records management. She provides advice to the architecture profession about how to manage their paper records.

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Catching up with the present: Archiving born-digital records of architecture and design

Tim Walsh, Digital Archivist, Canadian Centre for Architecture, Montreal

Collecting institutions responding to the widespread adoption of computer-aided design technology by architects and designers starting in the late 20th century face a significant challenge. Born-digital materials introduce a range of new concerns for preservation, access, description, and other core archival activities. CAD, BIM, and 3D modelling formats — as examples par excellence of software-dependent digital objects — pose an even greater challenge. Tim Walsh will speak to some of these challenges; share practical experiences, workflows, and tools employed by CCA to begin addressing them; and offer some thoughts on future directions.

Born digital architectural and built environment archives: Exploring the imperatives and implications for archives, libraries and museums

Facilitated by Prof Harriet Edquist, Director RMIT Design Archives, RMIT University

Participants will be involved in the preparation of tips and guidelines for archiving and managing digital architectural and built environment records.